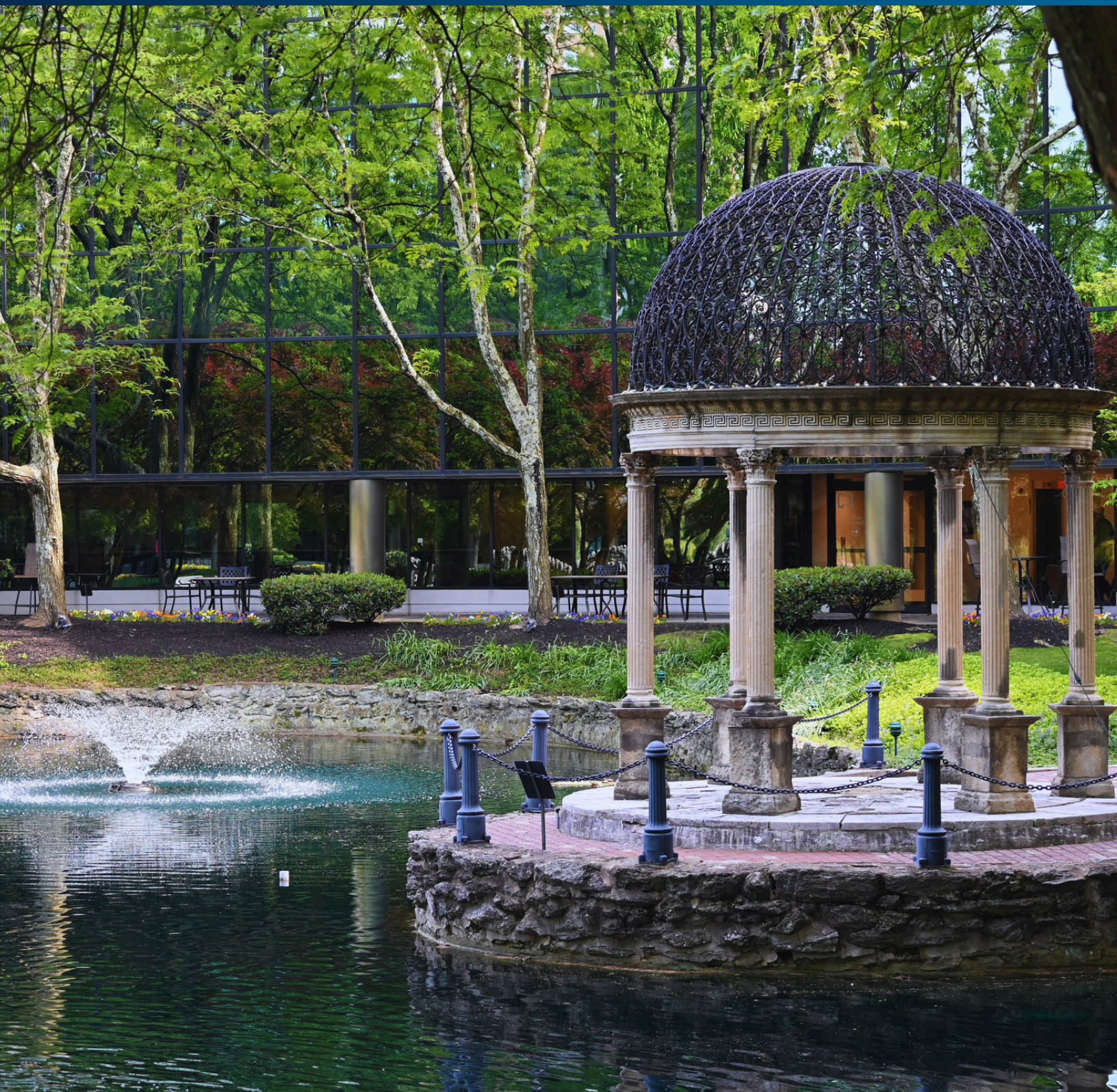


CATALOG 2025-2026



DREXEL UNIVERSITY

Elkins Park
Campus

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Academic Catalog

University Mission

Drexel University is an urban research university that integrates education, scholarship, diverse partnerships, and our global community to address society's most pressing challenges through an inclusive learning environment, immersive experiential learning, external partnerships, transdisciplinary and applied research, and creative activity. We prepare graduates of diverse backgrounds to become purpose-driven professionals and agents for positive change.

University Accreditation

The University is approved by the Department of Education of the Commonwealth of Pennsylvania and is approved for Veterans' education under U.S. Code, Section 1775.

Programmatic Accreditations

The **Doctor of Optometry (OD)** degree program is accredited by the Accreditation Council on Optometric Education (ACOE) of the American Optometric Association (AOA). The next scheduled accreditation visit will be in 2025.

Accreditation Council on Optometric Education (ACOE)
243 N. Lindbergh Blvd., Suite 301
St. Louis, MO 63141
Website: <http://www.theacoe.org/>
Email address: accredit@theacoe.org
Phone number: 800.365.2219

The Accreditation Review Commission on Education for the Physician Assistant (ARC-PA) has granted **Accreditation-Continued** status to the **Salus at Drexel University Physician Assistant Program** sponsored by **Drexel University**. Accreditation-Continued is an accreditation status granted when a currently accredited program is in compliance with the ARC-PA Standards. Accreditation remains in effect until the program closes or withdraws from the accreditation process or until accreditation is withdrawn for failure to comply with the Standards. The approximate date for the next validation review of the program by the ARC-PA will be **March 2034**. The review date is contingent upon continued compliance with the Accreditation Standards and ARC-PA policy.

The **Master of Education** degree program in **Blindness and Vision Impairment** at Drexel University received provisional approval with conditions by the Commonwealth of Pennsylvania Department of Education (PDE) following the merger with Drexel University until the next accreditation within the Drexel's structure. This accreditation allows graduates of the program to obtain certification in Special Education, VISUALLY IMPAIRED K-12– in the Commonwealth of Pennsylvania.

The **Master of Science** degree program in **Vision Rehabilitation Teaching** is accredited by the AER Accreditation Council (AERAC) of the Association for Education and Rehabilitation of the Blind and Visually Impaired (AER).

The **Master of Science** degree program in **Orientation and Mobility** is accredited by the AER Accreditation Council (AERAC) of the Association for Education and Rehabilitation of the Blind and Visually Impaired (AER).

The **Master of Science** degree program in **Low Vision Rehabilitation** is accredited by the AER Accreditation Council (AERAC) of the Association for Education and Rehabilitation of the Blind and Visually Impaired (AER).

The clinical **Doctor of Audiology (AuD)** program (on-campus/residential) at Drexel University is accredited by the Council on Academic Accreditation in Audiology and Speech-Language Pathology of the American Speech-Language-Hearing Association.

Graduates are eligible for professional licensure in all states and eligible to apply for the American Speech-Language-Hearing Association clinical competence in audiology (CCC-A) and the American Board of Audiology (ABA) certification in audiology.

The University's **Master of Science in Occupational Therapy (MSOT) degree program** is fully accredited by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA) through 2028-2029.

The **Master of Science (MS) Education Program in Speech-Language Pathology** (residential) at Drexel University is accredited by the Council on Academic Accreditation in Audiology and Speech-Language Pathology of the American Speech-Language-Hearing Association, 2200 Research Boulevard, #310, Rockville, MD 20850, 800-498-2071 or 301-296-5700.

The **Master of Science (MS) in Orthotics and Prosthetics** at Drexel University was granted accreditation status by the Commission on Accreditation of Allied Health Education Programs (www.caahep.org), upon the recommendation of National Commission on Orthotic and Prosthetic Education (NCOPE). The next comprehensive evaluation of the program is scheduled for no later than 2029.

NOTE: The above is a summary of the university and programmatic accreditations. For more information about the current statuses and coverage time periods, please see the University's Accreditation webpage

Degree Programs

Doctor of Optometry

Doctor of Audiology

Master of Science in Clinical Audiology

Doctor of Occupational Therapy (OTD)

Master of Science, Occupational Therapy (MSOT)

Master of Science, Speech-Language Pathology (SLP)

Master of Science, Orthotics and Prosthetics

Doctor of Philosophy in Biomedicine

Master of Science in Biomedicine

Master of Medical Science (MMS)

Master of Science in Clinical Optometry (MSCO)

Master of Science, Low Vision Rehabilitation (LVR)

Master of Science, Vision Rehabilitation Therapy (VRT)

Master of Science, Orientation and Mobility (O&M)

Master of Education, Blindness and Vision Impairment
(BVI)

Tuition and Scholarships

Elkins Park Campus Tuition

Doctor of Optometry-Traditional

Annual Tuition: \$50,058

Fees

Technology/Semester: \$185

Laboratory/Semester: \$110

Student Services (Fall only): \$382

Background Check: \$147 first year, \$112 after

Professional Dues: \$67 first year, \$52

Doctor of Optometry-Accelerated Scholars

Annual Tuition: \$50,779

Fees

Technology/Semester: \$185

Laboratory/Semester: \$110

Student Services (Fall only): \$382

Background Check: \$147 first year, \$112 after

Professional Dues: \$67 first year, \$52

Doctor of Optometry-Advanced Placement

Tuition/Credit: \$1,627

Fees

Technology/Semester: \$185

Laboratory/Semester: \$110

Student Services (Fall only): \$382

Background Check: \$147 first year, \$112 after

Professional Dues: \$67 first year, \$52

Certificate in Health Sciences

Tuition/Credit: \$923

Technology Fee/Semester: \$185

Doctor of Audiology

Annual Tuition: \$37,976

Fees

Technology/Semester: \$185

Laboratory/Semester: \$110

Student Services (Fall only): \$382

Background Check: \$147 first year, \$112 after

Professional Dues: \$62

Doctor of Audiology (online Bridge program)

Tuition/Credit: \$464

Technology Fee/Semester: \$185

Clinical Audiology (Masters and Certificate)

Tuition/Credit: \$530

Technology Fee/Semester: \$185

Audiology Certificate

Tuition/Credit: \$567

Technology Fee/Semester: \$185

Master of Orthotics and Prosthetics

Tuition Per Semester: *\$16,145

Fees

Technology/Semester: \$185

Laboratory/Semester: \$110

Student Services (Fall only): \$382

Background Check: \$147 first year, \$112 after

Professional Dues: \$46

*Rate is \$4,036 during terms of residency

Master of Occupational Therapy

Annual Tuition: \$46,680

Fees

Technology/Semester: \$185

Laboratory/Semester: \$110

Student Services (Fall only): \$382

Background Check: \$147 first year, \$112 after

Professional Dues: \$77

Occupational Therapy (Doctor and Certificate)

Tuition/Credit: \$1,458

Technology/Semester: \$185

Master of Speech Language Pathology

Annual Tuition: \$34,536

Fees

Technology/Semester: \$185

Laboratory/Semester: \$110

Student Services (Fall only): \$382

Background Check: \$147 first year, \$112 after

Professional Dues: \$62

Certificate in Speech Language Pathology

Tuition/Credit: \$832

Fees

Technology/Semester: \$185

Laboratory/Semester: \$110

Student Services (Fall only): FT \$382, PT \$95.50

Background Check: FT \$147, PT \$0

Physician Assistant Studies**

Annual Tuition: \$53,766

Fees

Technology/Semester: \$185

Laboratory/Semester: \$110

Student Services (Fall only): \$382
Professional Dues: \$129 (first year only)
**Annual program fees are charged for this program
(Needle Stick fee)

Biomedicine (PhD and Masters)

Tuition/Credit: \$1,306
Technology Fee/Semester: \$185

Masters of Clinical Optometry

Tuition/Credit: \$1,491

Fees

Technology/Semester: \$185
Laboratory/Semester: \$110
Student Services (Fall only): \$382

Masters and Certificate

Blindness and Vision Impairment

Low Vision Rehabilitation

Orientation and Mobility

Vision Rehabilitation Therapy

Tuition/Credit: \$1,009

Fees

Technology/Semester: \$185
Laboratory/Semester: \$110
Student Services/Semester: FT \$127, PT \$64

Scholarships

Provost's and Dean's Scholarships

The University offers the following merit-based scholarships to students in each of our Colleges. These awards are monetary gifts and do not require repayment.

Provost's Scholarship

The Provost's Scholarship is awarded on a holistic basis. Individual programs determine the minimum GPA/test scores for eligibility as well as renewability. The admissions application serves as the scholarship application.*

Dean's Scholarship

The Dean's Scholarship is also awarded on a holistic basis. Individual programs determine the minimum GPA/test scores for eligibility as well as renewability. The admissions application serves as the scholarship application.*

*Provost's and Deans' Scholarships for the MSOT, SLP and BLVS programs require a separate scholarship application. To learn more, contact admissions@drexel.edu

for further details.

Internal Optometry Scholarships

The University offers optometry students a number of grants and scholarships each year that provide incentive for learning and research. These awards are monetary gifts and do not require repayment.

Select scholarships require an application. Information is sent to all enrolled students annually.

Madlyn and Leonard Abramson Scholarship

Established by Madlyn and Leonard Abramson, the scholarship affords preference to students residing in states having managed care organizations operated by Aetna/US Healthcare (currently Florida, New Jersey, Pennsylvania, and Texas).

Administrative/Professional Staff Scholarship

Established by the College's Administrative/Professional Staff Council, the scholarship is to be awarded to a worthy student.

Alumni Scholarships (Class of 1950, Class of 1973, Class of 1998, Class of 2000)

Made possible through the contributions of generous PCO alumni, these scholarships are awarded to second, third- and fourth-year students.

Joseph F. Bacon Memorial Scholarship

An annual award to a first-year student whose undergraduate education was obtained at the University of Delaware.

Allison L. Barinas Memorial Scholarship

Established by friends, colleagues and classmates in memory of Dr. Barinas, a member of the Class of 2003.

Elsie Wright Billmeier Memorial Scholarship

Established by Alton G. Billmeier, OD '38 FAAO, in memory of his late wife, Elsie Wright Billmeier, OD '38. Preference given to students from Maryland.

Alma L. Boben Memorial Scholarship

Established by the estate of Alma L. Boben, OD '28, in memory of her father, optometrist H. J. Leuze. This is awarded to worthy female students.

Centennial Campaign Scholarship

Established in commemoration of the centennial celebration of the Pennsylvania College of Optometry.

Ciba Vision Scholarship

Established by Ciba Vision Corporation, a major international pharmaceutical corporation with strong ties to the ophthalmic market.

Jeffrey Cohen Memorial Scholarship

Established by friends and colleagues in memory of Jeffrey Cohen, OD '69, through the Federal Credit Union.

William J. Condon Memorial Scholarship

Established through the estate of Mary H. Condon in memory of her optometrist husband.

John D. Costabile Memorial Scholarship

Established in memory of John D. Costabile, O.D., a 1946 alumnus and prior member of the University Board of Trustees, the scholarship is awarded to optometry students on the basis of academic performance and financial need.

William Decter Memorial Scholarship

Established in memory of PCO alumnus Dr. William Decter '43 by Rodenstock USA, Inc., and his friends and family members.

Sol Deglin Memorial Scholarship

Established by Edward A. Deglin, MD, in memory of his father.

Milton J. Eger Memorial Scholarship

Established by the friends and family of Dr. Eger '40, former member of the PCO Board of Trustees.

Faculty Scholarship

Established by the University's Faculty Council.

Barry Farkas Scholarship

Established in recognition of Dr. Farkas '71, member of the University Board of Trustees.

Marvin Fiegelman Scholarship

Established by Marvin Fiegelman.

H. L. Goldberger Memorial Scholarship

Established by the friends and professional colleagues of Herbert L. Goldberger, OD, a 1954 alumnus of PCO.

Lawrence G. Gray Memorial Scholarship

Established by the friends and colleagues of Dr. Larry Gray, former PCO professor and 1972 alumnus.

Florence and Martin Hafter Scholarship

Established by Martin Hafter, OD '49 and his wife, Florence.

Edward Hueber Scholarship

Established by Edward Hueber.

A. Michael Iatesta Scholarship

Established by Dr. Iatesta '52, member of the University Board of Trustees.

Johnson & Johnson Scholarship

Established by Vistakon, a division of Johnson and Johnson Vision Care, Inc., in support of diversity recruitment efforts, this scholarship is awarded to optometry students selected on the basis of academic achievement, demonstrated financial need and community involvement.

Harry Kaplan Scholarship

Established by Dr. Kaplan '49, a member of the PCO faculty, these scholarships are awarded to optometry students on the basis of academic performance and financial need.

Thomas L. Lewis Endowment Fund

Established in honor of Thomas Lewis, OD '70 as he was leaving the Presidency of Salus University, these funds are used to support outstanding students in basic sciences.

J. Donald Kratz Memorial Scholarship

Established by family and friends in memory of Dr. Kratz '37, former member of the PCO faculty and Board of Trustees.

Paul G. Matthews Memorial Scholarship

Established by Mr. and Mrs. George Matthews in memory of their son, Paul G. Matthews, OD '81, the Matthews Scholarship is awarded to a first-year student selected on the basis of undergraduate academic performance, community service, and financial need.

Frank J. Montemuro, Sr. Memorial Scholarship

Established by Albert Tordella, emeritus trustee of the University's Board of Trustees, in memory of his life-long friend, Frank J. Montemuro, Sr.

National Vision Scholarship

Awarded to students from minority backgrounds.

New Jersey Academy of Optometry Harold Simmerman Clinical Excellence Scholarship

Administered by the New Jersey Academy of Optometry, the scholarship is awarded to a deserving fourth year New Jersey resident on the basis of academic and clinical excellence and financial need.

Pennsylvania College of Optometry Scholarship

Established by a member of the University's Board of Trustees, who wishes to remain anonymous.

A.A. Phillips-SOSH Scholarship

The scholarship was established and funded by A.A. Phillips, OD, a 1969 graduate of PCO who founded the Student Optometric Service to Humanity (SOSH). The scholarship is awarded to a student from either the former British West Indies or a non-U.S. citizen from the Caribbean.

Phillips Endowed Scholarship

Established by Dr. and Mrs. Robert C. Phillips '38, in memory of Dr. Phillips' uncle, Harry G. Phillips, OD. Preference is afforded first-year students and Pennsylvania residents.

Morey X. Powell Scholarship

Established in memory of Morey X. Powell, OD '36, former alumni association president, chairman of the Planned Giving Committee, and Alumnus of the Year.

Onofrey G. Rybachok Memorial Scholarship

Established by family and friends in memory of Dr. Rybachok, former member of the PCO faculty.

Maria T. Rynkiewicz Memorial Scholarship

Established by the PCO Alumni Association in memory of Dr. Rynkiewicz, '79.

Herbert and Adrienne Schoenes Scholarship

Established by Herbert M. Schoenes OD '48 and his wife Adrienne, this scholarship is awarded to a first-year optometry student to support the purchase of necessary ophthalmic equipment.

Boris I. and Bessie S. Sinoway Memorial Scholarship

Established by the estate of Bessie S. Sinoway in memory of her husband, Boris I. Sinoway, OD.

Richard W. Stockton Scholarship

Established by Dr. Stockton, a 1953 alumnus of PCO.

Joseph C. Toland Scholarship

Established by Dr. Toland, a member of the PCO faculty.

Katherine Tordella-Richards Memorial Scholarship

Established by Albert Tordella, emeritus trustee of the University's Board of Trustees, in memory of his sister, Katherine Tordella Richards.

Vision Benefits of America Scholarship

Scholarship gift from PA Vision Foundation in honor of former and current Chairs of the Board of Vision Benefits of America, Drs. Bruce May, Vincent Cascino, Claudia Wendel, Peter Theodoros, David Rule, Sam D'Onofrio and Karen Rule. The Scholarship is awarded annually to an optometry student from Pennsylvania, with a preference for a student who intends to practice in Pennsylvania.

Clifford C. Wagner Scholarship

Established by the family of Clifford C. Wagner, OD, a 1951 alumnus of PCO.

Doris A. Wagner Scholarship

Established by Clifford C. Wagner, OD '51, in honor of his wife's dedication to optometry and service to the visual welfare of the public.

William G. Walton Jr. Scholarship

Established by the President's Council in recognition of Dr. Walton, '40, a former PCO faculty member.

Harold and Ginny Wiener Scholarship

Established by the family of 1950 PCO alumnus Dr. Harold and Mrs. Weiner, preference is afforded New Jersey residents.

E. F. Wildermuth Foundation Scholarship

Established by the E.F. Wildermuth Foundation, the largest private contributor to student financial assistance at the University.

Melvin D. Wolfberg Scholarship

Established by former PCO President Melvin D. Wolfberg, OD '51.

Internal Audiology Scholarships

AFA Student Excellence Scholarship

Awarded to third year Audiology students on the basis of academic achievement.

George Osborne Scholarship

Established to honor the founding dean of the College of Audiology, this scholarship is awarded to Audiology students on the basis of academic achievement.

Pikus Scholarship

Awarded to third year Audiology students on the basis of academic achievement.

Affiliate Undergraduate Institutions

Optometry

ASSURED ADMISSION PROGRAMS

Direct entry and a fast track to the optometry profession is available to students through an articulation agreement between the following institutions and Pennsylvania College of Optometry (PCO):

Chestnut Hill College

Each year, three (3) eligible CHC students are selected for guaranteed seats for the Doctor of Optometry Traditional degree program. Program options include a 3+4 BS/OD degree track or a 4+4 BS/OD degree track (3 seats are reserved for each degree track).

Hampton University

Each year, ten (10) eligible Hampton students are selected for guaranteed seats for the Doctor of Optometry Traditional degree program. This Program includes a 4+4 BS/OD degree track. Students enrolled in the program will receive both financial and academic assistance from the National Optometric Association (NOA), advisement from the Pre-Health program at Hampton as well as from the Office of Admissions, and mentorship from a PCO faculty advisor.

Lock Haven University

Each year, two (2) eligible LHU students are selected for guaranteed seats for the Doctor of Optometry Traditional degree program. Program options include a 3+4 BS/OD degree track or a 4+4 BS/OD degree track (2 seats are reserved for each degree track).

Misericordia University

Each year, three (3) eligible Misericordia students are selected for guaranteed seats for the Doctor of Optometry Traditional degree program. Program options include a 4+4 BS/OD degree track.

Rosemont College

Each year, six (6) eligible Rosemont students are selected for guaranteed seats for the Doctor of Optometry Traditional degree program. Program options include a 3+4 BS/OD degree track or a 4+4 BS/OD degree track (3 seats are reserved for each degree track).

As a student in either track, you'll complete either three or four years at the above institutions before matriculating to PCO, earning both your bachelor of science (BS) and

doctor of optometry (OD) degrees.

Saint Joseph's University

Each year, twenty-five (25) eligible Saint Joseph's University students are selected for guaranteed seats for the Doctor of Optometry Traditional degree program. Program options include a 3+4 BS/OD degree track or a 4+4 BS/OD degree track.

As a student in either track, you'll complete either three or four years at the above institutions before matriculating to PCO, earning both your bachelor of science (BS) and doctor of optometry (OD) degrees.

PENN STATE EARLY ASSURANCE ADMISSION PROGRAM

Established in 2017, this is a memorandum of understanding between the Eberly College of Science (ECoS) and Pennsylvania College of Optometry (PCO).

University Park students can apply to PCO via the ECoS Director of Premedicine and Science majors after their second year. Because there is some flexibility in prerequisite course selections, interested students are encouraged to discuss their intentions as early as possible with the Director to optimize course selection plans that will fit with the student's intended academic major.

More information

3+4 OR 4+4 DOCTOR OF OPTOMETRY PROGRAMS

Under a 3+4 Articulation Agreement, the program permits the qualified student to earn the Doctor of Optometry degree in seven years instead of the usual eight. The first three years are spent at a participating undergraduate institution, the next four at the Pennsylvania College of Optometry. The student is awarded a Bachelor's degree by the undergraduate institution upon the successful completion of the first professional year and a Doctor of Optometry degree by the University at the conclusion of the professional degree program.

Under a 4+4 Articulation Agreement, students who successfully complete the 120 semester credit Pre-Optometry curriculum at a participating undergraduate institution and meet all admissions requirements may apply for admission to the Doctor of Optometry Program.

The institutions listed below are 3+4 programs, unless otherwise noted.

Participating Universities/Colleges

Pennsylvania

Arcadia University

Delaware Valley University

Cedar Crest College

DeSales University (3+4 agreement; 4+4 agreement)

Elizabethtown College

Gannon University

Gettysburg College

Immaculata University (4+4 agreement)

Indiana University of Pennsylvania

Juniata College

Keystone College

La Roche College

Messiah University(4+4 agreement)

Millersville University of Pennsylvania

Mt. Aloysius College (3+4 agreement; 4+4 agreement)

Saint Francis University of Pennsylvania

Seton Hill University

Shippensburg University

Susquehanna University (4+4 agreement)

University of Pittsburgh at Bradford

University of Pittsburgh at Johnstown

Villanova University

Washington and Jefferson College

Widener University

Wilkes University

Maine

Saint Joseph's College of Maine

Maryland

Salisbury State University

New Jersey

Caldwell University

Rowan University

Seton Hall University

New York

Ithaca College

Le Moyne College

Siena College

North Carolina

Bennett College

Johnson C. Smith University

Virginia

Old Dominion University

DREXEL UNIVERSITY POST-BACCALAUREATE ADMISSION PROGRAM

Under this Articulation Agreement, students who successfully complete the Post-baccalaureate Interdisciplinary Health Sciences Program (IHSP) at Drexel University with a 3.0 GPA or above may apply for admission to the Doctor of Optometry (OD) degree program.

This educational pathway is referred to as the Post-baccalaureate + Doctor of Optometry Degree Program and is comprised of two phases, Phase I and Phase II:

Phase I is comprised of the student earning a Master of Science in Interdisciplinary Health Sciences degree at Drexel, in addition to satisfying the undergraduate prerequisite coursework required for the Doctor of Optometry Program at PCO, and

Phase II is comprised of the Doctor of Optometry Degree Program at PCO.

If you have any questions regarding the above agreements, please contact graduateadmissions@drexel.edu.

Post-Baccalaureate Program in Health Sciences

Under the articulation agreement with Temple University School of Podiatric Medicine (TUSPM), two seats in its first year class will be reserved for the Traditional Post-baccalaureate in Health Sciences (SU-PBHS) students who successfully complete all necessary requirements, according to the agreement.

These admissions requirements include the following:

Candidates from SU-PBHS students must meet TUSPM's admissions standards in effect at the time of their application to TUSPM, including required coursework, grades, standardized test scores and any other admissions criteria as determined by TUSPM.

Candidates must apply through the American Association of College of Podiatric Medicine Admissions Service (AACPMAS).

Candidates must initiate their application no later than January 1st of each application cycle.

Candidates must complete the SU-PBHS Certificate with a 3.3 or higher overall GPA and a 3.2 or higher science GPA. Additionally the student must achieve a MCAT score at or above 45th percentile (the exam must be taken no later than January of the application cycle to which the student applies).

Candidates offered acceptance to TUSPM must make tuition deposits in accordance with its policies and deadlines and in no case later than April 15th of the application cycle.

For more information about the agreement with Temple University School of Podiatric Medicine, please contact the Office of Admissions.

Audiology

4+4 DOCTOR OF AUDIOLOGY PROGRAM

Under a 4+4 Articulation Agreement, students who successfully complete the 120 semester credit Pre-Audiology curriculum at a participating undergraduate institution and meet all admissions requirements may apply for admission to the Doctor of Audiology Program.

This educational pathway is referred to as the 4+4 Audiology Degree Program and is comprised of two phases, Phase I and Phase II:

Phase I is comprised of the Pre-Audiology curriculum at the participating undergraduate institution, and

Phase II is comprised of the Doctor of Audiology Degree Program at Drexel University.

The following institutions have formed an agreement with Drexel:

Chestnut Hill College

Edinboro University

Immaculata University

Messiah University

Mt. Aloysius College

Rosemont College

Saint Joseph's University

Seton Hill University

Susquehanna University

3+4 DOCTOR OF AUDIOLOGY PROGRAM

This program permits the qualified student to earn the Doctor of Audiology degree in seven years instead of the usual eight. The first three years are spent at a participating undergraduate institution, the next four at the University's Osborne Audiology program. The student is awarded a Bachelor's degree by the undergraduate institution upon the successful completion of the first professional year at Drexel and a Doctor of Audiology degree by the University at the conclusion of the professional degree program.

The following institutions have formed a 3+4 agreement with Drexel:

Cedar Crest College

Chestnut Hill College

Edinboro University

Indiana University of Pennsylvania

Saint Joseph's University

DREXEL UNIVERSITY POST-BACCALAUREATE ADMISSION PROGRAM

Under this Articulation Agreement, students who successfully complete the Post-baccalaureate

Interdisciplinary Health Sciences Program (IHSP) at Drexel University with a 3.0 GPA or above may apply for admission to the Drexel University Doctor of Audiology (AuD) degree program.

This educational pathway is referred to as the Post-baccalaureate + Doctor of Audiology Degree Program and is comprised of two phases, Phase I and Phase II:

Phase I is comprised of the student earning a Master of Science in Interdisciplinary Health Sciences degree at Drexel, in addition to satisfying the undergraduate prerequisite coursework required for the Doctor of Audiology Program at Drexel, and

Phase II is comprised of the Doctor of Audiology Degree Program at Drexel.

More information

If you have any questions regarding the above agreements, please contact graduateadmissions@drexel.edu.

Blindness and Low Vision Studies

4+2 Bachelor's/Master's Program

Under these agreements, a select number of seats will be reserved for students of the partner institution, who successfully complete all necessary requirements, according to each individual agreement, may continue their education in one of the blindness and low vision studies programs at the University in the 4+2 Bachelor's and Master's degree program of study.

These Master's programs include:

Master of Education, Blindness and Visual Impairment (TVI)

Master of Science, Low Vision Rehabilitation (LVR)

Master of Science, Orientation and Mobility (O&M)

Master of Science, Vision Rehabilitation Therapy (VRT)

A candidate must complete the application process and criteria to the program by the published application deadlines, in order to be considered for the 4+2 degree program. In addition, eligible students must be in good academic and social standing at the partner institution and have completed a bachelor's degree from the partner institution with a minimum cumulative undergraduate GPA of 3.0 on a 4.0 scale.

Participating Institutions

Cedar Crest College

Chestnut Hill College

Rosemont College

Occupational Therapy

4+2 BS/MSOT Program

The University has teamed with the following institutions to acknowledge their commitment to the training of future occupational therapists by joining in an articulation agreement.

Under these agreements, a select number of seats will be reserved for students of the partner institutions, who successfully complete all necessary requirements, according to each individual agreement, may continue their education in occupational therapy studies at the University in the 4+2 BS/MSOT degree program of study.

By October 1st, the year before anticipated enrollment into the MSOT Program, a candidate must complete the application process and criteria to the program.

Participating Institutions

Arcadia University

Chestnut Hill College

Drexel University College of Nursing and Health Professions

Immaculata University

Manhattan College

Mt. Aloysius College

Rosemont College

Susquehanna University

If you have any questions regarding the above agreements, please contact graduateadmissions@drexel.edu.

Orthotics & Prosthetics

4+3 BS/MSOP PROGRAM

The University has teamed with the following institutions to acknowledge their commitment to the training of future orthotists and prosthetists by joining in an articulation agreement.

Under these agreements, a select number of seats will be reserved for students of the partner institutions, who successfully complete all necessary requirements, according to each individual agreement, may continue their education in orthotics and prosthetics studies at the University in the 4+3 BS/MSOP degree program of study.

By December 1st, the year before anticipated enrollment into the MSOP Program, a candidate must complete the application process and criteria to the program.

Participating Institutions

DeSales University

Mt. Aloysius College

If you have any questions regarding the above agreements, please contact graduateadmissions@drexel.edu.

Physician Assistant

3+2 Physician Assistant Program

Western New England University

Under the joint agreement, up to four select undergraduate students from Western New England University (WNE), who successfully complete specific core course requirements, may continue their education in physician assistant studies at the University in the 3+2 degree program of study.

Those selected for the 3+2 degree program will complete the first three years of the Pre-Physician Assistant Studies Curriculum at WNE, which consists of 100 semester hours of undergraduate education, including prerequisites. Candidates must maintain good standing with a GPA of 3.7 or above.* The next two years will be completed in the Salus at Drexel University PA program. The student is awarded a Bachelor's degree by WNE upon the successful completion of the first year at the University and a Master of Medical Science degree by Drexel University at the conclusion of the graduate degree program.

*Agreement requirements were amended in February 2020. Students who began their studies at WNE prior to the Fall 2021 semester are grandfathered into the WNE catalog conditions under which they were admitted.

More information

4+2 Physician Assistant Program

Under a 4+2 Articulation Agreement, students who successfully complete the 120 semester credit Pre-

Physician Assistant curriculum at a participating undergraduate institution and meet all admissions requirements, according to each individual agreement, may apply for admission to the Salus at Drexel University PA Master of Medical Science degree program.

This educational pathway is referred to as the 4+2 Degree Program and is comprised of two phases, Phase I and Phase II:

Phase I is comprised of the Pre-Physician Assistant curriculum at the participating undergraduate institution, and

Phase II is comprised of the Master of Medical Science Degree in the Salus at Drexel University PA program.

The following institutions have formed an agreement with the University:

Caldwell University

Cedar Crest College

Chestnut Hill College

Immaculata University

Indiana University of Pennsylvania

Keystone College

Messiah University

Rosemont College

Summary Agreements

In order to be eligible to enter under the agreement, students applying from any affiliated institution must meet the below requirements in addition to the admissions requirements listed in the Application Process section, as well as complete a successful interview.

Affiliated Institution	Agreement Type	Req. Min. GPA	Deadline to Apply
Caldwell University	4+2 (guaranteed Interview)	3.5	Aug. 1st (highly recommended)
Cedar Crest College	4+2 (guaranteed Interview)	3.5	Aug. 1st (highly recommended)
Chestnut Hill College	4+2 (guaranteed Interview)	3.5	Aug. 1st (highly recommended)
Immaculata University	4+2 (guaranteed Interview)	3.5	Aug. 1st (highly recommended)
Indiana University of PA	4+2 (guaranteed Interview)	3.5	Aug. 1st (highly recommended)
Keystone College	4+2 (guaranteed Interview)	3.5	Aug. 1st
Messiah University	4+2 (guaranteed Interview)	3.5	Aug. 1st (highly recommended)
Rosemont College	4+2 (guaranteed Interview)	3.7	Aug. 1st
Western New England	3+2 (4 seats reserved)	3.7	Aug. 1st

If you have any questions regarding the above agreements and requirements for each, please contact graduateadmissions@drexel.edu.

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University Policies and Procedures

Student Records

Student Records

A student's education record is protected by rights provided under a federal law called the Family Educational Rights and Privacy Act (FERPA). FERPA protects the privacy of student education records for students who are at least 18 years old or who attend or have attended a postsecondary institution, even if they have not reached the age of 18.

At the postsecondary level, parents and other third parties have no inherent rights to inspect a student's education record. The right to inspect is solely the student's. Records may be released to parents/guardians only under the following circumstances:

Through written consent of the student
A court-ordered subpoena

Education record means any record (1) directly related to a student and (2) maintained by the University or a party acting for the University. There are several important categories of records that are specifically exempted from the definition of an education record:

Records of instructional, supervisory, administrative, and certain educational personnel which are in the sole possession of the maker of the records, and are not accessible or revealed to any other individual except a substitute who performs on a temporary basis the duties of the individual who made the records,

Records maintained by a law enforcement unit of the University that were created by that law enforcement unit for the purpose of law enforcement,

Records relating to individuals who are employed by the University, which are made and maintained in the normal course of business, relate exclusively to individuals in their capacity as employees, and are not available for use for any other purpose,

Records relating to a student which are: (1) created or maintained by a physician, psychiatrist, psychologist, or other recognized professional or paraprofessional, acting in his/her professional capacity or assisting in a paraprofessional capacity; (2) used solely in connection with the provision of treatment to the student; and (3) not

disclosed to anyone other than individuals providing such treatment.

Records that only contain information about an individual after they are no longer a student at the University.

A student may inspect and review their education record within a maximum of 45 days after they request to do so.

For more detailed information about Drexel's FERPA policy, please view the Family Educational Rights and Privacy Act (FERPA) Policy.

Grant Access

Undergraduate students who wish to provide access to their information to family members do so via Drexel University's Family Portal. All other students can grant access via DrexelOne.

Undergraduate Students

Access to information protected by FERPA is granted via the Drexel University Family Portal. Family members must first set up an account in the portal. They can then submit a request for access by taking the following steps:

Log in to your Drexel Family Portal account.

Select the graduate cap icon on the homepage.

Select the "Go to My Connections" button.

Enter your student's University email address and then check the box to request information.

The student will receive an email advising them of the request for access and with information on approving or declining the request. Students can opt to grant full or partial access (see the breakdown of information below). If a student approves a request, access to the information will be granted in the Family Portal 24 hours later.

It is important to note that the family member must initiate this request; undergraduate students cannot grant access until a family member has made a request via the Family Portal.

FERPA Waivers submitted prior to the launch of the Drexel Family Portal (August 2020) do not automatically grant access to a student's specific information via the Drexel Family Portal. Family members must still request

access once their account has been set up in the Drexel Family Portal.

Please note that previously submitted FERPA Waivers remain valid until a student changes this access. This means that a FERPA Waiver submitted prior to August 2020 still grants parents limited access to speak to University officials about their student's specific academic, registration, financial aid, and billing information.

Graduate and Professional Students

A student may grant FERPA authorization rights to an individual(s) by completing the FERPA waiver form:

Log in to DrexelOne.

Select the "Academics" tab.

Choose the "FERPA Waiver" link in the "Grades, Transcripts, and Records" channel.

Select "Add a new person for access authorization."

Fill in the blank fields.

Check the boxes next to categories of access you wish to grant to the authorized person you are adding.

Select "Add New Contact" to add the FERPA authorization, or "Return to Authorizations List" to not add the FERPA authorization.

Students can opt to grant full or partial access (see the breakdown of information below).

It is important to note that completing a FERPA Waiver does not grant individuals access to a student's DrexelOne account or any other online system. Family members and other third parties named in a student's FERPA Waiver can contact Drexel University and discuss certain details of a student's information with school officials only.

Change or Restrict Access Undergraduate Students

Drexel Family Portal

Log in to the Drexel Family Portal by selecting the "Are you a faculty or student? Log in here" link.

Select the "View Details" button

On the Connection page, deselect the permissions if you no

longer want your family member to have access.

Select the "Save Changes" button.

If you want all permissions restricted, then uncheck all of the boxes that your parent has requested and select the "Save Changes" button.

Please note that if you had previously requested FERPA through DrexelOne and not the Drexel Family Portal, please follow the directions below.

Log in to DrexelOne.

Select the "Academics" tab.

Choose the "FERPA Waiver" link in the "Grades, Transcripts, and Records" channel.

Select the person you previously granted FERPA authorization.

Uncheck the boxes of the access categories. You may uncheck all, or only select categories to remove FERPA authorization.

Select "Update Record" to remove the FERPA authorization(s).

Graduate and Professional Students

Follow the above Undergraduate DrexelOne directions.

Non-Disclosure of Directory Information

Students also have the right to make all information related to their student records, including public directory information, confidential. This is done by completing a Request for Non-Disclosure of Directory Information [PDF] and submitting it to Drexel Central to make records confidential. Please note that by making this request, Drexel Central will need to take extra steps to confirm the student's identity before discussing any information on their account.

FERPA Information Categories

Students have the option to grant access as part of specific University discussions to certain types of information related to their records. Listed below are the types of information that students can grant their family members access to when working with the University as part of

University-wide discussions/questions or appointments. Information for undergraduate students is also available for viewing as part of the Drexel Family Portal once formal access has been approved by the student through the portal.

Class Schedule/Enrollment – Student course schedule, credit hours, other status information (degree, major, and class year), and co-op-related information

Grade(s) Information – Course grades (via an unofficial transcript), final grades, and co-op-related information

Graduation Information – Anticipated date of graduation, expected degrees, and certificates received (coming soon!)

Financial Aid Information – Award package and financial aid requirements (Students remain solely responsible for completing all financial aid requirements.)

Account Balance – Current balances (Authorized user access to a student's eBill and billing account is separate from a FERPA Waiver; having a FERPA Waiver does not allow a Family Member to view a student's official bill or make payments on their behalf. Students must set up family members as authorized users separate from granting FERPA access.)

Holds on Account – Active holds on the record.

Academic Policy

Graduation and the awarding of a degree from the University are contingent upon the satisfactory completion of both academic and behavioral requirements. All students must demonstrate the emotional maturity, stability and professional attributes desirable for the practice of their profession, must be of good moral character and must have demonstrated integrity and honesty in their personal behavior.

Doctor of Optometry (Traditional)

All required and elective curricula must be completed with a cumulative grade point average of 2.0 or better.

Under normal circumstances all didactic courses and clinical requirements work must be completed in no more than five (5) years. A student must complete the entire program within seven (7) years (not including approved leaves of absence), and must present evidence of continuing to make satisfactory academic progress at all times. The Dean must approve any exception to this total length of program.

Additional academic requirements to graduate are outlined in the program's academic policy on the University website.

Doctor of Optometry (Scholars)

All required and elective curricula must be completed with a cumulative grade point average of 2.3 or better.

Under normal circumstances, all Scholars Program didactic courses and clinical requirements will be completed in 36 months and no more than 48 months, inclusive of potential approved leaves of absence. A course of study longer than 48 months must be approved by the Associate Dean of the Scholars Program, in consultation with the Dean and the APSC, as deemed appropriate.

Additional academic requirements to graduate are outlined in the program's academic policy on the University website.

Post-Baccalaureate Program in Health Sciences

All required curricula must be completed with a cumulative grade point average of 3.0 or better.

Normally, coursework and clinical observations are completed in two consecutive semesters. A matriculated student may complete the didactic coursework in no more than two years. Students must, at all times, demonstrate satisfactory academic progress. Individual exceptions to the total length of the program must be approved by the Program Director.

Additional academic requirements to graduate are outlined in the program's academic policy on the University website.

Doctor of Audiology

All required and elective curricula must be completed with a cumulative grade point average of 3.0 or better.

Under normal circumstances all didactic coursework (except fourth-year course work) must be completed in no more than five (5) years. A student must complete the entire program within seven (7) years (not including approved leaves of absence), and must present evidence of continuing to make satisfactory academic progress at all times. The Dean of the Osborne College of Audiology and the Vice President of Academic Affairs must approve any exception to this total length of program.

Additional academic requirements to graduate are outlined in the program's academic policy on the University website.

Occupational Therapy Programs, Speech-Language Pathology Program, and Orthotics & Prosthetics Program

The student must successfully complete the entire required curriculum with a cumulative grade point average (GPA) of 3.0 or better.

Under normal circumstances all didactic coursework must be completed in no more than five (5) years (not including leaves of absence) and must present evidence of continuing to make satisfactory academic progress at all times. The Dean of the College of Nursing and Health Professions or his/her designee, in conjunction with the appropriate Program Director, must approve any exceptions to this total length of program.

Additional academic requirements to graduate are outlined in the program's academic policy on the University website.

Post-Baccalaureate Program in SLP

All required curricula must be completed with a cumulative grade point average of 3.0 or better.

Normally, coursework and clinical observations are completed in two consecutive semesters. A matriculated student may complete the didactic coursework in no more than two years. Students must, at all times, demonstrate satisfactory academic progress. Individual exceptions to the total length of the program must be approved by the Program Director.

Additional academic requirements to graduate are outlined in the program's academic policy on the University website.

Physician Assistant Studies

For the Master of Medical Science (MMS) degree, graduates of the Physician Assistant program must complete all required and elective curriculum with a cumulative grade point average of 3.00 or better.

Additionally, Physician Assistant students must maintain the required technical standards of the program for its duration.

A student must complete the entire program within four (4) years (not including approved leaves of absence) and must present evidence of continuing to make satisfactory academic progress at all times.

The Academic Affairs Committee must approve any exceptions to the total length of the program.

Additional academic requirements to graduate are outlined in the program's Student Handbook.

Doctor of Philosophy, Master of Science in Biomedicine

All required and elective curricula must be completed with a cumulative grade point average of 3.0 or better.

Additional academic requirements to graduate are outlined in the program's academic policy on the Drexel University website.

Under normal circumstances, MSc degree students will have research completed in 18 full-time months, with an additional six months for completion of the dissertation. Part-time programs also are permitted.

Under normal circumstances, PhD degree students will have research completed in three full-time years and have one additional year for completion of the dissertation and passing of the Oral

Defense (*viva*) examination for the PhD program. A part-time program is allowed and will generally consist of six years of research and six months for the writing of the dissertation and oral defense (*viva*) examination.

Additional academic requirements to graduate are outlined in the program's academic policy on the University website.

Master of Science in Clinical Optometry

The student must successfully complete the entire curriculum with a cumulative grade point average of 3.0 or better.

Blindness and Low Vision Studies Programs

The student must successfully complete the entire required curriculum with a cumulative grade point average (GPA) of 3.0 or better.

Under normal circumstances all didactic coursework must be completed in no more than five (5) years (not including leaves of absence) and must present evidence of continuing to make satisfactory academic progress at all times. The Dean of the Division of the Global, Interprofessional, and Specialized Programming or his/her designee, in conjunction with the appropriate Program Director, must approve any exceptions to this total length of program.

Additional academic requirements to graduate are outlined in the program's academic policy on the University website.

Additional University Policies

Student Health Insurance

All full-time domestic students are required to demonstrate proof of health insurance each academic year. Students are able to demonstrate proof of insurance through a waiver process or enrolling in the Drexel-sponsored plan.

Immunization and Background Checks

Drexel requires all entering full-time students to complete an immunization record .

The prematriculation immunization requirement is based on the recommendations of the Commonwealth of Pennsylvania Department of Health Immunization and the American College Health Association. You may satisfy this requirement by completing the Immunization Record, which includes all immunization requirements for entrance into Drexel University

There is a \$50 University processing fee which must be paid by all students regardless of where the student receives vaccinations. This fee will be placed on the University bill.

Background investigations are required for all new hires (individuals who are not current Employees of Drexel) as a condition of employment, after the offer is made. Employment will not commence until the results of the background investigation are cleared through Human Resources.

Security

Drexel University complies with the Clery Act (1988). The security report is available upon request from the Office of Security.

Institutional Refund Schedule

Drexel University has established a tuition refund policy that allows a refund of tuition and fees when you withdraw from Drexel University or when you're billed by credit hour and withdraw from a course(s). The refund is a credit to your student account and may result in adjustments to your financial aid. If a credit balance is created on your student account, the credit balance will be refunded to you.

Effective Date of Withdrawal from Drexel	Refund Amount
Before First Day of Term	100%
First/Second Calendar Week	100%
Third Calendar Week	50%
Fourth/Fifth Calendar Week	25%
After Fifth Calendar Week	NONE

Withdrawal from Drexel University — All Students

University Administration

Elkins Park Administration

Elizabeth Moy, MSW – Associate Vice Provost, Elkins Park Campus Operations & Strategy

Winifred Sontag - Campus Finance Administrator

Alexis Abate, MA – Director of Marketing Communications

Richard Echevarria, FMP - Associate Vice President of Facilities and Institutional Services

Christopher Esposito – Chief Information Officer and Vice President of Technology and Learning Resource Services Learning Resource Center, Director – Marietta Dooley, MSLIS

Pennsylvania College of Optometry

- Dean, Josephine Ibironke, OD
 - Administrative Assistant - Francesca DiMaria
 - Educational Program Coordinator - Janaranjani Balachandran
 - Director, Finance and Administration - Wendy Sontag
 - Academic Affairs, Associate Dean - James Caldwell, OD, EdD, FAAO
 - Accelerated Scholars Program, Co-Directors - Michelle Gutman-Britchkow, OD, FAAO, and Laren White, OD, FAAO
 - Director, Advanced Placement OD Program - Melissa A. Vitek, OD, EdD, FAAO
 - Clinical Affairs, Associate Dean - Maria Parisi, OD, FAAO

Administrative Assistant - Anagloria Potts

Educational Program Manager - Mary Jameson

Coordinator, Patient Access - Nicole Williams

Assistant Educational Program Coordinator -

Aliceanne Manning

Traineeship Program, Director-Helene Kaiser, OD

Educational Program Coordinator - Jennifer

Brown

Internship Program, Director - Navi Hehar, OD

On-Campus Residency Programs, Director - Nicholas Karbach, OD

Off-Campus Residency Programs, Director - Shital Mani, OD

Externship Program, Director - Rachel Brackley, OD

Externship Program, Assistant Director - Jamie Lindsay

Educational Program Coordinator - Christina Welsh

Assessment and Technology Coordinator - Jessalyn Mifflin

Primary Care

- Suite 1, Chief – Stephanie Leburg-Jett, OD, FAAO
- Suite 2, Chief - Navi Hehar, OD, FAAO
- Suite 3, Chief - Andrew Gurwood, OD, FAAO
- Chestnut Hill Satellite, Chief - Carlo Pelino, OD, FAAO
- Emergency Services, Director - Elizabeth Marunde, OD, FAAO

Specialty Care

- Cornea & Specialty Contact Lens Service, Chief - Nicholas Gidosh, OD, FAAO
- Glaucoma Service, Chief - G. Richard Bennett, MS, OD, FAAO, FNAP
- Neuro-Ophthalmic Disease Service, Chief - Kelly Malloy, OD, FAAO, Dipl. AAO

Pediatric & Binocular Vision Services

- Pediatric & Binocular Vision Services, Chief - Stanley Hatch, OD, MPH, FAAO

SPARC Program

- Co-Directors - Elise Ciner, OD, FAAO, and Erin Kenny, OD, FAAO

William Feinbloom Vision Rehabilitation Center

- Chief - Erin Kenny, OD, FAAO
- Director, Post-Baccalaureate Program in Health Sciences – Darryl Horn, PhD
- Administrative Coordinator – TBD

Research and Sponsored Programs

- Senior Associate Dean - Mitchell Scheiman, OD, PhD, FAAO
- Clinical Research Coordinators – Asami Kojima, Katie Holmbeck
- Grant Manager – Katie Pearce
- Director, Biomedicine Program – Darryl Horn, PhD, FAAO

College of Nursing and Health Professions

Osborne Audiology Department

Chair/Program Director - Radhika Aravamudhan, PhD, EdD, CCC-A

- Academic Coordinator - Jacquelyn Todaro
- Associate Program Director of Didactic Education for the on-campus program – Bre Myers, AuD, PhD, CH-AP
- Associate Program Director of Clinical Education for the on-campus program - Jonette Owen, AuD, MHA, FNAP, CH-AP
 - Clinical Education Coordinator - Victoria Robinson
- Distance Education Programs, Director - Shilpi Banerjee, PhD
 - Academic Coordinator - Lori Hume, MEd
- Pennsylvania Ear Institute, Director - Lindsay M. Bondurant, PhD, CCC-A

Occupational Therapy Programs

- Chair – Lauren Sponseller, PhD, OTD, MSORT/L, MEd, CLA
 - Administrative Coordinator – Jayne Mangini
- Master's Program, Director – Lauren Sponseller, PhD, OTD, MSORT/L, MEd, CLA
- Doctoral Program, Director – Andrea Tyszka, OTD, MS, OTR/L, SIPT
- Academic Fieldwork Coordinator – Anna Grasso, OTD, MS, OTR/L, CAPS, ECHM

Speech-Language Pathology

- Chair and Program Director – Robert Serianni, MS, CCC-SLP, FNAP
 - Administrative Assistant – Christine Lant, MBA
- Director of Clinical Education, Speech-Language Institute – Kara Maharay, MS, CCC-SLP, BCS-S
- Coordinator of Post-Baccalaureate Program in SLP – Kimberly Cafarella, MS, CCC-SLP

Orthotics and Prosthetics Program

- Chair and Director – J. Chad Duncan, PhD, CRC, CPO
- Associate Director - Julie Quinlan, MPO, MS, CPO, ATC, FAAOP
- Administrative Assistant - Ernstha Jovin

College of Medicine, Graduate School of Biomedical Sciences and Professional Studies

Physician Assistant Studies Program

- Program Director – Rachel Ditoro, EdD, MSPAS, PA-C
 - Administrative Coordinator – Katelyn Marciante
- Clinical Educational Program Assistant – Danielle Doherty

- Didactic Educational Program Assistant – Leah Perry
- Director of Didactic Education – Cara E. Orr, MS, MMS, PA-C
- Medical Director, Director of Clinical Education, and Associate Program Director – John J. Fitzgerald III, DO, FACOG
- Clinical Coordinator – Jeanne-Marie Pucillo, DHSc, MSPAS, PA-C
- Director of Educational Competency and Strategic Innovation – James Kelly, MMS, PA-C

Graduate Programs in Biomedicine

Director – Darryl Horn, PhD, FAAO

- Educational Program Coordinator – Asami Kojima

Global, Interprofessional, and Specialized Programming

- Global, Interprofessional, and Specialized Programming, Dean - Melissa A. Vitek, OD, FAAO, PNAP
- Senior Academic Coordinator - Sarah Tinkoff, MEd
- Academic Coordinators - Stella Lee, MA, and Margie Singer, MEd
- Blindness and Low Vision Studies, Chair – Fabiana Perla, EdD, COMS, CLVT
 - Administrative Assistant – Ta’Mar Ellensworth
 - Orientation and Mobility Program, Director – Jamie Maffit, MS, COMS
 - Vision Rehabilitation Therapy Program, Director – Lachelle Smith, MS, CVRT
 - Low Vision Rehabilitation Program, Director - Kerry S. Lueders, MS, COMS, TVI, CLVT
 - Blindness and Vision Impairment Program, Director – Katherine Alstrin, EdD, TVI, COMS

Office of Technology and Learning Resource Services

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- Support Specialist, Information Processing – Ruby Singleton
- Support Specialist, Help Desk and Desktop Support Technologies – Timothy Gilbert
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- Database & Systems Administrator – Bryce Hochstedler
- Junior Database & Systems Administrator – Devin Parker
- Associate Director of Clinical Technology – Mark D’Amore
 - Systems Admin – Clinical Technology - Brian Hiltner
 - Healthcare Applications Trainer - Rasheeda Barlow
- Technical Services, Manager - Robert Atkinson
 - Biomedical Equipment Technicians – Frank Hettich and Warren Parker

Office of Marketing Communications

- Director of Marketing Communications – Alexis R. Abate, MA
- Assistant Director of Marketing Communications – Caren Cremen
- Multimedia Designer – Rachel Wesley
- Clinical Community Outreach Coordinator – Alena Hackett
- Senior Staff Writer/Publications Coordinator – Michael Morsch

Office of Finance

- Accounts Payable Coordinator – Tracey Sutton
- Bursar – Esther Colon
- Assistant Bursar – Karen Williams
- Student Financial Affairs, Director – Jaime Schulang, MA
- Administrative Assistant – Jonette Williams
- Associate Director – Clare McLaughlin
- Financial Aid Officer - Angela McCracken

Drexel Security

- Security Supervisor -Matt Zusin

Facilities and Institutional Services

- Associate Vice President of Facilities and Institutional Services- Richard Echevarria, FMP
- Facilities Coordinator – Stacey Spurlock
- Project Manager – Amie Leighton
- Institutional Services Coordinator – Lydia Friel
- Institutional Services Clerk – Damian Ostrowski
- Facilities Manager – Bob Gravinese
- Custodial Supervisor – Bobby Mack

Learning Resource Center

Learning Resource Center, Director – Marietta Dooley, MSLIS

Clinical Operations

Interim Vice President of Clinical Operations - David Meltzer, OD, MBA, FAAO

- Coordinator, Clinical Compliance - Sumathi Parthasarathy

Pennsylvania Ear Institute

- Director - Lindsay M. Bondurant, PhD
- Clinical Faculty
- Amanda Ayars, AuD
- Rebecca Blaha, AuD
- Elizabeth Sedunov, AuD
- Bre Myers, AuD, PhD
- Jenny Rajan, AuD, PhD, FAAA
- Office Manager – Carla Wallace
- Medical Care Coordinator - Diana Balsamo
- Patient Service Representative – Jessica White

The Eye Institute

Director – Patient Care Support Services – Sediah Kelty

- Patient Care Supervisors - Kiana Hardaway, Brenda Butler, and Chaunte Butts

Director – Specialty Care Support Services - Alycia Miller, CPOT

- Medical Care Coordinators - Hamida Fatima, Venus Witherspoon, and Amanda Meltzer
- Manager, Call Center - Stephanie McBurrows
- Healthcare Financial Operations Analyst - Chioma Acholonu

Prevention of Blindness Program

Director - Stephanie Heaton, MS

Quality Assurance

Director - Helene Kaiser, OD, FAAO

Education Program

Coordinator – Mary Jameson, CPOT

Coordinator, Patient Access - Nicole Williams

Assistant Coordinator - Aliceanne Manning

Speech-Language Institute

- Clinical Director – Kara Maharay, MS, CCC-SLP, BCS-S
- Office Manager - Jennifer Redmond, BS
- Clinical Educators
 - Jennifer Bergstrom, EdD, CCC-SLP
 - Arielle Brown, MA CCC-SLP
 - Erika Cardamone, MS CCC-SLP
 - Rachael Condon, MA, CCC-SLP
 - Kaitlyn Dietz, MS, CCC-SLP
 - Susan DeMilia, MA, CCC-SLP
 - Lynette Dolente, MS, CCC-SLP
 - Jennifer Downs, EdD, CCC-SLP
 - Kimberly Cafarella, MS, CCC-SLP
 - Emily Jett, MA, CCC-SLP
 - Susanne Kelly, MA, CCC-SLP
 - Amy Lustig, PhD, MPH, CCC-SLP
 - Patricia Martin Mayro, MA, CCC-SLP
 - Anne Ruckdeschel, MA, CCC-SLP
 - Kelly Salmon, SLPD, CCC-SLP, BCS-S, CLT-LANA, NDC, PhD
 - Bob Serianni, MS, CCC-SLP, FNAP
 - Eric Smith, MA, CCC-SLP

Pennsylvania College of Optometry

Founded in 1919, the Pennsylvania College of Optometry (PCO) established Salus University in July 2008.

Mission

The Pennsylvania College of Optometry (PCO) innovates and leads in the development of Doctors of Optometry optometrists who advance health and health care through excellence in discovery, patient care, and professional leadership.

PCO's programs are offered in an interdisciplinary environment dedicated to teaching/learning effectiveness, enhancing career development, inspiring and developing leadership, and fostering new discoveries through research.

Student Learning Goals and Objectives

Goal 1: Students will demonstrate didactic knowledge and skills required to achieve national licensure

Objective 1.1: Demonstrate an understanding of their individual responsibility and self-assessment for academic success

Objective 1.2: Demonstrate understanding in the basic sciences

Objective 1.3: Demonstrate understanding in the clinical sciences

Goal 2: Students will demonstrate proficiency in skills during the Internship phase of the clinical program to successfully enter the Externship program.

Objective 2.1: Demonstrate the ability to safely and effectively complete an eye exam

Objective 2.2: Receive and incorporate into practice constructive clinical feedback

Objective 2.3: Effectively communicate and collaborate with providers, colleagues, staff, and patients during the Internship phase of the program.

Objective 2.4: Demonstrate ethical, professional, and culturally competent skills and behaviors

Objective 2.5: Utilize evidence to conduct a comprehensive analysis of a clinical case

Goal 3: Students will demonstrate skills requisite for practice of independent, contemporary optometric practice.

Objective 3.1: Complete the externship phase of the program with minimum competency in specific optometric specialty areas

Objective 3.2: Exhibit skills for evidence-based research and case-based scholarly work and discussion.

Objective 3.3: Effectively communicate and collaborate

with providers, colleagues, staff, and patients during the Externship phase of the program.

Objective 3.4: Provide care for patients from diverse backgrounds with a variety of ocular conditions.

Goal 4: Students will demonstrate an understanding of the the value, knowledge, and skills required for successful interprofessional collaborative care

Objective 4.1: Increase student recognition of the value of interprofessional activities.

Objective 4.2: Demonstrate effective interprofessional communication skills.

Doctor of Optometry (OD) – Traditional Program

The Traditional Program for the Doctor of Optometry degree at Drexel University, Pennsylvania College of Optometry (PCO) follows a legacy that began in 1919, when PCO created a four-year degree program that set the standard for all other institutions of optometry that exists today.

The Traditional Program offers PCO students a cohort curriculum and includes the early clinical experience and extensive externships for which the College is recognized. Other features of this program include small group learning experiences, traditional semester breaks, and a learning environment in which what students learn in the classroom is practiced in the labs and applied to actual patients under the guidance and supervision of faculty.

The Traditional Program can be enhanced with electives courses and/or a post-graduate residency program. Qualified students gain additional expertise in expanding areas of patient care provided by optometric leadership in the health care system.

Innovation continues to drive PCO's Traditional Program. This is reflected in exciting updates continually made to the core curriculum to reflect changes in the profession of Optometry. By anticipating how optometry's role in the 21st century health care arena will continue to evolve, the curriculum is carefully crafted in a dynamic way to utilize cutting edge educational approaches and incorporate key competencies to provide students with the skills needed for independent, contemporary practice.

Admissions

Drexel University Pennsylvania College of Optometry actively seeks applicants from every state in the nation as well as worldwide. Students currently attending represent many states, as well as Canada and several other countries.

Application Processing & Review

Pennsylvania College of Optometry accepts applications only through the Optometry Centralized Application Service (OptomCAS).

The processing of applications by OptomCAS begins the end of June, one year prior to the year of desired enrollment. Applications must be submitted on or before March 31 of the year of desired enrollment.

- Student application reviews begin when an application is verified by OptomCAS
- Interviews are scheduled and initiated, beginning in September
- Candidates meeting the requirements are admitted on a rolling basis until class capacity is reached

It is to an applicant's advantage to apply as early as possible to ensure priority consideration for admission.

It is recommended that applicants with less than a 2.5 (C+) overall grade point average should consult the Office of Admissions prior to applying.

Criteria

To be considered, an applicant must:

- Submit a properly completed application to the Optometry Centralized Application Service (OptomCAS) at www.optomcas.org. Detailed instructions regarding the completion of the application and the essay are provided on the OptomCAS website.
- Complete the supplemental application process (Traditional OD Program applicants only) by arranging to take the online Casper Assessment Test (Computer-Based Assessment for Sampling Personal Characteristics). For detailed instructions, please refer to the **Required Supplemental Application Process** section on the Drexel website. Taking the Casper between July and December of the application cycle is highly recommended.

- Submit official transcripts from all colleges and universities attended (or currently attending) directly to OptomCAS.
- Complete admissions prerequisites (listed below) at the college level with a grade of 'C-' or better. Prerequisite courses must be completed prior to starting the program, not prior to application.
- Arrange to take the Optometry Admissions Test (OAT) prior to June 1 of the desired entering year; taking the OAT between July and December of the application cycle is highly recommended.
 - Information and registration for online testing: www.opted.org
 - Applicants now have the option to take the General GRE (Graduate Record Exam), MCAT (Medical College Admission Test), DAT (Dental Admission Test), or PCAT (Pharmacy College Admission Test) in lieu of taking the OAT. Please contact the Office of Admissions with any questions.
 - If taking the GRE, scores can be sent directly to OptomCAS, using Designated Institution (DI) Code: 4566.
 - The admission exam must be taken within three years, prior to the start of the OptomCAS application cycle to which you are applying. Score reports past three years will not be considered.
- Three letters of evaluation are required and should be forwarded directly to OptomCAS. Any three of the following options will be accepted in order to fulfill the letter requirement:
 - A Pre-Professional Committee letter of evaluation (consult with your college/university pre-professional advisor regarding the policy for providing letters of recommendation for pre-professional applicants).
 - One committee letter will fulfill the entire letter requirement.
 - Letter from a teaching faculty member who has taught you in a course (science teaching faculty letter is strongly recommended).
 - Letter from a teaching assistant only accepted if co-signed by faculty member.
 - Letter from your pre-professional or faculty

advisor.

- Letter from a practicing optometrist for whom you have shadowed or worked.
- Letter from a healthcare professional or work supervisor who is able to assess your qualifications for professional education and future career in optometry.
- Additional letters outside of the above options will enhance the file but will not fulfill our required letters of evaluation.
- Complete a minimum of 25 hours shadowing/observation in the field of optometry or ophthalmology.
- International Students, please review any additional requirements below.
- All credentials submitted on behalf of an applicant become a part of that applicant's file with the University and cannot be returned.
- Students will be required to meet University compliance requirements upon matriculation.

Prerequisites

An applicant must have completed a minimum of 90 semester hours or 135 quarter hours of credit from an accredited undergraduate college or university. These credits must include the pre-optometry courses listed below completed with a 'C-' or better.

An applicant need not have completed all prerequisites prior to filing an application but must be able to complete all outstanding prerequisites prior to enrolling.

Prerequisite credits completed 10 or more years prior to the anticipated entrance date will be reviewed for approval on an individual basis.

- General Biology or Zoology (with labs) – one year
- General Chemistry (with labs) – one year
- Organic Chemistry (with labs) – one year or
 - ½ year Organic Chemistry with lab, plus ½ year of either Biochemistry or Molecular Biology (lab highly recommended)
- General Physics (with labs) – one year
- Microbiology or Bacteriology (lecture only) – ½ year

- English Composition or English Literature – one year
- Mathematics – one year
 - (½ year Calculus fulfills math requirement; however, one year of Calculus highly recommended)
- Psychology – ½ year
- Statistics (Math, Biology, or Psychology) – ½ year

We encourage, but do not require, additional upper level science coursework in such areas as Anatomy, Physiology, Biochemistry, Cell Biology, Genetics, Histology and Experimental and Physiological Psychology. Anatomy and Physiology course work is highly recommended.

Required Supplemental Application Process – Casper Assessment Test

Pennsylvania College of Optometry at Drexel University requires a supplemental application for the Traditional OD Program.

For the supplemental application process, all applicants to the Traditional OD Program are required to complete the Casper Assessment Test via Acuity Insights Assessments. Taking the Casper between July and December of the application cycle is highly recommended.

The last date to take the test for the 2023/2024 cycle is April 9, 2024.

Casper is a standardized, online assessment that measures different competencies and attributes that we believe are important for successful students and graduates of our program. This assessment will complement the other tools that we use for applicant review and evaluation. In implementing the Casper via Acuity Insights Assessments, we are trying to further enhance fairness and objectivity in our selection process. For detailed information on how to complete the Casper Assessment Test, please refer to the Drexel website.

International Students & Practitioners

International Transcripts

For applicants who have attended foreign and French-Canadian schools, please provide the Office of Admissions with the following information:

- A course-by-course credential review from an approved agency, such as World Education Services, which evidences all post-secondary studies

completed. Please consult agency's web site for requirements to complete the evaluation.

- An official evaluation may be sent from the agency directly to OptomCAS.
- Instructions for submitting a foreign credential evaluation.

English Language Proficiency

Fluency in written and spoken English is essential for success in a Drexel University academic program as well as to help ensure patient/client/student safety and/or effective communication with members of a healthcare or education team.

Official results from the TOEFL iBT, TOEFL Essentials, IELTS or Duolingo examination are required of all non-native English speakers. One of these approved exams must be taken within two years prior to the start date of the entering class to which an applicant seeks admission.

While we recommend that applicants submit TOEFL iBT, TOEFL Essentials, IELTS or Duolingo, exceptions will be considered for foreign applicants who meet one of the following criteria*:

1. successfully completed a degree or diploma held from an accredited, post-secondary institution where the coursework was entirely in English, and provide evidence that it was conducted in English; or
2. successfully completed, and provide evidence of, an approved English language learner's program

*Note: All exemption materials and other appeals are reviewed on a case-by-case basis and subject to the admission committee's final discretion. Should any exceptions not be accepted toward the English language requirement, the Office of Admissions will inform the applicant of an alternative to fulfill it.

Admissions Selection Process

For more information regarding the admissions selection, interview and matriculation process, please refer to the Drexel website.

Deferment of Admission

An accepted student with unforeseen, extenuating circumstances prohibiting them from matriculating may request a deferment of admission in writing. The request must be directed the Dean of PCO, made via the Office of Admissions.

For deferment consideration, the following is required:

- A deferment request must be submitted in writing by May 15, before the August start of the academic year. Please note, submission of a deferral request by the deadline does not guarantee approval.
- Official documentation verifying the extenuating circumstance.
- All non-refundable deposit fees and the matriculation supplement must be received (as directed in the University's official Letter of Acceptance).

If deferment is approved:

- Admission will be extended to August matriculation of the next academic year.
- A deferment will not extend beyond one admission cycle.
- The student must contact the Office of Admissions, in writing, by April 1 of the deferred admission calendar year regarding his/her intention to resume enrollment.
- The student will be required to meet with a member of the Admissions Committee prior to matriculation (this may be done in person or via phone/online).

If deferment is denied:

- A student has the option to withdraw acceptance from the Program, and reapply through OptomCAS for future admission.

For questions regarding this policy, please contact the Office of Admissions at graduateadmissions@drexel.edu.

Curriculum

First Year

Fall Semester

OPT-7030	Health Care, Professionalism, and Diversity	2
OPT-7101	Biochemistry and Genetics	1.5
OPT-7103	Systemic Pathology and Physiology	2
OPT-7105	General Anatomy and Histology	1
OPT-7106	Ocular Anatomy and Histology	2.5
OPT-7400	Head and Neck Anatomy with Laboratory	2.5
OPT-7530	Optics 1: Foundation of Light	2.5

	and Lenses			OPT-7602	Vision Science and	1.5
IPE-7701	Evidence Based Practice	1			Perception 3 with Laboratory	
OPT-8630	Clinical Skills 1	2		OPT-7732	Clinical Problem Solving 2	1
OPT-8640	Patient Care 1	0.5		OPT-8530	Contact Lens 1-Soft Contact Lenses	1.5
	Subtotal: 17.5			OPT-8635	Clinical Skills 4	2.5
Spring Semester				OPT-8643	Patient Care 4	1
OPT-7130	Systemic Pharmacology 1	2			Subtotal: 18.0	
OPT-7405	Neuroanatomy with Laboratory	2.5		Spring Semester		
OPT-7406	Ocular Physiology and Biochemistry	2		OPT-7141	Ocular Pharmacology 2	1
OPT-7407	Systemic Immunology and Microbiology	1		OPT-7350	Posterior Segment Disease 1	2.5
OPT-7408	Public Health Optometry and Research Methods	1.5		OPT-7414	Neuro-Ophthalmic Disease 2 with Laboratory	1
OPT-7531	Optics 2: Applications of Optical Principles	2.5		OPT-7507	Optics 4: Physiological Optics with Laboratory	2.0
OPT-7600	Vision Science and Perception 1 with Laboratory	1		OPT-7603	Vision Science and Perception 4 with Laboratory	1.5
OPT-8631	Clinical Skills 2	3.5		OPT-7734	Clinical Problem Solving 3	1
OPT-8641	Patient Care 2	0.5		OPT-8500	Pediatric & Infant Vision with Laboratory	2.5
	Subtotal: 16.5			OPT-8531	Contact Lens 2 - Rigid Contact Lenses	3
Summer Semester				OPT-8644	Patient Care 5	3.5
OPT-7131	Systemic Pharmacology 2	1			Subtotal: 18.0	
OPT-7340	Anterior Segment Disease 1	1.5		Summer Semester		
OPT-7409	Neurologic Examination and Imaging with Laboratory	1		OPT-7320	Binocular Vision 1 with Laboratory	2
OPT-7410	Diagnostic Imaging and Technology with Laboratory	1		OPT-7342	Systemic Medicine and Disease 1	2
OPT-7601	Vision Science and Perception 2 with Laboratory	2		OPT-7351	Posterior Segment Disease 2	1.5
OPT-7730	Clinical Problem Solving 1	1		OPT-7424	Neuro-Ophthalmic Disease 3	1
OPT-8632	Clinical Skills 3	1.5		OPT-7710	Practice Management	1
OPT-8642	Patient Care 3-Optical Clerkship	1.5		OPT-7736	Clinical Problem Solving 4	1
	Subtotal: 10.5			OPT-8645	Patient Care 6	5
Second Year					Subtotal: 13.5	
Fall Semester				Third Year		
OPT-7109	Ocular Immunology and Microbiology	1		Fall Semester		
OPT-7140	Ocular Pharmacology 1	1.5		OPT-7300	Management of the Glaucomas	1.5
OPT-7341	Anterior Segment Disease 2	2.5		OPT-7301	Ocular Emergencies and Differential Diagnoses	1
OPT-7402	Ocular Motility with Laboratory	2		OPT-7321	Binocular Vision 2 with Laboratory	2.5
OPT-7404	Neuro-Ophthalmic Disease 1 with Laboratory	1.5		OPT-7343	Systemic Medicine and Disease 2	2
OPT-7500	Optics 3: Physical Optics with Laboratory	2		OPT-7510	Ophthalmic Lasers	1
				OPT-7737	Clinical Problem Solving 5	1
				OPT-8501	Low Vision and Vision	2.5

	Rehabilitation with Laboratory	
OPT-8636	Advanced Clinical Skills	1
OPT-8646	Patient Care 7	6
Subtotal: 18.5		
Spring Semester		
OPT-7502	Environmental & Sports Vision	1
OPT-7509	Minor Surgical Procedures	1.5
OPT-8540	Integrated Decision Making/NBEO Prep	2
OPT-8647	Patient Care 8	2.5
OPT-8800	Externship 1	5.5
Subtotal: 12.5		
Summer Quarter		
OPT-8801	Externship 2	10
Subtotal: 10		
Fourth Year		
Fourth Year		
OPT-8802	Externship 3	10
OPT-8803	Externship 4	10
OPT-8804	Externship 5	10
Subtotal: 30		
Total Credit Hours: 165.0		

Doctor of Optometry (OD) – Accelerated Scholars Program

The Accelerated Scholars Program at Drexel University Pennsylvania College of Optometry (PCO) is an opportunity for highly motivated and well-qualified applicants to earn a Doctor of Optometry degree designed specifically with them in mind. This program provides students the opportunity to complete all of the same traditional program optometry degree requirements in an accredited 36-month, year-round, campus-based program.

Each year, an entering class begins on July 1, and students enrolled in the Accelerated Scholars Program earn the same credit equivalency as that of students in the Traditional Program.

Drawn from key features of our Traditional Program and consistent with PCO's reputation for innovation and commitment to excellence, this unique curriculum

emphasizes:

- small class size facilitating easy access to faculty
- lecture and laboratory instruction
- small group learning
- case-based learning
- hybrid course opportunities with online enhanced instruction

The structured patient care experiences and small student-to-faculty ratio of this accelerated program provides close faculty mentorship as students develop the critical thinking and clinical competencies necessary for optometric practitioners. To enhance this learning experience, the student cohort is immersed in patient care from the very start of the program.

The Accelerated Scholars Program recognizes and develops individual student learning styles and leadership skills. Academically talented and motivated applicants are carefully screened and accepted based on qualifications, history of academic performance, and desired career path.

Admissions

Pennsylvania College of Optometry accepts applications only through the Optometry Centralized Application Service (OptomCAS).

The processing of applications by OptomCAS begins at the end of June, one year prior to the year of desired enrollment. Applications must be submitted on or before March 31 of the year of desired enrollment.

- Student application reviews begin when an application is verified by OptomCAS
- Interviews are scheduled and initiated, beginning in September
- Candidates meeting the requirements are admitted on a rolling basis until class capacity is reached

It is to an applicant's advantage to apply as early as possible to ensure priority consideration for admission.

It is recommended that applicants with less than a 3.5 (B+) grade point average should consult the Office of Admissions prior to applying.

Criteria

The Accelerated Scholars Program at Drexel University

Pennsylvania College of Optometry (PCO) offers a new, alternate opportunity for highly qualified and highly motivated students with a recommended cumulative GPA of 3.5 or higher and an OAT academic average score of 330 or higher.*

Applicants meeting these criteria will be considered for the program and asked to visit the campus and undergo a process known as the multiple mini interview.

*Applicants now have the option to take the General GRE (Graduate Record Exam), MCAT (Medical College Admission Test), DAT (Dental Admission Test), or PCAT (Pharmacy College Admission Test) in lieu of taking the OAT. Scores in the 60% or higher are highly recommended in each section of the chosen admission exam.

To be considered, an applicant must:

- Submit a properly completed application to the Optometry Centralized Application Service (OptomCAS) at www.optomcas.org. Detailed instructions regarding the completion of the application and the essay are provided on the OptomCAS website.
- Complete a Bachelor's degree, with a recommended cumulative GPA of 3.5 or higher, evidenced by an official academic transcript (from an accredited undergraduate college or university) prior to the start of classes for the Scholars Program. Submit official transcripts from all colleges and universities attended (or currently attending) directly to OptomCAS.
- Complete admissions prerequisites (see below) at the college level with a grade of 'C-' or better.
- Arrange to take the Optometry Admissions Test (OAT) prior to June 1 of the desired entering year; taking the OAT between July and December of the application process is highly recommended.
 - Information and registration for online testing: www.opted.org
 - An OAT Academic Average score of 330 or higher is recommended.
 - The admission exam must be taken within three years, prior to the start of the OptomCAS application cycle to which you are applying.
 - Applicants now have the option to take the General GRE (Graduate Record Exam), MCAT

(Medical College Admission Test), DAT (Dental Admission Test), or PCAT (Pharmacy College Admission Test) in lieu of taking the OAT. Scores in the 60% or higher are highly recommended in each section of the chosen admission exam.

- Three letters of evaluation are required and should be forwarded directly to OptomCAS. Any three of the following options will be accepted in order to fulfill the letter requirement:
 - a Pre-Professional Committee letter of evaluation (consult with your college/university pre-professional advisor regarding the policy for providing letters of recommendation for pre-professional applicants).
 - one committee letter will fulfill the entire letter requirement.
 - letter from a teaching faculty member who has taught you in a course (science teaching faculty letter is strongly recommended).
 - letter from a teaching assistant only accepted if co-signed by a faculty member.
 - letter from your pre-professional or faculty advisor.
 - letter from practicing optometrist for whom you have shadowed or worked.
 - letter from a healthcare professional or work supervisor who is able to assess your qualifications for professional education and future career in optometry.
 - Additional letters outside of the above options will enhance the file but will not fulfill our required letters of evaluation.
- A minimum of 100 hours of experience in a healthcare profession is required (may be volunteer or paid). In addition, it is highly recommended to shadow a practicing optometrist(s) in order to be familiar with the role of the optometrist as a member of the healthcare team.
- International Students, please review any additional requirements below.
- All credentials submitted on behalf of an applicant become a part of that applicant's file with the University and cannot be returned.

- Students will be required to meet University compliance requirements upon matriculation.

Prerequisites

An applicant must have completed a bachelor's degree from an accredited undergraduate college or university. These credits must include the pre-optometry courses listed below completed with a 'C-' or better. An applicant need not have completed all prerequisites prior to filing an application but must be able to complete all outstanding prerequisites prior to enrolling.

Prerequisite credits completed ten or more years prior to the anticipated entrance date will be reviewed for approval on an individual basis.

- General Biology or Zoology (with labs) - one year
- General Chemistry (with labs) - one year
- Organic Chemistry (with labs) - one year or
 - ½ year Organic Chemistry plus ½ year of either Biochemistry or Molecular Biology (lab highly recommended)
- General Physics (with labs) - one year
- Microbiology or Bacteriology (lecture only) - ½ year
- English Composition or English Literature - one year
- Mathematics - one year
 - (½ year Calculus fulfills math requirement; however, one year of Calculus highly recommended)
- Psychology - ½ year
- Statistics (Math, Biology or Psychology) - ½ year

We encourage, but do not require, additional upper level science coursework in such areas as Anatomy, Physiology, Biochemistry, Cell Biology, Genetics, Histology and Experimental and Physiological Psychology. Anatomy and Physiology course work is highly recommended.

International Students & Practitioners

International Transcripts

For applicants who have attended foreign and French-Canadian schools, please provide the Office of Admissions with the following information:

- A course-by-course credential review from an approved agency, such as World Education Services, which evidences all post-secondary studies completed. Please consult agency's web site for requirements to complete the evaluation.
- An official evaluation may be sent from the agency directly to OptomCAS.
 - Instructions for submitting a foreign credential evaluation.

English Language Proficiency

Fluency in written and spoken English is essential for success in a Drexel University academic program as well as to help ensure patient/client/student safety and/or effective communication with members of a healthcare or education team.

Official results from the TOEFL iBT, TOEFL Essentials, IELTS or Duolingo examination are required of all non-native English speakers. One of these approved exams must be taken within two years prior to the start date of the entering class to which an applicant seeks admission.

While we recommend that applicants submit TOEFL iBT, TOEFL Essentials, IELTS or Duolingo, exceptions will be considered for foreign applicants who meet one of the following criteria*:

1. successfully completed a degree or diploma held from an accredited, post-secondary institution where the coursework was entirely in English, and provide evidence that it was conducted in English; or
2. successfully completed, and provide evidence of, an approved English language learner's program

*Note: All exemption materials and other appeals are reviewed on a case-by-case basis and subject to the admission committee's final discretion. Should any exceptions not be accepted toward the English language requirement, the Office of Admissions will inform the applicant of an alternative to fulfill it.

Admissions Selection Process

For more information regarding the admissions selection, MMI interview and matriculation process, please refer to the Drexel website.

Deferral of Admission

An accepted student with an unforeseen, extenuating

circumstance prohibiting them from matriculating may request a deferment of admission in writing. The request must be directed to both the Dean of Student Affairs and the Dean of PCO, and made via the Office of Admissions.

For deferment consideration, the following is required:

- A deferment request submitted in writing by April 1, before the July start of the academic year. Please note, submission of a deferral request by the deadline does not guarantee approval.
- Official documentation verifying the extenuating circumstance.
- All non-refundable deposit fees and the matriculation supplement must be received (as directed in the University's official Letter of Acceptance).

If deferment is approved:

- Admission will be extended to August matriculation of the next academic year.
- A deferment will not extend beyond one admission cycle.
- The student must contact the Office of Admissions, in writing, by February 1 of the deferred admission calendar year regarding his/her intention to resume enrollment.
- The student will be required to meet with a member of the Admissions Committee prior to matriculation (this may be done in person or via phone/online).

If a deferral request is denied:

- A student has the option to withdraw acceptance from the Program, and reapply through OptomCAS for future admission.

For questions regarding this policy, please contact the Office of Admissions at graduateadmissions@drexel.edu.

Curriculum

First Year

ODS-7002	Healthcare, Professionalism, and Diversity	2
ODS-7360	Head and Neck Anatomy 1	0.5
ODS-7610	Genetics and Biochemistry	2.5
ODS-7611	Histology and Pathology	1
ODS-7630	Integrated Decision Making 1	1
ODS-7650	Optics 1: Foundations of Light and Lenses	1.5

ODS-8630	Clinical Skills 1	1
ODS-8640	Patient Care 1	1
ODS-7040	Pharmacology 1	1
ODS-7242	Systemic Physiology & Pathology 1	1.5
ODS-7244	Public Health Optometry and Research Methods	1.5
ODS-7330	Scholars Ocular Anatomy and Histology	2.5
ODS-7400	Head and Neck Anatomy 2	1.5
ODS-7609	Cellular Physiology	1
ODS-7631	Integrated Decision Making 2	1
ODS-7651	Optics 2: Applications of Optical Principles	2.5
ODS-8631	Clinical Skills 2	2
ODS-8641	Patient Care 2	2
ODS-7041	Pharmacology 2	1
ODS-7243	Systemic Physiology & Pathology 2	2
ODS-7331	Scholars Physiology and Biochemistry	2.5
ODS-7608	Systemic Microbiology and Immunology	2
ODS-7632	Integrated Decision Making 3	1.5
ODS-7640	Neuroanatomy 1	1
ODS-7652	Optics 3: Physical Optics	3
ODS-8632	Clinical Skills 3	2
ODS-8635	Optical Clerkship	1
ODS-8642	Patient Care 3	1
ODS-7042	Pharmacology 3	2
ODS-7402	Ocular Motility	2
ODS-7410	Vision Science and Perception 1 with Laboratory	1
ODS-7633	Integrated Decision Making 4	1
ODS-7641	Neuroanatomy 2	1.5
ODS-7653	Optics 4: Physiological Optics	2.5
ODS-8530	Contact Lens 1 with Laboratory	1.5
ODS-8633	Advanced Procedures and Technology with Laboratory	2.5
ODS-8643	Patient Care 4 with Grand Rounds	3.5

Subtotal: 61.5

Second Year

ODS-7020	Systemic Medicine and Disease 1	1.5
ODS-7030	Anterior Segment Disease 1	2
ODS-7411	Vision Science and Perception 2 with Laboratory	1.5
ODS-7615	Ocular Pharmacology 1	2

ODS-7634	Integrated Decision Making 5	1		Subtotal: 60.50
ODS-7642	Neurologic Examination and Imaging with Laboratory	1	Third Year	
ODS-8501	Low Vision and Vision Rehabilitation with Laboratory	2.5	ODS-8830	Externship 1 10
ODS-8531	Contact Lens 2 with Laboratory	2	ODS-8831	Externship 2 10
ODS-8644	Patient Care 5 with Grand Rounds	4.5	ODS-8832	Externship 3 10
ODS-7021	Systemic Medicine and Disease 2	2	ODS-8833	Externship 4 10
ODS-7031	Anterior Segment Disease 2	2	ODS-8834	Practice Management 1.5
ODS-7350	Posterior Segment Disease 1	1.5	ODS-9002	Elective Research Project 1.5
ODS-7412	Vision Science and Perception 3 with Laboratory	1.5		Subtotal: 43.0
ODS-7450	Neuro-Ophthalmic Disease 1 with Laboratory	1.50		Subtotal: 165.00
ODS-7605	Glaucoma Management	1		Total Credit Hours: 165.0
ODS-7635	Integrated Decision Making 6	1.5		
ODS-8500	Pediatric and Infant Vision with Laboratory	2.5		
ODS-8645	Patient Care 6 with Grand Rounds	4		
ODS-7301	Ocular Emergencies and Differential Diagnoses	1		
ODS-7351	Posterior Segment Disease 2	1.5		
ODS-7413	Vision Science and Perception 4 with Laboratory	1.5		
ODS-7440	Binocular Vision 1 with Laboratory	2.50		
ODS-7452	Neuro-Ophthalmic Disease 2 with Laboratory	1.5		
ODS-7636	Integrated Decision Making 7	1.5		
ODS-8646	Patient Care 7 with Grand Rounds	4		
ODS-7100	Environmental Optometry and Sports Vision	1		
ODS-7441	Binocular Vision 2 with Laboratory	2		
ODS-7612	Ophthalmic Lasers & Minor Surgical Procedures	2.5		
ODS-7637	Integrated Decision Making 8	1		
ODS-8532	Contact Lens 3 with Laboratory	1		
ODS-8647	Patient Care 8 with Grand Rounds	4		

Advanced Placement OD Degree Program

The Advanced Placement Doctor of Optometry degree (APOD) program offers an additional pathway to the OD degree specifically for interested and qualified international practitioners. successful applicants may receive a customized course of study that is designed based upon the applicant's previous educational background, clinical experience, career goals, and demonstrated competency during their program.

Program Director-Melissa A. Vitek, OD, EdD, FAAO, PNAP

Admissions

The Pennsylvania College of Optometry accepts applications through the GradCAS centralized application service. Please follow all instructions as indicated on the application portal.

The following application items are required for submission:

- Minimum Education Requirement: All applicants to the APOD Program must hold an international degree in a relevant health care field, that is beyond that of a 3- or 4-year bachelor degree and includes specialization in a specific healthcare field. Eligible applicants include: BSc in Optometry (greater than 4 years in length), MSc, MD, PhD, etc. Additionally, candidates are recommended to have at least one year of hands-on clinical experience as a certified optometrist, ophthalmologist, or medical provider.
- Submit a completed application through GradCAS including a non-refundable fee of \$138.00 is required. Payment may be made through the GradCAS application portal.
- Application and all required documentation must be

submitted by November 15 for the August (Fall semester) start date.

- A course-by-course foreign credential evaluation from a NACES recognized agency is required in order to establish candidacy for the program.
 - Recommended agencies include:
 - World Education Services
 - SpanTran
 - An official credential evaluation (not a copy) must be sent from the evaluation service directly to the Office of Admissions.
 - Applicants also have the option to submit their evaluation directly to GradCAS. If you choose this option, please view GradCAS foreign transcripts instructions for more details.
- Curriculum vitae or resume of work experience, submitted through the GradCAS application portal.
- Complete a Personal Goal Statement detailing your professional background, specific area of interest, reasons for choosing the Advanced Placement Optometry degree and your post-OD career plans, submitted through the GradCAS application portal.
- Two letters of recommendation from a representative of a professional organization, professor or employer, submitted through the GradCAS application portal. The letters must be written in English or accompanied by a notarized English translation of the document.
- Official results from the TOEFL iBT, TOEFL Essentials, IELTS or Duolingo examination are required of all non-native English speakers. One of these approved exams must be taken within two years prior to the start date of the entering class to which an applicant seeks admission.
- A recommended score for the TOEFL iBT is 90. If submitting TOEFL iBT scores, please use the GradCAS code of B886. A recommended score for the IELTS is 6.5. A recommended score for Duolingo is 110.
 - If submitting an approved alternate English proficiency exam, please send official scores directly to the Office of Admissions.
 - While we recommend that applicants submit and

hold at least the recommended minimum scores for TOEFL iBT, TOEFL Essentials, IELTS or Duolingo, exceptions will be considered for foreign applicants who meet one of the following criteria*:

- successfully completed a degree or diploma held from an accredited, post-secondary institution where the coursework was entirely in English, and provide evidence that it was conducted in English; or
- successfully completed, and provide evidence of, an approved English language learner's program
- *Note: All exemption materials and other appeals are reviewed on a case-by-case basis and subject to the admission committee's final discretion. Should any exceptions not be accepted toward the English language requirement, the Office of Admissions will inform the applicant of an alternative to fulfill it.
- Students will be required to meet University compliance requirements upon matriculation.
- Applicants who complete an application, meet the minimum education requirement, and are approved to do so by the APOD Application Committee will be required to sit for a PCO administered placement exam. This exam will be administered virtually by the Pennsylvania College of Optometry via ExamSoft and is a faculty developed Part I NBEO (National Board of Examiners in Optometry) Mock Exam.
 - This exam is modeled by PCO faculty after the Part I NBEO outline which can be found on the NBEO website.

Application Review and Interview Process

The APOD program applicant review process is a rigorous and comprehensive process which values fairness above all else. The application process is highly competitive for a limited number of spots. Completed applications will be considered by the APOD Admissions Committee and reviewed for acceptable candidacy to the APOD program.

After the initial application review, those applicants who are deemed to be competitive will be required to sit for a **PCO administrated placement examination**. Please note, not all applicants will be extended an opportunity to take this exam and continue in the process. The exam will

be administered virtually by the Pennsylvania College of Optometry via ExamSoft and is a faculty developed Part I NBEO (National Board of Examiners in Optometry) Mock Exam. Good internet connection and suitable system requirements are needed in order to participate in the exam.

This exam is modeled by PCO faculty after the Part I NBEO outline which can be found on the NBEO website. The PCO administered placement examination will only be offered on specific days: **December 15th** and **December 20th**.

Individuals successfully meeting the required admissions selection criteria and after taking the PCO administered placement exam, may receive an invitation to interview - on campus or online - which provides further insight into the applicant's character, communication skills and motivation, and allows an applicant the opportunity to speak with faculty members. These interviews will be scheduled after the placement examination results are in and no earlier than January 1st.

Once an applicant completes the interview process, a decision will be rendered by the Admissions Committee. At the Admission Committee's discretion, a few select candidates who perform well on the PCO administered placement exam and are granted provisional acceptance may be sponsored to sit for Part I of NBEO during the March administration prior to starting the program. Both the results of the PCO administered placement exam and NBEO Part I exam (if applicable) will be used as a diagnostic tool to help create an individualized program of study for each student.

Those candidates that do not perform well on the PCO administered admissions exam will not be sponsored to take NBEO Part I however, may still be granted admission based on their applicant file and interview with the committee. These students are considered to receive "advanced placement" into the traditional four-year optometry degree track.

For more information regarding the interview and matriculation process, please refer to the Drexel website.

Deferment of Admission

An accepted student with an unforeseen, extenuating circumstance, prohibiting them from matriculating into the Advanced Placement Doctor of Optometry (APOD) program may request a deferment of admission in writing. The request must be directed to both the Dean of the Pennsylvania College Optometry, and made via the Office of Admissions.

For deferment consideration, the following is required:

- A deferment request submitted in writing by June 1, before the August start of the academic year. Please note, submission of a deferral request by the deadline does not guarantee approval.
- All non-refundable deposit fees and the matriculation supplement must be received (as directed in the University's official Letter of Acceptance).

If deferment is approved:

- Admission will be extended to August matriculation of the next academic year.
- A deferment will not extend beyond one admission cycle.
- The student must contact the Office of Admissions, in writing, by April 1st of the deferred admission calendar year regarding his/her intention to resume enrollment.
- The student may be required to meet with a member of the Admissions Committee prior to matriculation (this may be done in person or via phone/online).

If a deferral request is denied:

- A student has the option to withdraw acceptance from the Program, and reapply through GradCAS for future admission.

For questions regarding this policy, please contact the Office of Admissions at graduateadmissions@drexel.edu.

Curriculum

Eligible applicants will be given a customized course of study that is designed based upon the applicant's previous educational and clinical experience and demonstrated competencies in the program as well as their career goals. The customized course of study for each applicant is built off of the PCO Traditional curriculum.

Post-Baccalaureate Program in Health Sciences

Darryl Horn, Ph.D., Program Director

Educational Goals

1. To develop students' academic and study skills so that they are prepared to be successful at the start of a graduate/professional health professions degree

program

2. To develop students' scientific skills so that they have a foundational knowledge in basic health professions sciences
3. To expose students to patient care experiences in a variety of settings and disciplines

The Post-Baccalaureate Program in Health Sciences offers students interested in pursuing a graduate or professional degree in the health sciences the opportunity to strengthen their scientific background or use it as a record enhancer, boost their CV, or earn prerequisite course credits. The biggest advantage to completing the program is that it makes a student a competitive applicant for any health professions program to which they apply.

Students in the certificate program will receive an introduction to patient care and have the opportunity to observe within the University's clinical facilities, along with career guidance to assist them in achieving their ultimate professional goals. Eligible students accepted into the Post-baccalaureate program who successfully complete the certificate, submit a complete application, and meet the program prerequisite requirements will be guaranteed an interview to a Drexel program of their choice.

Admissions

Drexel University's Post-Baccalaureate Program accepts applications online through the GradCAS application service.

The intended program start date of the ***Post-Baccalaureate Program in Health Sciences*** is September of each year. Applications received on or before **July 1** of the year of desired enrollment are given priority consideration.

- Applications are accepted on a rolling basis.
- Review and selection begin after applicants submit all the necessary documents via the GradCAS application service.
- To receive priority consideration, applicants are encouraged to apply early and to complete the application requirements as soon as possible.
- During the review process for the certificate program, the academic background of the applicant is assessed to determine academic eligibility and the evaluation includes an interview with the program director.
- Selected courses in the Post-Baccalaureate Program

in Health Sciences are open to non-degree seeking students wishing to expand their knowledge and skills in the health sciences.

Criteria

All applicants to the Post-Baccalaureate Program in Health Sciences must hold a Bachelor's degree, or its international equivalent, from an accredited institution.

An overall GPA of 2.70 or higher is recommended for application to this program.

Post-Baccalaureate applicants who desire to pursue the Physician Assistant Studies degree must have a minimum undergraduate cumulative and science GPA of 3.0.

To Be Considered an Applicant Must:

- Submit a completed application through GradCAS, which includes a non-refundable fee of \$138.00. Payment may be made through the GradCAS application portal.
- Submit official transcripts from all colleges and universities attended (or currently attending) directly to GradCAS. Final transcripts indicating Bachelor's degree conferred are required prior to the start of the program.
 - Note: if an applicant has applied to a Drexel University degree program within the current application cycle, and there have been no changes to their academic record, previously submitted transcripts may be used toward the certificate program application. Please check with the Office of Admissions in order to determine if official transcripts will need to be submitted once again.
- Complete the following short answer essays (maximum 250 words each):
 - ***Describe how participation in the Post-Baccalaureate Program in Health Sciences will benefit your academic and/or career goals.***
 - ***In what ways do you expect your particular skills, experience and perspective to contribute to the program's learning community?***
- Submit one letter of recommendation through the GradCAS application portal from an individual who can describe your skills, accomplishments and personality, such as a professor or supervisor.
- Submit a CV/Resume through the GradCAS

application portal. This should include the applicant's education, work experience, publications, honors or achievements, and community/extracurricular activities to date.

- Applicants seeking to matriculate into the certificate program must complete a successful face-to-face or online interview with the program director.
- Students who wish to earn a certificate must meet the requirements for clinical observation (e.g., background checks) prior to registration for Introduction to Patient Care I.
- International Students, please review any additional requirements below.
- All credentials submitted on behalf of an applicant become a part of that applicant's file with the University and cannot be returned.
- Students will be required to meet University compliance requirements upon matriculation.

International Students

Important information for international students:

Please be aware that Drexel University cannot issue I-20's (Certificate of Eligibility for Nonimmigrant Student Status) for the Post-Baccalaureate Program in Health Sciences.

International Transcripts

For applicants who have attended foreign and French-Canadian schools, please provide the Office of Admissions with the following information:

A course-by-course credential review from a NACES recognized agency which evidences all post-secondary studies completed. Please consult the agency's web site for requirements to complete the evaluation.

- Recommended agencies include:
 - World Education Services
 - SpanTran
- An official credential evaluation (not a copy) must be sent from the evaluation service directly to the Office of Admissions.
- Applicants also have the option to submit their credential evaluation directly to GradCAS. If you

choose this option, please view GradCAS foreign transcripts instructions for more details.

English Language Proficiency

Fluency in written and spoken English is essential for success in a Drexel University academic program as well as to help ensure patient/client/student safety and/or effective communication with members of a healthcare or education team.

Official results from the TOEFL iBT, TOEFL Essentials, IELTS or Duolingo examination are required of all non-native English speakers. One of these approved exams must be taken within two years prior to the start date of the entering class to which an applicant seeks admission.

While we recommend that applicants submit TOEFL iBT, TOEFL Essentials, IELTS or Duolingo, exceptions will be considered for foreign applicants who meet one of the following criteria*:

1. successfully completed a degree or diploma held from an accredited, post-secondary institution where the coursework was entirely in English, and provide evidence that it was conducted in English; or
2. successfully completed, and provide evidence of, an approved English language learner's program

*Note: All exemption materials and other appeals are reviewed on a case-by-case basis and subject to the admission committee's final discretion. Should any exceptions not be accepted toward the English language requirement, the Office of Admissions will inform the applicant of an alternative to fulfill it.

Admissions Selection Process

For more information regarding the admissions selection, interview and matriculation process, please refer to the Drexel website.

Non-Degree Seeking Students

Selected courses in the Post-Baccalaureate Program in Health Sciences are open to non-degree seeking students wishing to expand their knowledge and skills in the health sciences.

All courses may be taken on an a la carte basis, except for Introduction to Patient Care I & II and Career Guidance & Academic Success. The maximum credit total allowed as a non-certificate seeking student is 24 credits.

For more information, refer to the Non-degree Seeking Student section on the website.

Curriculum

Fall Semester

PBP-5001	Microbiology & Immunology	3
PBP-5002	Biochemistry & Genetics	3
PBP-5003	Anatomy with Lab	4
PBP-5004	Health Psychology	3
PBP-5030	Introduction to Patient Care 1	1
PBP-5040	Career Guidance & Academic Success	0

Subtotal: 14

Spring Semester

PBP-5005	Biostatistics for Health Professionals	3
PBP-5006	Physiology with Lab	4
PBP-5007	Cell and Molecular Biology	3
PBP-5008	Introduction to Research & Scientific Writing	3
PBP-5031	Introduction to Patient Care 2	1
PBP-5041	Career Guidance & Academic Success	0

Subtotal: 14

PBP-5030, PBP-5040, PBP-5031, and PBP-5041:

Requires matriculation into Post-Bacc program.

Subtotal: 28

Total Credit Hours: 28.0

College of Nursing and Health Professions

Osborne Audiology Department

Doctor of Audiology

Master of Science in Clinical Audiology

Occupational Therapy

Master of Science, Occupational Therapy

Doctor of Occupational Therapy (post-professional degree)

Orthotics and Prosthetics

Master of Science, Orthotics and Prosthetics

Speech-Language Pathology

Master of Science, Speech-Language Pathology (SLP)

Post-Baccalaureate Program in SLP

Certificate

- singular access to our core program faculty
- state of the art pre-clinical laboratories for the assessment of balance, electrophysiology and hearing
- our state of the art, on campus clinical facility, the Pennsylvania Ear Institute
- outstanding faculty who share a sincere commitment to our students
- access to the best possible patient care practices
- practice management skills and procedures training over all four years

Osborne Audiology Department

Originally established in 2000 as the PCO School of Audiology, the Osborne College of Audiology was re-named in memory of the school's founding dean in 2008.

Mission

The mission of the Osborne Audiology (OA) is to educate future audiologists, practicing audiologists, and other hearing healthcare providers for licensure in the prevention, diagnosis, treatment, and management of hearing and balance disorders. Programs within OA provide education, conduct research, deliver patient care, and promote community services utilizing local, national, and international platforms.

Doctor of Audiology On-Campus Program

The mission of the Doctor of Audiology (AuD) curriculum is to graduate competent and caring primary healthcare clinicians who can fulfill an expanding role in the prevention, diagnosis, treatment and management of disorders of the auditory and vestibular systems, as well as co-management of related systemic conditions.

Our distinctive, strong biomedical curriculum offers many benefits to our Audiology students, including:

- emphasis on small-group and problem-based learning
- early clinical experience, beginning in the first term

Our strong commitment to early and extensive clinical experience ensures that our students are well-prepared for the duties of their 12-month externships. Our evidence-based practice classes shared with Optometry students emphasize the importance of communicating effectively with other healthcare providers to enhance the overall quality of healthcare patients receive. Our philosophy of compassionate caring prepares our students to not only care for, but to care about their patients.

Admissions

Osborne Audiology Department actively seeks individuals from every state in the nation as well as worldwide who bring diverse life experiences and who desire to become audiologists.

Application Processing & Review

The Osborne College of Audiology, Doctor of Audiology On-Campus Program, accepts applications through the Communication Science and Disorders Centralized Application Service (CSDCAS).

The processing of applications by CSDCAS (csdcas.liaisoncas.com) begins mid-July, one year prior to the year of desired enrollment. Applications must be submitted on or before June 30 of the year of desired enrollment.

- Student application reviews begin when an application is verified by CSDCAS.
- Interviews are scheduled and initiated, beginning in October.
- Candidates meeting the requirements are admitted on

a weekly basis until class capacity is reached.

It is to an applicant's advantage to apply as early as possible to ensure priority consideration for admission.

It is recommended that students with less than a 3.0 grade point average should consult the Office of Admissions prior to applying.

Criteria

To be considered, an applicant must:

- Submit a properly completed application to the Communication Science and Disorders Centralized Application Service (CSDCAS). Detailed instructions regarding the completion of the application and the essay are provided on the CSDCAS website.
- Submit official transcripts from all colleges and universities attended (or currently attending) directly to CSDCAS.
- Complete admissions prerequisites at the college level with a grade of 'C-' or better and a minimum of 90 semester hours or 135 quarter hours of credit from an accredited undergraduate college or university.
- Submit three letters of recommendation. Arrange to have forwarded directly to CSDCAS the following letters of recommendation:
 - Two letters must be written by teaching faculty members who have taught you in a course.
 - One letter must come from a practicing audiologist.
 - A third letter from a teaching faculty member may be submitted in lieu of a letter from an audiologist.
 - The references should be from persons familiar with the applicant's academic work, employment record, and/or personal characteristics.
- Observe a practicing audiologist for at least one day (minimum of 7.5 hours) in order to be familiar with the role of the audiologist as a member of the healthcare team.
- Optional: Submit Graduate Record Exam (GRE) score results.
 - If submitting scores, results may be sent directly to Drexel University.

- Completion of the GRE is required within three years of your desired entrance date to the Program.

- International Students, please review any additional requirements below.
- All credentials submitted on behalf of an applicant become a part of that applicant's file with the University and cannot be returned.
- Students will be required to meet University compliance requirements upon matriculation.

Prerequisites

Applicants must have completed a minimum of 90 semester hours or 135 quarter hours of credit from an accredited undergraduate college or university. These credits must include the listed prerequisite courses below completed with a 'C-' or better. An applicant need not have completed all prerequisites prior to filing an application but must be able to complete all outstanding prerequisites prior to enrolling.

- Basic Sciences (e.g., Biology, Chemistry, Physics) – 3 credit course
- Physics or Hearing Science – 3 credits
- Mathematics or Statistics – 3 credits (Calculus highly recommended)
- Social Sciences – 3 credits
- English Composition or Literature – 3 credits

Prerequisite credits completed ten or more years prior to the anticipated entrance date will be reviewed for approval on an individual basis.

Additional Courses (highly recommended, but not required)

- Hearing Science and Introduction to Audiology
- Anatomy, Physiology and/or Neurobiology
- Physics, Chemistry, and Biology
- Pre-calculus or Calculus (to include logarithms)
- Psychology and/or Counseling

International Students & Practitioners

International Transcripts

For applicants who have attended foreign and French-Canadian schools, please provide the Office of Admissions with the following information:

- A course-by-course credential review from a NACES recognized agency which evidences all post-secondary studies completed. Please consult agency's web site for requirements to complete the evaluation.
- Recommended agencies include:
 - World Education Services
 - SpanTran
- An official evaluation may be sent from the agency directly to CSDCAS.
 - Instructions for submitting Foreign and French-Canadian transcripts.

English Language Proficiency

Fluency in written and spoken English is essential for success in a Drexel University academic program as well as to help ensure patient/client/student safety and/or effective communication with members of a healthcare or education team.

Official results from the TOEFL iBT, TOEFL Essentials, IELTS or Duolingo examination are required of all non-native English speakers. One of these approved exams must be taken within two years prior to the start date of the entering class to which an applicant seeks admission.

- If submitting TOEFL scores, please use the CSDCAS code of C112.
- If submitting an approved alternate English proficiency exam, please send scores directly to Drexel University, Office of Admissions.

While we recommend that applicants submit TOEFL iBT, TOEFL Essentials, IELTS or Duolingo, exceptions will be considered for foreign applicants who meet one of the following criteria*:

1. successfully completed a degree or diploma held from an accredited, post-secondary institution where the coursework was entirely in English, and provide evidence that it was conducted in English; or

2. successfully completed, and provide evidence of, an approved English language learner's program

*Note: All exemption materials and other appeals are reviewed on a case-by-case basis and subject to the admission committee's final discretion. Should any exceptions not be accepted toward the English language requirement, the Office of Admissions will inform the applicant of an alternative to fulfill it.

Admissions Selection Process

For more information regarding the admissions selection, interview and matriculation process, please refer to the Drexel website.

Technical Standards

The Au.D. degree program at Drexel University is designed to prepare students to enter the profession as a generalist with the knowledge, skills and values necessary to perform successfully all the required functions associated with the scope of practice as an entry-level audiologist.

The Technical Standards of Drexel University OA reflect the essential qualities, abilities and functions that are required of student's pursuing the "Doctor of Audiology" Au.D degree. Meeting these Technical Standards is required of entering students and must be continually demonstrated throughout the student's progress in the Au.D. degree program.

The following standards were adopted with the awareness that a balance must be achieved between competing interests:

- the rights of applicants and students;
- the safety of students, their co-workers, and patients;
- the significant clinical education component of the College's curricula;
- the accreditation requirements for the College; and
- the conditions for licensure of our graduates.

The institution upholds a public health responsibility to ensure its graduates are competent; capable individuals prepared to provide benefit to the community in which they practice. Therefore, it is important that the individual student investing their time be fully knowledgeable of the qualities, abilities and functions deemed necessary to succeed in this rigorous educational program.

In keeping with the requirements of the Americans with Disabilities Act, as amended, Section 504 of the Rehabilitation Act of 1973, and the University's philosophy, we are committed to providing students with adequate opportunity to meet these technical standards and equal access to the AuD program. As part of our commitment, the University provides qualified individuals the opportunity to request and receive reasonable accommodations and related services.

Students, with either an identified disability or concern that they may have a disability, that impairs their ability to perform any of the tasks identified as essential to the clinical practice of audiology, are encouraged to seek appropriate University services. If a student wishes to request accommodations, it is their responsibility to identify themselves to the Office of Disability Resources and to follow the accommodations request procedure as explained at new student orientation and specified in the Student Handbook.

The competing interests and requirements of the clinical components of the educational program may prevent some prospective students from progressing through the program if they cannot meet these technical standards, with or without reasonable accommodations. Individuals with visual, auditory, physical and/or psychosocial impairments severe enough to require an intermediary may find that they are unable to meet these technical standards with or without reasonable accommodations. During the program, should a student become unable to maintain these technical standards, with or without reasonable accommodations, the student may be required to take a leave of absence from the program or be subject to dismissal.

The intent of this document is to guide students in making an informed decision regarding clinical audiology as a career. To complete the Au.D. curriculum and enter practice as a licensed audiologist, all students must possess abilities and skills in the domains of *communication, intellectual-cognitive, motor, sensory-observational* and *behavioral-social* that are consistent with the skill sets of doctoral-level, health care providers.

Students should carefully review this "Technical Standards" document to determine whether or not they can meet these standards (with or without accommodation) before signing below.

Communication Skills (all in Standard English)

Students must possess the ability:

- To communicate effectively (elicit, convey and clarify

information) with patients, patients' support networks, faculty, staff, peers, other health care professionals and the general public, utilizing oral, written and non-verbal communication modes.

- To understand the content presented in the educational program and to adequately complete all assignments in the specified timeframe.
- To complete all assignments in the timeframe specified and to synthesize accurately and quickly large volumes of information presented in different formats.
- To understand and utilize non-verbal communication in order to meet curricular and clinical demands.
- To synthesize and apply course content to patient care through written and oral presentation.
- To modify communication styles to meet the audiences' communication needs.
- To share, elicit and record information from patients, preceptors, peers and other health care professionals verbally and in a recorded format observing.
- To communicate effectively and professionally in person, over the phone and in electronic format.

The demonstration of sufficient skills in written and spoken standard English may be accomplished by passing the Test of Spoken English (TSE), Speaking Proficiency English Assessment Kit (SPEAK) and The Test of English as a Foreign Language (TOEFL) with scores of 60, 230 and 250, respectively.

Cognitive Abilities

Students must be able to demonstrate higher-level cognitive abilities, including:

- memory and retention
- rational thought and conceptualization
- quantitative measurement and calculation
- visual-spatial comprehension
- organization, analysis and synthesis
- representation (oral, written, diagrammatic, three-dimensional)
- clinical reasoning, ethical reasoning and sound judgment

Students must possess the ability:

- To participate in a variety of modalities including classroom instruction and group collaborative activities.
- To acquire, comprehend, synthesize, integrate and apply a large body of written and oral information that is sufficient to meet curricular and clinical requirements.
- To think critically, solve complex problems and make sound clinical judgments, all in a timely fashion.
- To identify and utilize resources to successfully improve one's knowledge and skills.
- To comprehend three-dimensional and spatial relationships.
- To reflect and evaluate one's knowledge and abilities regarding academic performance and clinical skills for the purpose of identifying strengths, weaknesses, limitations and areas needing improvement.

Motor / Sensory Skills

Students must possess sufficient visual, auditory, tactile and/or motor abilities to allow them to gather information

- from written reference material
- from oral presentations
- by observing a demonstration
- by studying medical images in multiple formats
- by observing a patient and his/her environment
- by observing clinical procedures performed by others
- by observing digital or analog representations of physiologic phenomena

Students must possess sufficient visual, auditory, tactile and/or motor abilities to:

- Perform actions requiring coordination of gross and fine motor movement and equilibrium.
- Demonstrate the physical stamina to meet the demands of the classroom and clinical activities.
- Monitor equipment displays and controls (including hearing aids) used for the assessment and treatment of patients.

- Perceive and identify text, numbers, tables and graphs presented, including those associated with diagnostic instruments.
- Observe a patient's activity and behavior during assessment and treatment.
- Interpret patient responses.
- Minimize inaccuracies in the flow of information. by possessing a minimum level of hearing acuity.
- Access transportation to academic and clinical locations.
- Adhere to universal precaution measures and to meet safety standards applicable to the clinical settings and educational activities.
- Access and utilize technology for clinical management of patients to include, but not
- limited to, scheduling programs, coding and billing programs, therapeutic programs and general use of computer technology in a safe and efficient manner.

Behavioral - Social Skills

Students must possess the emotional health and management skills (coping mechanisms) or proactively make use of available university resources to:

- prioritize competing demands
- function effectively in stressful circumstances
- tolerate physically taxing workloads
- display flexibility in response to changing circumstances
- demonstrate integrity, respect, compassion, tolerance and acceptance of others

Students must possess the ability:

- To recognize and show respect for all individuals of different age, gender, race, religion, sexual orientation, cultural and socioeconomic backgrounds and intellect.
- To refrain from imposing personal, religious, sexual and cultural values on others.
- To establish and maintain appropriate professional relationships.
- To demonstrate the perseverance, diligence and

commitment necessary to complete the educational program requirements as directed within the allotted time.

- To critically evaluate her/his performance, be forthright about errors, accept constructive criticism and respond by modification of behavior.
- To acknowledge conflicts of interests, mistakes and adverse outcomes and cooperate in the resolution of same.
- To demonstrate appropriate behaviors to protect the safety and well-being of others.
- To place professional behavior and duties above one's own convenience.
- To demonstrate acceptable social skills in professional and social interactions with others.
- To possess and express appropriate compassion, integrity and empathy for others.

An individual with a diagnosed psychiatric disorder may continue in the educational program as long as he or she is able to adhere to these Behavioral – Social Skills standards.

Curriculum

First Year

Fall Semester

AUD-7132	Cell and Molecular Processes	1.5
AUD-7330	Auditory Biology 1	1.5
AUD-7400	Head and Neck Anatomy	2
AUD-7517	Instrumentation	1
AUD-7524	Acoustics and Acoustic Phonetics	3
AUD-7530	Audiometric Principles 1	1
AUD-7580	Patient Centered Clinical Interviewing	1
IPE-7701	Evidence Based Practice	1
AUD-8630	Clinical Skills: Audiometric Principles 1	0.5
AUD-8851	Professional Practice 1	0.5
Subtotal: 13.0		

Spring Semester

AUD-7232	Systemic Organ Biology	2.5
AUD-7331	Auditory Biology 2	1
AUD-7401	Neurosciences	2
AUD-7518	Calibration	0.5
AUD-7525	Psychoacoustics	3.0
AUD-7531	Audiometric Principles 2	1

AUD-7552	Hearing Technologies 1	2
AUD-7730	Clinical Problem Solving 1	0.5
AUD-8631	Clinical Skills: Audiometric Principles 2	0.5
AUD-8642	Clinical Skills: Hearing Technologies 1	0.5
AUD-8852	Professional Practice 2	0.5
Subtotal: 14.0		

Summer Semester

AUD-7201	Pharmacology	2
AUD-7501	Cerumen Management	0.5
AUD-7503	Speech & Language Development & Disorders	2
AUD-7520	Otoacoustic Emissions	0.5
AUD-7553	Hearing Technologies 2	0.5
AUD-7581	Psychosocial Aspects of Hearing Impaired	0.5
AUD-7934	Ethics in Healthcare Professions	0.5
AUD-8643	Clinical Skills: Hearing Technologies 2	0.5
AUD-8853	Professional Practice 3	1.5
Subtotal: 8.5		

Second Year

Fall Semester

AUD-7540	Vestibular and Balance Evaluation 1	2
AUD-7554	Hearing Technologies 3	2.5
AUD-7562	Auditory Evoked Responses 1	1
AUD-7570	Pediatric Audiologic Assessment	1.5
AUD-8644	Clinical Skills: Hearing Technologies 3	1
AUD-8645	Clinical Skills: Vestibular & Balance Eval 1	0.5
AUD-8662	Clinical Skills: Auditory Evoked Responses 1	0.5
AUD-8670	Clinical Skills: Pediatric Audiologic Assessment	0.5
AUD-8854	Professional Practice 4	1.5
Subtotal: 11.0		

Spring Semester

AUD-7541	Vestibular and Balance Evaluation 2	2.5
AUD-7555	Cochlear and Brain Stem Implants	2.5
AUD-7563	Auditory Evoked Responses	1.5

	2				
AUD-7571	Pediatric Intervention & Management	1.5			
AUD-7582	Auditory Rehabilitation	1			
AUD-7731	Clinical Problem Solving 2	0.5			
AUD-7936	Resume Writing and Interviewing Skills	0.5			
AUD-8855	Professional Practice 5	2.0			
		Subtotal: 12.0			
			Fourth Year		
			AUD-8861	Clinical Externship 2	9.5
			AUD-8862	Clinical Externship 3	9.5
			AUD-8863	Clinical Externship 4	9.5
				Subtotal: 28.5	
				Subtotal: 28.5	
				Total Credit Hours: 127.5	

Summer Semester

AUD-7523	Medical Co-Management of Auditory Diseases	1	
AUD-7542	Vestibular Rehabilitation	1	
AUD-7572	Educational Audiology	1	
AUD-7740	Introduction to Clinical Research	2	
AUD-7937	Professional Issues in Audiology	0.5	
AUD-8856	Professional Practice 6	3	
		Subtotal: 8.5	

Third Year**Fall Semester**

AUD-7505	Auditory Processing Disorders	2	
AUD-7514	Hearing Conservation & Industrial Audiology	2	
AUD-7750	Audiology Grand Rounds	0.5	
AUD-7940	Audiology Practice Management	2	
AUD-8857	Professional Practice 7	5	
		Subtotal: 11.5	

Spring Semester

AUD-7515	Management of Tinnitus and Hyperacusis	1	
AUD-7565	Inter-Operative Neuro Monitoring	1	
AUD-7583	Aging and Management of Geriatric Patient	1	
AUD-8858	Professional Practice 8	5	
		Subtotal: 8	

Summer Semester

AUD-8860	Clinical Externship 1	9.5	
		Subtotal: 9.5	

Doctor of Audiology Online Bridge Program

The Doctor of Audiology Online Bridge Program is a distance education, international degree program that offers online education for working audiologists with a master's degree or medical degree in audiology.

This online program is uniquely designed to meet the educational needs of the modern audiologist. The profession of audiology worldwide is distinct in that it is a multi-disciplinary area of study and practice. Audiologists committed to remaining current with today's rapid advances in audiology and the health sciences require specific essentials that include:

- Knowledge in the fundamentals of neuroscience
- Application of sound clinical judgments based on psychoacoustic principles
- Adherence to evidence-based intervention methods
- Deep understanding of public health and professional issues

Admissions

Osborne Audiology accepts applications to the Doctor of Audiology Online Bridge Degree Program online through the GradCAS application service.

The intended program start date of the Doctor of Audiology Online Bridge degree program is August (fall term) of each year. Applications are accepted on a rolling basis.

The Admissions Committee review and selection begins after applicants have sent all the necessary documents to the Office of Admissions. To receive priority consideration, applicants are encouraged to apply early and to complete the application requirements as soon as possible. *Please note: Each new cohort will begin every August. Hence, the entire application process may occur over a six month period.*

Criteria

The Osborne Audiology Doctor of Audiology (AuD) Online Bridge degree program is an advanced-level program of study. In order to ensure the professional needs of all students enrolled in this program, the Admissions Committee will evaluate for individualized programs of study, where applicable.

Please note: Drexel University students who have successfully completed the Master of Science in Clinical Audiology (MSCA) degree program may apply to the AuD Online Bridge Program through an internal application process. Please contact the Office of Admissions for more information.

To be considered an applicant must:

- Submit a completed application through GradCAS, which includes a non-refundable fee of \$138.00. Payment may be made through the GradCAS application portal.
- Official transcript of master's degree or medical degree in Audiology, or an equivalent, must be sent directly from the degree granting institution to the Office of Admissions or GradCAS.
 - An international student whose degree was completed at a foreign or French-Canadian school will be required to submit a document-by-document credential review from a NACES recognized agency, which evidences all post-secondary studies completed. Please consult the agency's web site for requirements to complete the evaluation.
 - Recommended agencies include:
 - World Education Services
 - SpanTran
 - An official credential evaluation (not a copy) must be sent from the evaluation agency directly to the Office of Admissions.
 - Applicants also have the option to submit their credential evaluation directly to GradCAS. If you choose this option, please view GradCAS foreign transcripts instructions for more details.
- Submit official transcripts from all U.S. or English Canadian colleges (undergraduate, graduate, professional) attended. Partial transcripts should be submitted if courses are still in progress. Official transcripts must be issued directly to the GradCAS Transcript Processing Center from each institution, not to the student. ***A transcript marked "issued to student" is not acceptable, even when delivered in a sealed envelope.***
 - Further instructions on submitting official transcripts.
- Curriculum vitae or resume of work experience, along with a copy of license, registration, or the equivalent to practice audiology in your country of residence must be submitted through GradCAS.
- Upload through GradCAS a ***Personal Goal Statement*** detailing your professional background, specific area of interest, reasons for choosing Drexel University Osborne Audiology, and your post-AuD career plans. Additionally, please address the following questions within your response:
 - Are you currently working as an audiologist? If so, where and in what capacity? If not, what is motivating you to pursue the AuD Online Bridge degree program?
 - What are your professional goals?
 - How do you see this AuD degree as advancing your professional goals?
- Official results from the TOEFL iBT, TOEFL Essentials, IELTS or Duolingo examination are required of all non-native English speakers. One of these approved exams must be taken within two years prior to the start date of the entering class to which an applicant seeks admission.
 - A recommended score for the TOEFL iBT is 70 or above (or its equivalent if taking an approved alternate exam). If submitting TOEFL iBT scores, please use the GradCAS code of B886.
 - If submitting an approved alternate English proficiency exam, please send official scores directly to the Office of Admissions.
 - While we recommend that applicants submit and hold at least the recommended minimum scores for TOEFL iBT, TOEFL Essentials, IELTS or Duolingo, exceptions will be considered for foreign applicants who meet one of the following criteria*:
 - successfully completed a degree or diploma

held from an accredited, post-secondary institution where the coursework was entirely in English, and provide evidence that it was conducted in English; or

- successfully completed, and provide evidence of, an approved English language learner's program

- Demonstration of one-year clinical fellowship and two years of clinical experience in audiology, or minimum of three years clinical experience in audiology.
- Arrange for two letters of evaluation to be submitted on your behalf through the GradCAS portal. When completing the application, applicants must supply the name and email address of two people who are not related to the applicant and who will provide the University with a reference. The references should be from persons familiar with the applicant's academic work, employment record, and/or personal characteristics.
- The Admissions Committee recommends that applicants take the ETS PRAXIS exam in Audiology (Test code number 0341-Audiology). The results of this exam will be used solely as a diagnostic tool to help us create an individualized program of study and will not be used as a criterion for admission into the program. The test should be taken as soon as possible after the application is submitted. You may contact the Director of Distance Education by email for further guidance on taking the PRAXIS exam.
- All credentials submitted on behalf of an applicant become a part of that applicant's file with the University and cannot be returned.

Non - Degree Seeking Students

Please refer to the Non-Degree seeking section of our website.

Curriculum

First Year

Fall

AUB-7010	Early Hearing Detection in Infants (EHDI)	1.5
AUB-7014	Medical Audiology	1.5
CLA-500A or AUB-7111	AUB Elective 1 (choose 1)	1.5

AUB-7006	Pediatric Audiology: Current Trends in Behavioral Assessment	1.5
AUB-7013	Advanced Electrophysiology	1.5
CLA-502A or AUB-7103	AUB Elective 2 (choose 1)	1.5

Subtotal: 9.0

Spring

AUB-7007	Genetics and Hearing Loss	1.5
AUB-7113	Green Audiology: Hearing Loss Prevention and Preservation	1.5
CLA-503B or AUB-7114	AUB Elective 3 (choose 1)	1.5
CLA-506B	Professional Practice	1.5
AUB-7005	Evidence-based Audiology: Research to Practice	1.5
CLA-505B or AUB-7011	AUB Elective 4 (choose 1)	1.5

Subtotal: 9.0

Summer

AUB-7112	Pharmacology and Ototoxicity	1.5
AUB-7115	Public Health & Audiology	1.5

Subtotal: 3.0

Second Year

Fall

Choose one track

HAT 5000 through 5005	HAT Specialization Track	9.0
THY 5000 through 5005	THY Specialization Track	9.0

Subtotal: 9.0

Spring

CIM 5000 through 5005	CIM Specialization Track	9.0
VSD 5000 through 5005	VSD Specialization Track	9.0

Subtotal: 9.0

Summer

CLA-632A, AUB-8105, CLA-613A, AUB-8101	Workshops (take two)	3.0
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CLA-504A, AUB Elective 5 (choose 2) 3.0
 AUB-7105,
 CLA-502B,
 AUB-7001

Subtotal: 6.0

Total Credit Hours: 45.0

Master of Science in Clinical Audiology

The Master of Science in Clinical Audiology (MSCA) is a program for international audiologists who hold a bachelor's degree in Audiology or related science and have a minimum of two years clinical experience.

The first cohort of the MSCA degree program is being offered for international Audiology practitioners to advance their knowledge and skills in audiologic care and to experience specialized fellowship training within a specific content area. This degree program features biomedical and audiologic sciences, clinical sciences, research design and application, and small group learning experiences, delivered in 51 semester hour credits over a 22-month period. This is a hybrid program with both face-to-face learning supplemented by online content, hands-on workshops and supervised clinical training. Students will be required to travel to Drexel University for a total of twelve (12) days throughout the duration of the program to complete hands-on workshops and clinical training graduation requirements.

The MSCA degree program is comprised of three mandatory components:

- Cochlear Implants
- Hearing Technologies
- Core Curriculum (General and Diagnostic Audiology)

Each segment of study is composed of lectures, workshops, clinical skills training, controlled patient care, and research opportunities.

Students interested in completing the Fellowship Program phase of the MSCA degree program only should contact the Office of Admissions for guidance in the application process.

Admissions

The Osborne College of Audiology accepts applications to the Master of Science in Clinical Audiology Program online through the GradCAS centralized application portal.

This program is available for international audiologists who hold a bachelor's degree in Audiology or related

science (for example: International ENT physician) and have a minimum of two years clinical experience in audiology. To practice as an audiologist in the United States, students will need to obtain an AuD following the completion of this program.

Applications will be accepted on a rolling basis, throughout the year, and you may be considered for an August entrance date. Admissions Committee reviews applications as they arrive, and once an application is complete, students will receive an admissions decision within 2-4 weeks' time. Program start date for the applicant will be based on when an application is completed as well as on minimum and maximum enrollment for the program at that time.

Criteria

The Osborne College of Audiology international Master of Science in Clinical Audiology (MSCA) degree program is an advanced-level program of study. In order to ensure the professional needs of all students enrolled in this program, the admissions committee will evaluate for individualized programs of study, where applicable.

To be considered an applicant must:

- Submit a completed application through GradCAS, which includes a non-refundable fee of \$138.00. Payment may be made through the GradCAS application portal.
- *Program start date for the applicant will be based on when an application is completed with all required documentation as well as on minimum and maximum enrollment for the program at that time.*
- Curriculum vitae or resume of work experience.
- Complete a Personal Goal Statement detailing your professional background, specific area of interest, reasons for choosing Drexel University Osborne Audiology, and your post-MSc career plans. This Goal Statement is to be submitted through GradCAS under the Program Materials quadrant. Additionally, please address the following questions within your response:
 - Are you currently working as an audiologist? If so, where and in what capacity?
 - What is motivating you to pursue the Master of Science in Clinical Audiology program?

- What are your professional goals?
- How do you see this program advancing your professional goals?
- Demonstration of two years of clinical experience as a practicing audiologist.
- Arrange for two letters of evaluation to be submitted on your behalf through the GradCAS portal. The references should be from persons familiar with the applicant's academic work, employment record, and/or personal characteristics.
- Submit official transcripts of bachelor's degree in Audiology, or a related science (for example: ENT physician).
 - A student whose degree was completed at a foreign or French-Canadian school will be required to submit a document-by-document credential review from a NACES recognized agency which evidences all post-secondary studies completed. Please consult the agency's web site for requirements to complete the evaluation.
- Recommended agencies include:
 - World Education Service
 - SpanTran
- An official credential evaluation (not a copy) must be sent from the evaluation agency directly to the Office of Admissions.
- Applicants also have the option to submit their credential evaluation directly to GradCAS. If you choose this option, please view GradCAS foreign transcripts instructions for more details.
- Official results from the TOEFL iBT, TOEFL Essentials, IELTS or Duolingo examination are required of all non-native English speakers. One of these approved exams must be taken within two years prior to the start date of the entering class to which an applicant seeks admission.
 - A recommended score for the TOEFL iBT is 70 or above (or its equivalent if taking an approved alternate exam).
 - If submitting TOEFL iBT scores, please use the GradCAS code of B886.
- If submitting an approved alternate English proficiency exam, please send official scores directly to the Office of Admissions.
- While we recommend that applicants submit and hold at least the recommended minimum scores for TOEFL iBT, TOEFL Essentials, IELTS or DuoLingo, exceptions will be considered for foreign applicants who meet one of the following criteria*:
 - successfully completed a degree or diploma held from an accredited, post-secondary institution where the coursework was entirely in English, and provide evidence that it was conducted in English; or
 - successfully completed, and provide evidence of, an approved English language learner's program
- *Note: All exemption materials and other appeals are reviewed on a case-by-case basis and subject to the admission committee's final discretion. Should any exceptions not be accepted toward the English language requirement, the Office of Admissions will inform the applicant of an alternative to fulfill it.
- All credentials submitted on behalf of an applicant become a part of that applicant's file with the University and cannot be returned.

Admissions Selection Process

For more information regarding the admissions selection and matriculation process, please refer to the Drexel website.

Curriculum

Core

CLA-500A	Auditory Physiology & Perception	1.5
CLA-500B	Auditory System Disorders	1.5
CLA-501A	Diagnostic Clinical Procedures	1.5
CLA-502A	Fundamentals of Electrophysiology	1.5
CLA-502B	Introduction to Vestibular Function	1.5
CLA-503A	Pediatric Audiology	1.5
CLA-503B	Auditory Processing Disorders	1.5
CLA-505A	Aural Rehabilitation	1.5

CLA-505B	Counseling for Behavior Change	1.5
CLA-506A	Research Methods	1.5
CLA-506B	Professional Practice	1.5
CLA-507A	Diagnostics (Basic)	1.5-3.0
CLA-613A	Cochlear Implants (Basic)	1.5-3.0
CLA-632A	Hearing Aids (Basic)	1.5-3.0
CLA-6404	Clinical Training	7.5
Subtotal: 28.5-33.0		

Hearing Aid (HA)

HAT-5000	Perceptual Consequences of Hearing Loss	1.5
HAT-5001	Principles of Amplification	1.5
HAT-5002	Signal Processing in Hearing Aids	1.5
HAT-5003	Alternatives to Traditional Hearing Aids	1.5
HAT-5004	Pediatric Amplification	1.5
HAT-5005	Current Trends in Amplification	1.5
Subtotal: 9.0		

Cochlear Implants (CI)

CIM-5000	Biomedical Aspects of Cochlear Implantation	1.5
CIM-5001	Behavioral Measures in Cochlear Implants	1.5
CIM-5002	Electrical Stimulation of the Cochlea	1.5
CIM-5003	Objective Measures in Cochlear Implants	1.5
CIM-5004	Aural (Re)habilitation for Cochlear Implant Recipients	1.5
CIM-5005	Current Trends in Cochlear Implants	1.5
Subtotal: 9.0		

Total Credit Hours: 54.0

Advanced Studies Certificate Programs

The Advanced Studies certificate programs are designed to expand the knowledge, improve the clinical skills, and promote general expertise in the delivery of audiology services.

The courses of study will bring the professional up to date on the state of the science in diagnosis and treatment of specific auditory disorders. They consist of six graduate-level courses. To support international participation, course delivery is wholly online in an asynchronous mode. Students who successfully complete the program receive

graduate-level certificates in Advanced Studies from Drexel University Osborne Audiology.

These programs are open to college degree holders (BS, MS, AuD, MD, PhD, etc.) of audiology or audiology-related professions in the United States and other countries. Current audiology clinical doctoral (AuD) students who are in the clinical externship phase of their program are also eligible to apply. A letter of support is required from the program director.

Students have the option to apply to enroll in the entire course of study, or to take individual courses as a non-matriculated student. Courses are taught in English.

Admissions

Osborne Audiology accepts applications to the Advanced Studies Certificate Programs online through the portal.

Applications to the Advanced Studies Certificate Programs are accepted on a rolling basis. The Admissions Committee review and selection begins after applicants have sent all the necessary documents to the Office of Admissions.

Once the class is filled to capacity, applicants may be placed on a waiting list for the next start date. To receive priority consideration, applicants are encouraged to apply and complete the application requirements as soon as possible.

Criteria

To be considered an applicant must:

Complete the following two-step application process:

1. Submit an online application to the certificate track of your choice, along with the non-refundable application fee of \$100 (USD). Within the application, you will be asked to do the following:
 - Complete a Personal Goal Statement – Submit a brief (750 word maximum) goal statement, describing your professional background and interest in your advanced study of choice (Cochlear Implants, Tinnitus and Hyperacusis, or Vestibular Sciences and Disorders). Please address the following questions within your response:
 - Are you currently working in the field of cochlear implants, tinnitus and hyperacusis, or vestibular sciences and disorders (please focus on the field of advanced study to which you are

applying)?

- If so, where and in what capacity? If not, what is motivating you to pursue advanced studies cochlear implants, tinnitus and hyperacusis, or vestibular sciences and disorders?
 - What are your professional goals?
 - How do you see the certificate program advancing your professional goals?
 - If you are applying for the available Faculty Scholarship (see more details below), state so in the Personal Goal Statement and also provide a separate letter of support from your AuD program director.
 - Arrange for two letters of evaluation to be submitted on your behalf by supplying the name and email address of two people who will provide the University with a reference. References will be contacted by the Office of Admissions and provided with an evaluation form.
 - The references should be from persons familiar with the applicant's academic work, employment record, and/or personal characteristics and who not related to the applicant.
2. Submit the following documents to the Office of Admissions:
- Curriculum vitae or resume of work experience, along with a copy of license, registration, or the equivalent to practice audiology, if applicable. This may be emailed to graduateadmissions@drexel.edu.
 - Arrange for an official copy of transcripts indicating confirmation of a college degree (BS, MS, AuD, PhD, MD, etc.) from an accredited institution in audiology or an audiology-related profession (e.g. physicians, speech-language pathologists, or teachers of the hearing impaired who may be part of the interdisciplinary management team for cochlear implant candidates and recipients). Current audiology clinical doctoral (AuD) students who are in the clinical externship phase of their program are required to also submit a letter of support from the program director.
 - Official transcripts must be submitted directly to the Office of Admissions, not to the student. A transcript marked "issued to student" is not

acceptable, even when delivered in a sealed envelope.

- An international student whose degree was completed outside of the U.S. will be required to submit a document-by-document credential review from a NACES recognized agency, which evidences all post-secondary studies completed.
- Recommended agencies include:
 - World Education Services
 - SpanTran
- Please consult agency's web site for requirements to complete the evaluation. An official evaluation must be sent from the agency directly to the Office of Admissions.
- Official results from the TOEFL iBT, TOEFL Essentials, IELTS or Duolingo examination are required of all non-native English speakers. One of these approved exams must be taken within two years prior to the start date of the entering class to which an applicant seeks admission.
- A recommended score for the TOEFL iBT is 70 or above (or its equivalent if taking an approved alternate exam).
- While we recommend that applicants submit and hold at least the recommended minimum scores for TOEFL iBT, TOEFL Essentials, IELTS or Duolingo, exceptions will be considered for foreign applicants who meet one of the following criteria*:
 - successfully completed a degree or diploma held from an accredited, post-secondary institution where the coursework was entirely in English, and provide evidence that it was conducted in English; or
 - successfully completed, and provide evidence of, an approved English language learner's program
- *Note: All exemption materials and other appeals are reviewed on a case-by-case basis and subject to the admission committee's final discretion. Should any exceptions not be accepted toward the English language requirement, the Office of Admissions will inform the applicant of an alternative to fulfill it.

- Entrance examinations are not a requirement for acceptance into these programs. However, if you have taken a test such as Miller Analogies Test (MAT), Graduate Record Examination (GRE) or ETS PRAXIS and would like to include them in your admissions file, your test results may be sent directly to the Office of Admissions.
- All credentials submitted on behalf of an applicant become a part of that applicant's file with the University and cannot be returned.

Non - Degree Seeking Students

Refer to the Non-degree Seeking Student section in the catalog.

Admissions Selection Process

For more information regarding the admissions selection and matriculation process, along with Technical Computer requirements please refer to the Drexel website.

Advanced Studies in Cochlear Implants

The Advanced Studies in Cochlear Implants program is designed to expand the knowledge, improve the clinical skills, and promote general expertise in the delivery of cochlear implant services.

Cochlear Implants Program

The Advanced Studies in Cochlear Implants certificate program is ideal for the following:

Practicing professionals who have an audiology or audiology-related degree with an interest in cochlear implants, as the program of study is designed to expand their current level of experience in cochlear implants, while focusing on the core cochlear implant competencies; Employees of cochlear implant companies who have an audiology or audiology-related degree and need a broader view of the sciences and clinical skills involved in provision of successful cochlear implant services; and College faculty who have an audiology or audiology-related degree and who teach cochlear implant courses and desire additional and updated information.

The purpose of offering the Advanced Studies in Cochlear Implants graduate certificate program from the Drexel University Osborne Audiology is to fill the need that the advancing technology has created in the body of knowledge surrounding cochlear implants. Most cochlear implant clinicians have completed an Introduction to Cochlear Implants class as part of their degree program,

but have not been exposed to the depth of science underlying cochlear implants.

All three cochlear implant manufacturers offer technical-training courses to those that use their products, but this process generally does not include the broad scientific knowledge base that is essential for clinicians to generalize the information and make evidence-based decisions based on scientific principles. This online program will offer both depth and breadth of instruction, emphasizing materials and methods to provide the framework for best practices in the provision of cochlear implant services.

The course of study will bring the professional up to date on the state of the science in cochlear implant technology and methods of treatment. The outstanding faculty for the program, from both Canada and the USA, are experts in cochlear implant science, technology, and clinical protocols.

Students who complete the program will receive 9 semester (academic) credits and receive a graduate certificate in Advanced Studies in Cochlear Implants from Drexel University Osborne Audiology.

This program is open to college degree holders (BS, MS, AuD, MD, PhD, etc.) of audiology or audiology-related professions in the United States and other countries. Current audiology clinical doctoral (AuD) students who are in the clinical externship phase of their program are also eligible to apply. A letter of support is required from the program director.

Students have the option to apply to enroll in the entire course of study, or to take individual courses as a non-matriculated student. With the limited enrollment for the program, certificate students will have priority in admissions over non-matriculated students. Courses are taught in English.

Advanced Studies in Cochlear Implants

CIM-5000	Neuroscience of Cochlear Implantation	1.5
CIM-5001	Behavioral Assessment Issues in Cochlear Implants	1.5
CIM-5002	Programming Cochlear Implants	1.5
CIM-5003	Objective Measures in CI	1.5
CIM-5004	Aural (Re)habilitation for Cochlear Implant Recipients	1.5
CIM-5005	Current Trends in Cochlear Implants	1.5

Total Credit Hours: 9.0

Advanced Studies in Tinnitus and Hyperacusis

The program will provide a framework for best practices in the assessment and management of tinnitus and hyperacusis.

The 9.0 semester credit online Advanced Studies in Tinnitus and Hyperacusis Certificate Program is designed to:

- Provide specialized training to expand clinician's knowledge of tinnitus (ringing in the ears) and hyperacusis (hypersensitivity to sound).
- Enhance the skills and expertise necessary to obtain a comprehensive and holistic understanding of the pathology and consequences of tinnitus and hyperacusis.
- Bring the professional up to date on the contemporary evidence that provides scientific support for treatment decisions for those with tinnitus and hyperacusis.

This Advanced Studies Certificate Program is intended for those professionals who are currently working with, or expect to work with, this distinct population of patients, and who would like to augment their professional skills and earn credentials to advance their career in the specialized fields of tinnitus and hyperacusis. The comprehensive curriculum covers the following areas:

- The Neuroscience of Tinnitus and Hyperacusis.
- Assessment Techniques in Tinnitus and Hyperacusis.
- Rehabilitation and Management of the Tinnitus Patient.
- Clinical Models for the Management of the Tinnitus and Hyperacusis Patient.
- A Critical Review of Research in Tinnitus and Hyperacusis.
- Public Health and Professional Issues Linked to Tinnitus.

The program will provide a framework for best practices in the assessment and management of tinnitus and hyperacusis. The program is composed of six courses, taught sequentially. Students will be required to complete and pass all six courses to earn the Graduate Certificate. This online program will offer both depth and breadth of

instruction, emphasizing materials and methods to provide the framework for best clinical practices in the provision of tinnitus and hyperacusis services.

The comprehensive curriculum covers the neuroscience of tinnitus and hyperacusis, principles relating to tinnitus and hyperacusis assessment, detailed review of evidence-based rehabilitation and management issues, models and procedures to set up a specialized tinnitus and hyperacusis clinic, review of literature relating to controversies, pitfalls and prospects for progress relevant to tinnitus and hyperacusis and public health and medical issues in the management of tinnitus and hyperacusis.

Advanced Studies in Tinnitus and Hyperacusis

THY-5000	Neuroscience of Tinnitus and Hyperacusis	1.5
THY-5001	Assessment Techniques in Tinnitus and Hyperacusis	1.5
THY-5002	Tinnitus and Hyperacusis: Rehabilitation and Management	1.5
THY-5003	Professional Issues: Setting Up a Tinnitus and Hyperacusis Clinic	1.5
THY-5004	Tinnitus and Hyperacusis: Controversies, Pitfalls and Prospects for Progress	1.5
THY-5005	Public Health and Medical Issues in the Management of Tinnitus and Hyperacusis	1.5

Total Credit Hours: 9.0

Advanced Studies in Vestibular Sciences and Disorders

The Advanced Studies in Vestibular Sciences and Disorders certificate program is designed to expand the knowledge, improve the clinical skills, review current research trends and best practices based on current evidence and promote general expertise in the delivery of services in the area of Vestibular and Balance disorders.

Advanced Studies in Vestibular Sciences and Disorders certificate program

The 9 semester credit online Advanced Studies in Vestibular Sciences and Disorders (ASVSD) certificate program is designed to:
provide specialized training to expand clinician's knowledge of vestibular and balance disorders, enhance the skills and expertise necessary to obtain a comprehensive and holistic understanding of normal and abnormal vestibular function and consequences of vestibular

disorders, and bring the professional up to date on the current best available evidence that provides scientific support for treatment decisions for those with vestibular and balance dysfunction.

This program is intended for those professionals currently working with, or who expect to be working with, the distinct population presenting with vestibular and balance disorders. The course of study is specifically for those who would like to augment their professional skills and earn credentials to advance their career in the specialized field of vestibular sciences and disorders. The comprehensive curriculum covers the following areas:

Anatomy and Physiology of the Vestibular System
Pathologies of the Vestibular System
Basic Vestibular Diagnostics
Advanced Vestibular Diagnostics
Vestibular and Balance Rehabilitation Therapy
Pediatric Vestibular Assessment and Treatment

The course of study will bring the professional up to date on the state of the science in Vestibular and Balance disorders, diagnosis of related disorders and methods of treatment. The outstanding faculty for the program, from both Canada and the USA, are experts in Vestibular and Balance disorders and clinical protocols.

Students who complete the program will receive 9 semester (academic) credits and a graduate certificate in Advanced Studies in Vestibular Sciences and Disorders from Drexel University Osborne Audiology. The program of study will provide a framework for best practices in the concentration of Vestibular Sciences and Disorders (VSD) assessment and management. Students will be required to complete and pass all six courses to earn the Advanced Studies Graduate Certificate.

This program is open to college degree holders (BS, MS, AuD, MD, PhD, etc.) of audiology or audiology-related professions in the United States and other countries. Current audiology clinical doctoral (AuD) students who are in the clinical externship phase of their program are also eligible to apply. A letter of support is required from the program director.

Students have the option to apply to enroll in the entire course of study, or to take individual courses as a non-matriculated student. With the limited enrollment for the program, certificate students will have priority in admissions over non-certificate students. Courses are taught in English. The Advanced Studies in Vestibular and Balance disorders program utilizes the Drexel University

Black Board portal to deliver web-based instruction to students.

Advanced Studies in Vestibular Sciences and Disorders

VSD-5000	Anatomy & Physiology Vestibular System	1.5
VSD-5001	Pathologies of the Vestibular System	1.5
VSD-5002	Basic Vestibular Diagnostics	1.5
VSD-5003	Advanced Vestibular Diagnostics	1.5
VSD-5004	Pediatric Vestibular Assessment	1.5
VSD-5005	Vestibular and Balance Rehabilitation Therapy	1.5

Total Credit Hours: 9.0

Department of Occupational Therapy

Lauren Sponseller, PhD, OTD, MSOTR/L, M.Ed, Chair

The mission of the Drexel University Occupational Therapy program is to provide an inter-professional academic experience that is grounded in the core principles of occupation and influenced by emerging knowledge and technologies, leading to improved health and well-being for the individuals, communities, and populations that graduates will serve.

The Drexel approach to occupational therapy education is to provide a distinctive and innovative program for the academic and clinical preparation of a master's degree, specialty track certificate, and doctoral students.

The OT Department offers a professional and two post-professional programs. Our professional program is a Master of Science degree in Occupational Therapy (MSOT), which emphasizes interdisciplinary perspectives, critical reasoning, the value of occupation, and professional development. The first post-professional program is a Doctorate of Occupational Therapy (OTD) degree. This program, which is primarily online, is designed to help licensed OTs progress in their field by becoming advanced content experts, future leaders, or assume teaching roles in higher education. The second is a Specialty Track Certificate, which provides advanced content and clinical expertise in selected specialty areas.

The Occupational Therapy program at Drexel uses three key components to achieve their end:

1. Inter-Professional Educational Experience

Drexel Occupational Therapy (OT) students are integrated into a community of professional graduate students who seek to become caring and competent health professionals, and who value the unique synergies possible in an interprofessional approach. This philosophy creates an environment that promotes a holistic approach to the care of the total person and encourages the sharing of information and the teamwork found in today's health and rehabilitation professionals.

2. Emerging Areas of Practice

All students are introduced to a variety of specializations unique to Drexel including vision rehabilitation, public health, and health and wellness. These are particularly emphasized in the post-professional OT doctoral program. Significant and diverse community-based clinical experiences further enrich the learning environment.

3. A Focus on Occupation

Occupational therapy is based on the principle that people can improve their health and well-being by engaging in occupation, the dynamic process that supports an individual's continuous adaptation. Occupation is self-directed, personally initiated, goal-directed and organized. To this extent, it is used as the central construct underlying the occupational therapy curriculum. Students work in synergy with faculty, mentors, peers and consumers to reaffirm the occupational nature of humans and the principles of utilizing occupation as therapy.

Students with a bachelor's degree apply for entry into the MSOT degree at Drexel. Once accepted, students who graduate the MSOT program and successfully pass the OT registration examination have the option of continuing their education in the post-professional OTD program. A qualified student who enters the Drexel program as an MSOT candidate may request pre-admission to the doctoral program contingent on successful graduation and NBCOT registration. The post-professional OTD program also welcomes applications from registered occupational therapists from any university who meets admissions criteria.

Learn about the OT program's ACOTE accreditation at www.acoteonline.org.

Master of Occupational Therapy (MSOT) Program

Lauren Sponseller, PhD, OTD, MSOTR/L, M.Ed, Master's Program Director

The Master of Occupational Therapy (MSOT) degree program gives Drexel students the basic skills they need as a direct care provider, consultant, educator, manager, researcher and advocate for both the profession and the consumer.

To meet the required semester credits, students must complete a curriculum designed to meet ACOTE standards including fieldwork experiences and a capstone project. All qualified students are awarded a Master of Science (MSOT) degree after successful completion of the coursework. This coursework includes didactic classroom courses, Fieldwork experiences, and a Capstone project. Students must complete the entire program in five years.

Graduates will be eligible to sit for the national certification examination for the occupational therapist administered by the National Board for Certification in Occupational Therapy (NBCOT). After successful completion of this exam, the individual will be an Occupational Therapist, Registered (OTR). In addition, most states require licensure in order to practice; however, state licenses are usually based on the results of the NBCOT Certification Examination. Note that a felony conviction may affect a graduate's ability to sit for the NBCOT certification examination or attain state licensure.

Prior to entering the program, applicants must provide evidence of a bachelor's degree and completion of at least 18 credit hours of foundational prerequisite courses. After completing the MSOT degree, students can continue their education in our post-professional OTD program.

Program Goals

At the successful conclusion of this MSOT degree program, students will:

- Have acquired, as a foundation for professional study, a breadth and depth of knowledge in the liberal arts and sciences, and an understanding of issues related to diversity, equity and inclusion
- Be educated as a generalist with a broad exposure to the delivery models and systems used in settings where occupational therapy is currently practiced, and where it is emerging as a service
- Have achieved entry-level competence through a combination of academic and fieldwork education
- Be prepared to articulate and apply occupational therapy theory and evidence-based evaluations and interventions to achieve expected outcomes as related to occupation

- Be prepared to articulate and apply therapeutic use of occupations with individuals or groups for the purpose of participation in roles and situations in home, school, workplace, community, and other settings
- Be prepared to plan and apply occupational therapy interventions to address the physical, cognitive, psychosocial, sensory, and other aspects of performance in a variety of contexts and environments to support engagement in everyday life activities that affect health, well-being, and quality of life
- Be prepared to be a lifelong learner, and keep current with evidence-based professional practice
- Be prepared to effectively communicate with and work interprofessionally with those who provide care for individuals and/or populations in order to clarify each member's responsibility in executing components of an intervention plan
- Uphold the ethical standards, values, and attitudes of the occupational therapy profession
- Understand the distinct roles and responsibilities of the occupational therapist and occupational therapy assistant in the supervisory process
- Be prepared to advocate as a professional for the occupational therapy services offered and for the recipients of those services
- Be prepared to be an effective consumer of the latest research and knowledge bases that support practice and contribute to the growth and dissemination of research and knowledge

Admissions

The College of Nursing and Health Professions (CNHP) actively seeks individuals with an undergraduate degree and diverse life experiences who desire to become occupational therapists.

Application Processing & Review

The College of Nursing and Health Professions (CNHP) Department of Occupational Therapy accepts applications to the Master of Science in Occupational Therapy (MSOT) program only through the Occupational Therapy Centralized Application Service (OTCAS).

The processing of applications by OTCAS begins in July, one year prior to the year of desired enrollment.

Applications must be submitted on or before June 1 of the year of desired enrollment.

- Student application reviews begin when an application is verified by OTCAS
- Interviews are scheduled and initiated, beginning in September
- Candidates meeting the requirements are admitted on a weekly basis until class capacity is reached

See a profile of the most recent Entering Class (PDF)

It is to an applicant's advantage to apply as early as possible to ensure priority consideration for admission.

It is recommended that students with less than a 3.0 grade point average should consult the Office of Admissions prior to applying.

Criteria

To Be Considered, An Applicant Must:

- Submit a properly completed application to the Occupational Therapy Centralized Application Service (OTCAS). Detailed instructions regarding the completion of the application and the essay are provided on the OTCAS website.
- Submit official transcripts from all colleges and universities attended (or currently attending) directly to OTCAS.
- Complete a bachelor's degree from an accredited college or university, prior to enrollment. It is highly recommended that an applicant has a minimum cumulative undergraduate GPA of 3.0 on a 4.0 scale.
- Complete admissions prerequisites at the college level with a grade of 'B-' or better.
- Submit three letters of recommendation. Arrange to have forwarded directly to OTCAS the following letters of recommendation:
 - Two letters must be written from persons with authority (i.e. Registered Occupational Therapist, faculty, work supervisor, etc.) regarding your work, professionalism and/or assessing your qualifications for graduate education, ability to complete graduate work, and qualifications for a professional scholarly career.
 - One letter from a teaching faculty member (at the

undergraduate level or above) or supervisor assessing your ability to complete graduate work, and qualifications for a professional scholarly career.

- Additional letters will enhance the file but will not fulfill our required letters of evaluation.
- Acquire a minimum of 8 hours of observation with a licensed occupational therapist(s); 30 hours total are strongly recommended. Observation in both pediatric and adult settings is encouraged (may be volunteer and/or employment).
- Optional: Submit Graduate Record Exam (GRE) score results.
- Candidates from an affiliated institution applying to the 4+2 BS/MSOT program, please review any additional requirements and deadlines.
- International Students, please review any additional requirements below.
- All credentials submitted on behalf of an applicant become a part of that applicant's file with the University and cannot be returned.
- Students will be required to meet University compliance requirements upon matriculation.

Prerequisites

The required coursework listed below must be completed at the college level with a grade of 'B-' or better. An applicant need not have completed all prerequisites prior to filing an application, but must be able to complete all outstanding prerequisites prior to enrollment.

Credit by examination (such as AP credits) is not permitted for any prerequisites needed to apply for the occupational therapy program. Anatomy and Physiology course work is required to be completed in-person; if in-person is unattainable, please contact Admissions for further review. No credit is given for experiential learning.

A total of at least 18 semester credits are required in the following areas:

- **Anatomy and Physiology 1 with lab (or Anatomy with lab)
- **Anatomy and Physiology 2 with lab (or Physiology with lab)
- Statistics (Psychology- or Sociology-based course

recommended)

- Abnormal Psychology
- Development or Lifespan Psychology
- Sociology (or Cultural Anthropology)

** Anatomy and Physiology course work completed within an Exercise Science or Kinesiology department will also be accepted. Similar course work may be reviewed on a case by case basis for an approved substitution.

Prerequisite credits completed ten or more years prior to the anticipated entrance date will be reviewed for approval on an individual basis.

International Students & Practitioners

International Transcripts

For applicants who have attended foreign and French-Canadian schools, please provide the Office of Admissions with the following information:

- A course-by-course credential review from an NACES recognized agency (such as World Education Services), which evidences all post-secondary studies completed. Please consult the agency's website for requirements to complete the evaluation.
- An official evaluation may be sent from the agency directly to OTCAS.
- Instructions for submitting a foreign credential evaluation.

English Language Proficiency

Fluency in written and spoken English is essential for success in a Drexel University academic program as well as to help ensure patient/client/student safety and/or effective communication with members of a healthcare or education team.

Official results from the TOEFL iBT, TOEFL Essentials, IELTS or DuoLingo examination are required of all non-native English speakers. One of these approved exams must be taken within two years prior to the start date of the entering class to which an applicant seeks admission.

While we recommend that applicants submit TOEFL iBT, TOEFL Essentials, IELTS or DuoLingo, exceptions will be considered for foreign applicants who meet one of the following criteria*:

1. successfully completed a degree or diploma held from an accredited, post-secondary institution where the coursework was entirely in English, and provide evidence that it was conducted in English; or
2. successfully completed, and provide evidence of, an approved English language learner's program

*Note: All exemption materials and other appeals are reviewed on a case-by-case basis and subject to the admission committee's final discretion. Should any exceptions not be accepted toward the English language requirement, the Office of Admissions will inform the applicant of an alternative to fulfill it.

Admissions Selection Process

For more information regarding the admissions selection, interview and matriculation process, please refer to the Drexel website.

Advanced Standing or Transfer Credit

As per the College of Nursing and Health Professions policy, credit by transfer may be accepted for any course within the curriculum when it is determined that the transfer course is substantially equivalent to that offered by the College and OT program. This equivalency will be determined by the course instructor and the program director. Only courses in which the student receives a grade of 'B' or above will be considered for transfer. The maximum number of semester hour credits a student may earn by transfer is six (6) semester hour credits. No credit is given for experiential learning.

Deferment of Admission

An accepted student with an unforeseen, extenuating circumstance prohibiting them from matriculating may request a deferment of admission in writing. The request must be directed to the OT Program Director, and made via the Office of Admissions.

For deferment consideration, the following is required:

- A deferment request submitted in writing by **May 15**, before the August start of the academic year. Please note, submission of a deferral request by the deadline does not guarantee approval.
- Official documentation verifying the extenuating circumstance.
- All non-refundable deposit fees and the matriculation supplement must be received (as directed in the University's official Letter of Acceptance.)

If deferment is approved:

- Admission will be extended to August matriculation of the next academic year.
- A deferment will not extend beyond one admission cycle.
- The student must contact the Office of Admissions, in writing, by **April 1** of the deferred admission calendar year regarding his/her intention to resume enrollment.
- The student will be required to meet with a member of the Admissions Committee prior to matriculation.

If a deferral request is denied:

- A student has the option to withdraw acceptance from the Program, or reapply through OTCAS for future admission.

For questions regarding this policy, please contact the Office of Admissions at graduateadmissions@drexel.edu.

Technology Requirements

The Occupational Therapy Program has requested that students utilize laptop computers that meet certain technical capabilities for use throughout the duration of the program. These devices are required to ensure each student's ability to access educational websites/databases/software during the didactic and clinical year. For example, students will need laptops for testing, to access evidence-based websites, Blackboard for course access, e-books and designated course materials during the didactic and clinical year. Students are responsible for the maintenance of their personal computers.

Curriculum

First Year

Fall Semester

OCT-5000	Foundations of Occupational Therapy	4
OCT-5001	Physiology	3
OCT-5002	Biopsychosocial Development Across the Lifespan	2
OCT-5003	Functional Anatomy and Kinesiology	4
OCT-5300	Occupational Therapy Theoretical Perspectives	2

Subtotal: 15

Spring Semester

OCT-5030	Applied Tenets 1	2
OCT-5100	Research Methods	3
OCT-5101	Ethics in Occupational Therapy	1
OCT-5200	Emerging & Innovative Practice in Occupational Therapy	2
OCT-5301	OT Theory and Practice for Children and Youth	4
OCT-5400	Pediatric Clinical Conditions	2
Subtotal: 14		

Summer Semester

OCT-5031	Applied Tenets 2	2
OCT-5102	Occupational Therapy Orthotics and Modalities	1
OCT-5302	OT Theory and Practice for Adults	4
OCT-5401	Adult Clinical Conditions	2
Subtotal: 9		

Second Year**Fall Semester**

OCT-5032	Applied Tenets 3	2
OCT-5103	Leadership and Management	2
OCT-5202	OT Theory and Practice in Mental Health and Community	3
OCT-5303	OT Theory & Practice in Geriatrics	3
OCT-5402	Behavioral Health Conditions	2
Subtotal: 12		

Spring Semester

OCT-6000	Capstone Project	1
OCT-6030	Fieldwork 2A	6
OCT-6031	Fieldwork 2B	2
Subtotal: 9		

Summer Semester Part of Term

OCT-6001	Capstone Synthesis	1
OCT-6032	Fieldwork 2C	4
Subtotal: 5		

Subtotal: 64.0**Total Credit Hours: 64.0****Fieldwork Component Overview**

Fieldwork education, or apprenticeship, is an integral part

of the MSOT program at Drexel University.

Participation in the authentic environment of practice allows our students to perform components of the work required of an OT practitioner, focusing on the application of purposeful and meaningful occupation and the research, administration, and management of occupational therapy services. Each MSOT student must successfully complete three Level I fieldwork placements and three Level II fieldwork placements.

Level 1 Fieldwork

The goal of Level I fieldwork is to introduce the student to the fieldwork experience, to apply knowledge to practice, and to develop an understanding of the needs of clients. At Drexel, each fieldwork Level I course has a specific focus based on a curricular theme that links it to the overarching curricular design of our Drexel program and helps to integrate the didactic portion of our curriculum with each Level I experience.

Level I fieldwork experiences at Drexel are scheduled within the first Spring, first Summer, and second Fall didactic course semesters of the program as part of three Applied Tenets courses:

- Fieldwork 1A: (Applied Tenets 1)
- Fieldwork 1B (Applied Tenets 2)
- Fieldwork 1C (Applied Tenets 3)

Level 2 Fieldwork

The goal of Level II Fieldwork is to enable students to solidify their skills and competencies as they prepare to enter the profession. The purpose of Level II Fieldwork in the Drexel MSOT program is to develop competent, entry level generalists. In Level II Fieldwork, students have an in-depth experience in the delivery of occupational therapy services to clients, focusing on the application of purposeful and meaningful occupation and research, administration, and management of occupational therapy services. The placements for Level II Fieldwork students take place across a wide range of practice areas and expose students to a variety of clients across the lifespan and in a variety of settings.

Level II 2A and 2B fieldwork experiences occur in the second spring semester. Students work in conjunction with the academic fieldwork coordinator to make Level II selections. Students complete one twelve-week and one six-week fieldwork experience alongside the completion of their Capstone project in this semester.

The final six-week Level II fieldwork experience (2C) occurs in the same clinical setting as Level II 2B, and takes place in the second summer session of the program, along with the Capstone Synthesis course. These culminating experiences offer students a way to solidify their skills, gain confidence as entry level practitioners, and demonstrate that they have integrated curricular themes.

Post-Professional Doctor of Occupational Therapy (OTD)

Andrea Tyszka, OTD, MS, OTR/L, SIPT, Program Director

Our post-professional Doctor of Occupational Therapy (OTD) program uniquely positions you as a future leader, advanced content expert, or academic, with an emphasis on interprofessional collaboration.

Choose a specialty track that meets your needs and interests, including Remedial Vision Rehabilitation and Health and Wellness. The program is designed to be convenient for full-time working professionals.

Post-professional Doctor of Occupational Therapy (OTD)

1. **Learn online:** All but two courses are online using interactive computer-based technology.
2. **Learn didactically and experientially:** Come twice to our beautiful campus in suburban Philadelphia to study face-to-face with our faculty and engage in dynamic hands-on learning activities and community-based experiences during two five-day (Wednesday through Sunday) residency courses.
3. **Three options in program length:** 16 months (two-three courses per semester), 27 months (one-two courses per semester), and 5 years (two courses per year). All curricular paces follow a distance learning format, plus two on-campus 5-day residency courses.
4. **Choose one of two OTD advanced specialty tracks;** each specialty track reflects a unique cutting-edge area of OT practice that aligns with Drexel University's highly regarded niche in health care.
 - **Remedial Vision Rehabilitation:** Pediatrics and Acquired Brain Injury: This track is designed to enable occupational therapists to gain a comprehensive understanding of vision problems that are prevalent in the acquired brain injury and pediatric populations. Students will learn how to

screen for the most commonly occurring problems and perform remedial vision rehabilitation for clients with these problems with ongoing collaboration with an optometrist.

- **Health and Wellness:** This track is designed to enable occupational therapists to gain comprehensive, advanced, and evidence-based perspectives of holistic and innovative health care. This track will focus on individuals, groups, and populations with or at risk for chronic illness or disability. Students will be exposed to OT's role in health assessment and health promotion activities across the lifespan, global and cultural perspectives, community initiatives, and primary care.

5. Learn from nationally recognized faculty members who have published research and written textbooks in their fields of specialization.

Advanced Specialty Certificates

A specialty certificate as a stand-alone program or to be applied to the post-professional doctoral degree. You will have the opportunity to learn from nationally recognized faculty members who have published research and written textbooks in their fields of specialization.

Each advanced specialty certificate consists of four 3-credit courses. Two courses are online, and two are given as five-day residency courses to facilitate hands-on experiential learning.

Choose one of two advanced specialty certificates; each reflects a unique cutting-edge area of OT practice that aligns with Drexel University's highly regarded niche in health care.

- **Remedial Vision Rehabilitation:** Pediatrics and Acquired Brain Injury: This certificate is designed to enable occupational therapists to gain a comprehensive understanding of vision problems that are prevalent in the acquired brain injury and pediatric populations. Students will learn how to screen for the most commonly occurring problems and perform remedial vision rehabilitation for clients with these problems with ongoing collaboration with an optometrist.
- **Health and Wellness:** This certificate will enable occupational therapists from any area of clinical practice to develop advanced expertise in holistic and innovative healthcare skills to assist individuals, groups or populations with or at risk for chronic illness or disability. Students will be exposed to

health assessment and health promotion activities across the lifespan, global and cultural perspectives, women's health care, community initiatives, and primary care.

Teaching and Scholarship in Higher Education Certificate

This certificate is a stand-alone program or to be applied to the post-professional doctoral degree. Gain a comprehensive understanding of teaching and scholarship in academia. This certificate prepares students for the role of teaching in graduate programs, developing courses, designing conference proposals, writing grant applications, and reviewing the manuscript submission process. Certificate courses are offered every spring semester.

Admissions

The College of Nursing and Health Professions (CNHP) is seeking individuals who have the educational background, interest and motivation for advancing their occupational therapy careers, consistent with the program's stated mission, goals and objectives.

Application Processing & Review

The College of Nursing and Health Professions (CNHP) Department of Occupational Therapy accepts applications to the post-professional Doctor of Occupational Therapy (OTD) and Certificate programs online through the GradCAS application service.

The intended program start dates of the ***Doctor of Occupational Therapy (OTD)*** program are in the fall term, each September, or the spring term, each January.

The intended program start date of the ***Certificate*** programs is in the spring term, each January.

- Applications are accepted on a rolling basis. Spring applications must be submitted by **November 30**, prior to the January start date each year; fall applications (OTD only) must be submitted by **July 20**, prior to the September start date each year.
- The Admissions Committee review and selection begins after applicants have sent all the necessary documents to the Office of Admissions.
- To receive priority consideration, applicants are encouraged to apply early and to complete the application requirements as soon as possible.

Criteria

An applicant to the post-professional Doctor of Occupational Therapy (OTD) degree program must be a registered occupational therapist, and have either a.) a bachelor's degree in occupational therapy completed prior to 2007 or b.) a master's degree in occupational therapy, from an accredited college or university.

An applicant to the post-professional Certificate Programs must have completed, at a minimum, a bachelor's degree in an occupational therapy program, or a bachelor's degree in a related profession, from an accredited undergraduate college or university.

To Be Considered, An Applicant Must:

- Submit a completed application through GradCAS, which includes a non-refundable fee of \$138.00. Payment may be made through the GradCAS application portal.
- Submit official transcripts from all colleges (undergraduate, graduate, professional) attended. Partial transcripts should be submitted if courses are still in progress. Official transcripts must be issued directly to the GradCAS Transcript Processing Center from each institution, not to the student. *A transcript marked "issued to student" is not acceptable, even when delivered in a sealed envelope.*
 - Further instructions on submitting official transcripts.
- OTD Applicants: Submit copies of OT Licensure and NBCOT certification to the Office of Admissions (may be uploaded to GradCAS or sent via email to graduateadmissions@drexel.edu):
 - Proof of occupational therapy certification or eligibility for certification in the U.S. (copy of NBCOT certification, state license, or application for same).
 - Proof of licensure to practice (if applicable in the state of current practice).
 - International students must present their country of residence's equivalent documentation.
- Certificate Applicants: Submit copies of your professional licensure to the Office of Admissions (may be may be uploaded to GradCAS or sent via email to graduateadmissions@drexel.edu)
- Educational Resume/Curriculum Vitae – the document should list, in chronological order, an

applicant's education and work experiences, publications, honors and achievements to date. Submitted through the GradCAS application portal.

- Arrange for one letter of evaluation to be submitted through the GradCAS application portal on your behalf. References will be contacted by GradCAS and provided with instructions on how to submit an evaluation electronically. The reference may be one of the following:
 - A teaching faculty member (at the undergraduate level or above) or research/clinical supervisor assessing your ability to complete graduate work, and qualifications for a professional scholarly career; or
 - A person with authority (i.e. work supervisor, OT professional, etc.) regarding your work and/or assessing your qualifications for graduate education, ability to complete graduate work, and qualifications for a professional scholarly career.
 - The reference should be from someone who is not related to the applicant and is familiar with the applicant's academic work, employment record, and/or personal characteristics.
- International Students, please review any additional requirements below.
- All credentials submitted on behalf of an applicant become a part of that applicant's file with the University and cannot be returned.

Please note: It will be necessary for any OTD degree or certificate student to belong to the American Occupational Therapy Association (AOTA) in order to access certain library resources.*

*This requirement may be waived for the Certificate programs only, as determined on a case by case basis.

International Students & Practitioners

Note: For international students who wish to practice in the U.S., the post-professional OTD degree does not guarantee eligibility to sit for the National Board for Certification in Occupational Therapy (NBCOT). For more information on eligibility requirements, please visit the NBCOT website.

International students who are interested in applying to the post-professional OTD program are advised to speak to the Office of Admissions prior to application.

International Transcripts

For applicants who have attended foreign and French-Canadian schools, please provide the Office of Admissions with the following information:

- A course-by-course credential review from a NACES recognized agency which evidences all post-secondary studies completed. Please consult the agency's web site for requirements to complete the evaluation.
- Recommended agencies include:
 - World Education Services
 - SpanTran
- An official credential evaluation (not a copy) must be sent from the evaluation service directly to the Office of Admissions.
- Applicants also have the option to submit their credential evaluation directly to GradCAS. If you choose this option, please view GradCAS foreign transcripts instructions for more details.

English Language Proficiency

Fluency in written and spoken English is essential for success in a Drexel University academic program as well as to help ensure patient/client/student safety and/or effective communication with members of a healthcare or education team.

Official results from the TOEFL iBT, TOEFL Essentials, IELTS or DuoLingo examination are required of all non-native English speakers. One of these approved exams must be taken within two years prior to the start date of the entering class to which an applicant seeks admission.

- If submitting TOEFL iBT scores, please use the GradCAS code of B886.
- If submitting an approved alternate English proficiency exam, please send official scores directly to Drexel University, Office of Admissions.

While we recommend that applicants submit TOEFL iBT, TOEFL Essentials, IELTS or DuoLingo, exceptions will be considered for foreign applicants who meet one of the following criteria*:

1. successfully completed a degree or diploma held from an accredited, post-secondary institution where the coursework was entirely in English, and provide

evidence that it was conducted in English; or

2. successfully completed, and provide evidence of, an approved English language learner's program

*Note: All exemption materials and other appeals are reviewed on a case-by-case basis and subject to the admission committee's final discretion. Should any exceptions not be accepted toward the English language requirement, the Office of Admissions will inform the applicant of an alternative to fulfill it.

Admissions Selection Process

For more information regarding the admissions selection, interview and matriculation process, please refer to the website.

Advanced Standing or Transfer Credit

As per the College of Nursing and Health Professions policy, credit by transfer may be accepted for any course within the curriculum when it is determined that the transfer course is substantially equivalent to that offered by the College and OT program. This equivalency will be determined by the course instructor and the program director. Only courses in which the student receives a grade of 'B' or above will be considered for transfer. The maximum number of semester hour credits a student may earn by transfer is six (6) semester hour credits. No credit is given for experiential learning.

Deferment of Admission

An accepted student with an unforeseen, extenuating circumstance prohibiting them from matriculating may request a deferment of admission in writing. The request must be directed to the OTD Program Director, and made via the Office of Admissions.

For deferment consideration, the following is required:

- A deferment request submitted in writing by **December 15**, before the January start date, or by **August 1**, before the September start date, of the program. Please note, submission of a deferral request by the deadline does not guarantee approval.
- Official documentation verifying the extenuating circumstance.
- All matriculation materials must be received (as directed in the University's official Letter of Acceptance).

If deferment is approved:

- Admission will be extended to the next academic year.
- A deferment will not extend beyond one admission cycle.
- The student must contact the Office of Admissions, in writing, by **November 30** of the deferred admission calendar year, if entering in the spring term, or by **July 22** if entering in the fall term, regarding his/her intention to resume enrollment.
- The student will be required to meet with a member of the Admissions Committee prior to matriculation (this may be done in person or via phone/online).

If a deferral request is denied:

- A student has the option to withdraw acceptance from the Program, and reapply through GRADCAS for future admission. For questions regarding this policy, please contact the Office of Admissions at graduateadmissions@drexel.edu.

Curriculum

Doctor of Occupational Therapy

OTD Core

OTD-7001	Interprofessional Approach to Health	3
OTD-7002	Teaching in Higher Education	2
OTD-7003	Advanced Occupation-Based Perspectives	2
OTD-7004	Grant Writing and Disseminating Scholarship	3
OTD-8001	Doctoral Capstone Research Methods	3
OTD-8002	Doctoral Capstone Design	4
OTD-8031	Doctoral Capstone Project	1
OTD-8033	Doctoral Capstone Thesis & Defense	0

Subtotal: 18

Specialty Track Courses

Choose one track:

Subtotal: 12

Remedial Vision Rehabilitation Track

OTD-7501	Understanding Visual Deficits and Their Relationship to Occupation	3
OTD-7502	Vision Testing/Screening	3
OTD-7530	Remedial Vision Rehab 1:	3

	Visual Integrity and Visual Efficiency Problems	
OTD-7531	Remedial Vision Rehab 2: Eye Movement And Visual Information Processing Problems	3

Health and Wellness Track

OTD-7701	Health & Wellness Across the Life Cycle	3
OTD-7702	Global and Cultural Perspectives of Health and Health Policy	3
OTD-7703	Health Promotion in Groups, Communities & Populations	3
OTD-7704	Innovative Occupational Therapy Health and Wellness Practices	3

Additional Core Courses

Additional core courses not included in mandatory 30 credits.

OTD-8032	Doctoral Capstone Project Advisement 1	1
OTD-8034	Doctoral Capstone Project Advisement 2	1

Total Credit Hours: 30.0

Advanced Specialty Certificates

Remedial Vision Rehabilitation

OTD-7501	Understanding Visual Deficits and Their Relationship to Occupation	3
OTD-7502	Vision Testing/Screening	3
OTD-7530	Remedial Vision Rehab 1: Visual Integrity and Visual Efficiency Problems	3
OTD-7531	Remedial Vision Rehab 2: Eye Movement And Visual Information Processing Problems	3

Health and Wellness

OTD-7701	Health & Wellness Across the Life Cycle	3
OTD-7702	Global and Cultural Perspectives of Health and Health Policy	3
OTD-7703	Health Promotion in Groups, Communities & Populations	3
OTD-7704	Innovative Occupational	3

Therapy Health and Wellness Practices

Total Credit Hours: 12.0

Teaching and Scholarship in Higher Education Certificate

Gain a comprehensive understanding of teaching and scholarship in academia. This certificate prepares students for the role of teaching in graduate programs, developing courses, designing conference proposals, writing grant applications, and reviewing the manuscript submission process.

- Teaching in Higher Education (2 credits)
- Grant Writing and Disseminating Scholarship (3 credits)

Teaching and Scholarship in Higher Education certificate credits can be applied toward the OTD.

Total Credit Hours: 5.0

Department of Orthotics and Prosthetics

J. Chad Duncan, PhD, CRC, CPO, Chair and Director

Mission

The Orthotics & Prosthetics program is committed to creating an environment of belonging, well-being and respect while challenging students of orthotics and prosthetics to seek excellence through interprofessional education and evidence-based research and practice.

Vision

Developing and nurturing orthotic-prosthetic student leaders who are: inquisitive, welcoming, engaging and competent problem-solvers who have a passion for person-centered care while leading change in the profession of orthotics and prosthetics.

Goals

At the successful completion of the Drexel MSOP Program, students will effectively demonstrate competence in the following eleven content areas as directed by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) and the National Commission on Orthotic and Prosthetic Education (NCOPE):

1. Exemplify the role of the orthotist/prosthetist in

providing ethical, patient-centered care by applying accepted professional responsibilities in clinical practice experiences.

2. Practice safety of self and others, and adhere to safety procedures throughout the provision of orthotic/prosthetic services.
3. Demonstrate appropriate insight into clinical practice, clinical operations and practice management.
4. Demonstrate an awareness of the humanity and dignity of all patients and related individuals within a diverse and multicultural society.
5. Comprehend and demonstrate knowledge of the collaborative role of the orthotist/prosthetist as a member of the interdisciplinary rehabilitation team in providing patient-centered care.
6. Demonstrate the ability to employ evidence-based practice with an understanding of the research processes and how to use research findings to appropriately influence clinical practice.
7. Demonstrate the ability to integrate knowledge of the fundamental concepts of human function (physical, cognitive, social, psychological) with the practice framework of assessment, formulation, implementation and follow-up of a comprehensive orthotic/prosthetic treatment plan.
8. Demonstrate the ability to make clinical decisions designed to meet patient needs and expectations, and measure effectiveness of O&P intervention by utilizing (or administering) appropriate outcome measures.
9. Demonstrate the ability to provide effective education to patients, their support networks, healthcare professionals and the public at large.
10. Document pertinent information that supports the provision of effective communication and meets the requirements of legal, business and financial parameters for patient care.
11. Demonstrate proficiency in fundamental technical procedures that support orthotic/prosthetic practice.

Master of Science in Orthotics and Prosthetics (p. 72)

Master of Science in Orthotics and Prosthetics

Admissions

The College of Nursing and Health Professions actively seeks individuals with an undergraduate degree and diverse life experiences who desire to become professionals in the orthotics and prosthetics field.

Application Processing & Review

The processing of applications by OPCAS begins July, one year prior to the year of desired enrollment. Applications must be submitted on or before May 1 of the year of desired enrollment.

- Student application reviews begin when an application is verified by OPCAS.
- Interviews are scheduled and initiated, beginning in September.
- Candidates meeting the requirements are admitted on a weekly basis until class capacity is reached.

It is recommended that students with less than a 3.0 grade point average should consult the Office of Admissions prior to applying.

Criteria

To be considered, an applicant must:

- Submit a properly completed application to the Orthotics and Prosthetics Centralized Application Service (OPCAS). Detailed instructions regarding the completion of the application and the essay are provided on the OPCAS website.
- Submit official transcripts from all colleges and universities attended (or currently attending) directly to OPCAS.
- Complete a Bachelor's degree from an accredited college or university, prior to enrollment. It is highly recommended that an applicant has a minimum cumulative undergraduate GPA of 3.0 on a 4.0 scale.
- Complete admissions prerequisites at the college level with a grade of 'C' or better.
- Submit two letters of recommendation. Arrange to have forwarded directly to OPCAS the following

letters of recommendation on letterhead:

- One letter must be written from a person with authority (i.e. Certified/Licensed Orthotist-Prosthetist, ISPO Level Prosthetist-Orthotist, or other Allied Health professional closely associated with orthotics and prosthetics); and
- A second letter must be written from a teaching faculty member who has taught you in a course. Exceptions can be made but with approval of O&P Program Director.
 - Letter from a teaching assistant only accepted if co-signed by faculty member.
- Letters from clinicians and teaching faculty members are recommended.
- Additional letters will enhance the file but will not fulfill our required letters of evaluation.
- A minimum of 40 hours of observation experience with an Orthotist-Prosthetist is required. Observation in multiple clinical settings is encouraged (may be volunteer and/or employment).
- Strongly recommended, but not required: Acquire a minimum of 50 hours of fabrication experience with an Orthotist-Prosthetist.
- Optional: Submit Graduate Record Exam (GRE) score results.
- International Students, please review any additional requirements below.
- All credentials submitted on behalf of an applicant become a part of that applicant's file with the University and cannot be returned.
- Students will be required to meet University compliance requirements upon matriculation.

Prerequisites

The required coursework listed below must be completed at the college level with a grade of 'C' or better. An applicant need not have completed all prerequisites prior to filing an application, but must be able to complete all outstanding prerequisites prior to enrollment.

Credit by examination (such as AP credits) is permitted for any prerequisites needed to apply for the orthotics-prosthetics program *except* for the Anatomy and

Physiology requirements. No credit is given for experiential learning.

A total of at least 18 semester credits are required in the following areas:

- Anatomy and Physiology (Lab recommended) **
- Life Science or Biology (Lab recommended)
- Chemistry (Lab recommended)
- Physics (Lab recommended)
- Statistics (Biology-, Psychology- or Sociology-based course recommended)
- Psychology

Recommended course, but not required: Developmental or Lifespan Psychology

******One semester of Anatomy and one semester of Physiology (labs recommended) can be combined to fulfill the A&P prerequisite. Anatomy and Physiology course work completed within an Exercise Science or Kinesiology department will also be accepted. Similar course work may be reviewed on a case by case basis for an approved substitution.

Prerequisite credits completed ten or more years prior to the anticipated entrance date will be reviewed for approval on an individual basis.

International Students & Practitioners

International Transcripts

For applicants who have attended foreign and French-Canadian schools, please provide the Office of Admissions with the following information:

- A course-by-course credential review from a NACES recognized agency which evidences all post-secondary studies completed. Please consult agency's web site for requirements to complete the evaluation.
- Recommended agencies include:
 - World Education Services
 - SpanTran
- An official evaluation may be sent from the agency directly to OPCAS.

English Language Proficiency

Fluency in written and spoken English is essential for success in a Drexel University academic program as well as to help ensure patient/client/student safety and/or effective communication with members of a healthcare or education team.

Official results from the TOEFL iBT, TOEFL Essentials, IELTS or Duolingo examination are required of all non-native English speakers. One of these approved exams must be taken within two years prior to the start date of the entering class to which an applicant seeks admission.

While we recommend that applicants submit TOEFL iBT, TOEFL Essentials, IELTS or Duolingo, exceptions will be considered for foreign applicants who meet one of the following criteria*:

1. successfully completed a degree or diploma held from an accredited, post-secondary institution where the coursework was entirely in English, and provide evidence that it was conducted in English; or
2. successfully completed, and provide evidence of, an approved English language learner's program

*Note: All exemption materials and other appeals are reviewed on a case-by-case basis and subject to the admission committee's final discretion. Should any exceptions not be accepted toward the English language requirement, the Office of Admissions will inform the applicant of an alternative to fulfill it.

Admissions Selection Process

For more information regarding the admissions selection, interview and matriculation process, please refer to the website.

Deferment of Admission

An accepted student with an unforeseen, extenuating circumstance prohibiting them from matriculating may request a deferment of admission in writing. The request must be directed to both the Dean of Student Affairs and the O&P Program Director, and made via the Office of Admissions.

For deferment consideration, the following is required:

- A deferment request submitted in writing by **May 15**, before the August start of the academic year. Please note, submission of a deferral request by the deadline does not guarantee approval.

- Official documentation verifying the extenuating circumstance.
- All non-refundable deposit fees and the matriculation supplement must be received (as directed in the University's official Letter of Acceptance).

If deferment is approved:

- Admission will be extended to August matriculation of the next academic year.
- A deferment will not extend beyond one admission cycle.
- The student must contact the Office of Admissions, in writing, by **April 1st** of the deferred admission calendar year regarding his/her intention to resume enrollment.
- The student will be required to meet with a member of the Admissions Committee prior to matriculation.

If a deferral request is denied:

- A student has the option to withdraw acceptance from the Program, or reapply through OPCAS for future admission.

For questions regarding this policy, please contact the Office of Graduate Admissions.

Curriculum

First Year

Fall Semester

OPM-5000	Medical Humanities	2
OPM-5001	Introduction to O&P Principles & Techniques	3
OPM-5004	Functional Anatomy & Kinesiology	3
OPM-5007	Introduction to Pathology	2
OPM-5100	Biomechanics & Gait	3
OPM-5140	Case Reports I	1
Subtotal: 14		

Spring Semester

OPM-5003	Introduction to Independent Study	2
OPM-5240	Professional Development	2
OPM-6000	Lower Limb Prosthetics Practice	7
OPM-6010	Lower Limb Orthotics Practice	7
Subtotal: 18		

Summer Semester

OPM-5110	Orthotics Management of Head & Spine	5
OPM-5200	Medical Humanities II	2
OPM-5220	Seminar Billing in P&O	2
OPM-5230	Pediatric Populations	2
OPM-5310	Writing Case Reports II	1
OPM INDP 1	OPM Independent Study 1	2
Subtotal: 14		

OPM INDP 1

Choose one

OPM-5203	Clinical Leadership & Practice Management	2
OPM-5204	Digital Workspace	2
OPM-5205	Cultural Humility & Health Disparities	2

Second Year

Fall Semester

OPM-5020	Upper Limb Orthotics Practice	4
OPM-5130	Upper Limb Prosthetic Practice	5
OPM-5350	Advanced O&P Practices	2
OPM-5360	Clinical Residency Seminar	2
OPM INDP 2	OPM Independent Study 2	2
Subtotal: 15		

OPM INDP 2

Choose one

OPM-5303	Clinical Leadership & Practice Management	2
OPM-5304	Digital Workspace	2
OPM-5305	Cultural Humility & Health Disparities	2

Spring Semester

OPM-6160	Rotation 1A	16
Subtotal: 16		

Summer Semester

OPM-6161	Rotation 1B	6
OPM-6260	Rotation 2A	6
Subtotal: 12		

Third Year

Fall Semester

OPM-6261	Rotation 2B	16
Subtotal: 16		

Spring Semester

OPM-6360	Rotation 3A	16
Subtotal: 16		

Summer Part of Term

OPM-6361	Rotation 3B	6
Subtotal: 6		

Total Credit Hours: 127.0

Department of Speech-Language Pathology

Robert W. Serianni, MS, CCC-SLP, FNAP, Department Chair/Program Director

The University is proud to offer a Master of Science degree program in Speech-Language Pathology (SLP).

A master's degree is the standard credential in the profession of SLP. In keeping with the University's emphasis on a sound background in the biomedical sciences, interprofessional education and clinical skills, graduates of this degree program will receive the necessary education and training to become integral members of today's healthcare and education teams, and future leaders in their profession.

The University's reputation for quality and innovative education is well-earned. The opportunity to interact with students and faculty from Drexel programs in optometry, audiology, physician assistant, public health, occupational therapy, and blindness and low vision education and rehabilitation will afford SLP students a unique and valuable perspective not found in all SLP programs. For those SLP students who are interested in research, Drexel University also has a degree program in the biomedical sciences.

Mission:

To educate and train graduate-level students to become exemplary professionals in speech-language pathology who provide excellence in service delivery to individuals with communication and swallowing disorders, and who engage in and promote interprofessional education and practice, lifelong learning and prevention of communication and swallowing disorders.

Vision:

Promote communication and swallowing/feeding health and well-being in persons with disabilities or at risk for disabilities so that these individuals have equal opportunity

to gain access to and prosper in all aspects of society (e.g. education, economics, politics/advocacy) for social justice.

Master of Science in Speech-Language Pathology (p. 76)

Post-Baccalaureate Program in SLP (p. 81)

Master of Science in Speech-Language Pathology

Admissions

The Department of Speech-Language Pathology actively seeks individuals with an undergraduate degree and diverse life experiences who desire to become clinical speech-language pathologists.

Application Processing & Review

Applications to the Master of Science program are only accepted through the Communication Science and Disorders Centralized Application Service (CSDCAS).

The processing of applications by CSDCAS begins July, one year prior to the year of desired enrollment. Applications must be submitted on or before February 1 of the year of desired enrollment.

- Student application reviews begin when an application is verified by CSDCAS.
- Interviews are scheduled and initiated, beginning in October.
- Candidates meeting the requirements are admitted on a weekly basis until class capacity is reached.

It is to an applicant's advantage to apply as early as possible to ensure priority consideration for admission.

It is recommended that students with less than a 3.0 grade point average should consult the Office of Admissions prior to applying.

Criteria

To Be Considered, An Applicant Must:

- Submit a properly completed application to the Communication Science and Disorders Centralized Application Service (CSDCAS). Detailed instructions regarding the completion of the application and the essay are provided on the CSDCAS website.
- Submit official transcripts from all colleges and universities attended (or currently attending) directly

to CSDCAS.

- Complete a Bachelor's degree from an accredited undergraduate college or university. It is recommended that an applicant must have a minimum GPA of 3.0 on a 4.0 grade scale from his/her graduating institution.
- Complete admissions prerequisites (see section below) at the college level at an accredited institution(s). **No more than two prerequisite courses will be accepted with a minimum grade of 'C.'** All other prerequisites must have a grade of 'B-' or better.
- Obtain a minimum of 25 hours of directed clinical observation of a certified speech-language pathologist (CCC-SLP).
 - A blend of live, in-person as well as recorded observation is accepted.
 - A minimum of two (2) different SLP settings are highly recommended.
 - Observations may be performed as a volunteer and/or via employment in a non-speech-language pathology capacity.
- Submit three letters of recommendation; one letter must be written by a person with authority (e.g., professor, work supervisor, etc.) who knows you well enough to speak to your work ethic and professionalism, and can assess your qualifications for graduate education, ability to complete graduate work, and qualifications for entering a health profession career. Letters from an ASHA-certified, state licensed speech-language pathologist as well as a professor who has taught you in a course are recommended.
 - Arrange for required letters of recommendation to be sent directly to CSDCAS.
- International Students, please review any additional requirements below.
- All credentials submitted on behalf of an applicant become a part of that applicant's file with the University and cannot be returned.
- Students will be required to meet University compliance requirements upon matriculation.

Prerequisites

The following prerequisites are based on the latest accreditation standards set forth by the CAA (last revised April 2019) and the standards of Drexel University. Please visit the ASHA website for more information.

All required course work must be completed at the college level at an accredited institution(s). No more than two prerequisite courses will be accepted with a minimum grade of 'C.' All other prerequisites must have a grade of 'B-' or better.

An applicant need not have completed all prerequisites prior to filing an application, but must be able to complete all outstanding prerequisites prior to enrollment.

Credit by examination (such as AP credits) is permitted for any prerequisites needed to apply for the speech-language pathology program. No credit is given for experiential learning.

The applicant must have successfully completed one semester of each of the following courses:

- Biological Science (e.g., biology, human anatomy and physiology, neuroanatomy and neurophysiology, human genetics, veterinary science) – 1 semester
- Physical Science (e.g., physics or chemistry) – 1 semester
- Social/Behavioral Science (e.g., psychology, sociology, anthropology or public health) – 1 semester
- Statistics (math, biology or psychology) – 1 semester
- Introduction to Communication Disorders – 1 semester
- Anatomy and Physiology of the Speech and Hearing Mechanism – 1 semester
- Phonetics – 1 semester
- Speech and Hearing Science – 1 semester
- Introduction to Audiology – 1 semester
- Speech-Language Development – 1 semester

Please note: Courses in the biological, physical, and the social/behavioral sciences should include content areas that will assist students in acquiring the basic principles in social, cultural, cognitive, behavioral, physical, physiological, and anatomical areas useful to understanding the communication/linguistic sciences and

disorders.

The University highly encourages - but does not require - additional coursework in Neurology of Communication Sciences (Neuroanatomy and Neurophysiology), Voice, Fluency, Diagnostics, Treatment Considerations, Communication Sciences and Disorders, Articulation and Phonological Disorders, and Language Disorders.

Prerequisite credits completed five or more years prior to the anticipated entrance date will be reviewed for approval on an individual basis.

International Students & Practitioners

International Transcripts

For applicants who have attended foreign and French-Canadian schools, please provide the Office of Admissions with the following information:

- A course-by-course credential review from a NACES recognized agency which evidences all post-secondary studies completed. Please consult agency's web site for requirements to complete the evaluation.
- Recommended agencies include:
 - World Education Services
 - SpanTran
- An official evaluation may be sent from the agency directly to CSDCAS.
 - Instructions for submitting a foreign credential evaluation.

English Language Proficiency

Fluency in written and spoken English is essential for success in a Drexel University academic program as well as to help ensure patient/client/student safety and/or effective communication with members of a healthcare or education team.

Official results from the TOEFL iBT, TOEFL Essentials, IELTS or Duolingo examination are required of all non-native English speakers. One of these approved exams must be taken within two years prior to the start date of the entering class to which an applicant seeks admission.

- If submitting TOEFL iBT scores, please use the CSDCAS code of C112.

- If submitting an approved alternate English proficiency exam, please send scores directly to the Office of Admissions.

While we recommend that applicants submit TOEFL iBT, TOEFL Essentials, IELTS or Duolingo, exceptions will be considered for foreign applicants who meet one of the following criteria*:

1. successfully completed a degree or diploma held from an accredited, post-secondary institution where the coursework was entirely in English, and provide evidence that it was conducted in English; or
2. successfully completed, and provide evidence of, an approved English language learner's program

*Note: All exemption materials and other appeals are reviewed on a case-by-case basis and subject to the admission committee's final discretion. Should any exceptions not be accepted toward the English language requirement, the Office of Admissions will inform the applicant of an alternative to fulfill it.

Admissions Selection Process

For more information regarding the admissions selection, interview and matriculation process, please refer to the Drexel website.

Deferment of Admission

An accepted student to the Speech-Language Pathology program with an unforeseen, extenuating circumstance prohibiting them from matriculating may request a deferment of admission in writing. *The request must be directed to the Chair/ Program Director of the SLP program.*

For deferment consideration, the following is required:

- A deferment request submitted in writing by **May 15**, before the August start of the academic year. Please note, submission of a deferral request by the deadline does not guarantee approval.
- Official documentation verifying the reason(s) for the requested deferment.
- All non-refundable deposit fees and the matriculation supplement must be received (as directed in the University's official Letter of Acceptance).

If deferment is approved:

- Admission will be extended to August matriculation

of the next academic year.

- A deferment will not extend beyond one admission cycle.
- The student must contact the Office of Admissions, in writing, by **April 1** of the deferred admission calendar year regarding his/her intention to resume enrollment.
- The student will be required to meet with a member of the Admissions Committee prior to matriculation.

If a deferral request is denied:

- A student has the option to withdraw acceptance from the Program, or reapply through CSDCAS for future admission.

For questions regarding this policy, please contact the Office of Admissions.

Essential Functions

The following Essential Functions (EFs) are consistent with the American Speech-Language and Hearing Association didactic and clinical skill performance guidelines expected of or implied for graduate level speech-language pathology students and professionals. Students enrolled in Master of Science degree program in speech-language pathology Drexel University are expected to either demonstrate many of these essential functions prior to enrollment, or acquire these EFs by the end of their program of study.

More specifically, the essential functions represent the communication, physical, behavioral/social and cognitive/intellectual skills needed to achieve the knowledge, skills and levels of competency stipulated for graduation from the M.S. Degree Program by the faculty within the Department of Speech-Language Pathology. The EFs are expected traits and characteristics to be exhibited by students enrolled in the M.S. Degree graduate program in Speech-Language Pathology. Many of these traits are identified in educational and credentialing standards established by the Council on Academic Accreditation in Audiology and Speech Language Pathology (CAA) the Council for Clinical Certification (CFCC) of the American Speech-Language-Hearing Association; and the Council on Academic Programs in Communication Sciences and Disorders (CAPCSD).

Here is what the EFs mean for either students seeking admissions to our graduate program in speech-language pathology or who are currently enrolled in the program.

1. Students admitted to the SLP M.S. Degree program must demonstrate the abilities and skills listed below.
2. The abilities are required for admission and/or must be developed and maintained throughout the two-year course of study as a student progresses through the M.S. Degree program in speech-language pathology.
3. In the event that, during training, a student is unable or refuses to acquire and demonstrate these essential functions, with or without reasonable accommodations, then the student may be asked to leave or be dismissed from the program.

1. Communication Abilities/General:

- a. Speak intelligibly and articulately, exhibiting no non-dialectical mispronunciations of English speech sounds (phonemes) nor acquired second languages (i.e. Spanish);
- b. Hear sufficiently at a level that includes high and low frequency speech sounds of English;
- c. Possess demonstrated reading comprehension and speed at a level sufficient to accomplish curricular requirements and provide timely and efficient clinical care for patients/clients;
- d. Complete appropriate medical records, documentation and plans according to protocol in a thorough and timely manner;
- e. Write legibly and cohesively with minimal to no grammatical/spelling errors while providing a logical sequence of information (i.e., introduction/topic sentence, body of content, conclusion, recommendations, SOAP notations);
- f. Communicate and interact effectively with people in person, by phone, and in writing by considering the communication needs and cultural values of the listener(s) (e.g., client, family member, professional health colleague). Adapt to the language, speech and nonverbal interactions of the patients/clients and family members accordingly or use an interpreter/translator to do so.

2. Physical Abilities:

- a. Participate in professional responsibilities/activities for up to four-hour blocks of time with one or two breaks;
- b. Move independently to, from, and in clinics and

work settings;

- c. Provide for one's own personal hygiene;
- d. Manipulate screening/diagnostic materials, including completion of screening/evaluation protocols;
- e. Effectively implement a treatment plan that is appropriate for the client, including use and manipulation of materials/instrumentation and printed or computerized data collection;
- f. Provide a safe environment for others in responding quickly to emergency situations including fire, choking, unconsciousness etc., and in the application of universal precautions;
- g. Engage in education, training, certification and re-certification of Basic Resuscitation and Cardiac skills (including appropriate use of defibrillators) for infant, pediatric and adult clients based on American Heart/Red Cross standards;
- h. Monitor client responses to diagnostic and treatment materials and quickly manipulate or alter the use of materials based on client responses (i.e., effective vs. ineffective treatment outcome);
- i. Make accurate judgments about speech and/or acoustic signals using perceptual and objective (clinical equipment) data and accurately interpreting data obtained;
- j. Drive, transport, engage in a car pool and/or use public transportation (bus, rail train) to assure classroom, on-campus clinic and externship clinical sites attendance that is timely and consistent. Proof of a legal driver's license, self-auto insurance and reliable, safe transportation is required for speech-language pathology students who drive;
- k. Maneuver patients who rely on wheel chairs, walking canes and general support (e.g., walking arm-in-arm or arm-to-waist with client) to transport client to/from waiting area and clinic treatment room;
- l. Squat, sit down on pediatric furniture and/or sit on the floor with pediatric clients;
- m. Demonstrate finger/hand dexterity to handle writing instruments, eating/feeding utensils, small and large play objects, iPods, and associated

computer applications.

3. Behavioral and Social Attributes:

- a. Maintain emotional and mental health required for use of intellectual abilities, prompt completion of responsibilities, and development of appropriate relationships with faculty, clinical supervisors (on-campus and external site supervisors) clients, SLP student colleagues and interprofessional, inter-collaborative student and professional team members;
- b. Maintain composure and emotional stability in demanding or challenging situations;
- c. Exhibit flexibility and adaptation to changing environments and situations;
- d. Fully honor and engage in cultural competency development through exposure to a variety of school and medical clinical placement settings and learn about the history of various traditionally recognized and newer cultural groups gaining recognition in the U.S. that reflect the pluralistic society of Philadelphia, the state of Pennsylvania and the nation at large. Additionally, continuously self-assess perceptions of the role of the speech-language pathologist as a culturally competent global citizen;
- e. Understand and respect faculty and clinical supervisory authority. Maintain a 'teachable spirit' that is respectful of those in leadership positions at the Department, College, University and External Clinical Site levels;
- f. Maintain appropriate professional behavior, including punctuality, appropriate professional dress attire, regular attendance and adherence to timelines for report submissions, lesson planning and preparation, portfolio documentation, and the timely preparation of clinical session materials prior to client arriving for these sessions;
- g. Demonstrate compassion, integrity, interest, and motivation when delivering professional services to other individuals;
- h. Familiarize ones' self and abide by the ASHA code of ethics and scopes of practice when delivering clinical service as a student and future professional in speech-language pathology.

4. Intellectual Abilities:

- a. Demonstrate the mental capacity to read, listen to, learn, assimilate and use didactic and clinical information, including the ability to read and comprehend professional literature and reports;
- b. Solve clinical problems through critical analysis and evidence-based practice;
- c. Seek relevant case information, synthesize, and apply concepts and information from various sources and disciplines;
- d. Write discipline-specific papers and clinical reports using spelling, phonetics, grammar (syntax) and content (semantics) characteristics of Standard English;
- e. Speak American English intelligibly, relative to personal dialect, including the ability to model all English phonemes in isolation, phrases, sentences and conversational contents;
- f. Demonstrate ability to depict when speech-language-swallowing patterns of clients are disordered requiring further assessment and intervention;
- g. Analyze, synthesize, and interpret ideas and concepts in academic and diagnostic/treatment settings;
- h. Maintain attention and concentration for sufficient time to complete didactic and clinical activities for up to 4-hour blocks of time with one or two breaks;
- i. Schedule and prioritize activities, and provide documentation in a timely manner;
- j. Comply with administrative, legal, ethical, and regulatory policies set forth by the Department of Speech-Language Pathology, the College Nursing and Health Professions, Drexel University, the state of Pennsylvania and other states across the U.S. as a future SLP practitioner;
- k. Read, become familiar with and abide by the Code of Ethics and Scopes of Practice set forth by the American Speech-Language-Hearing Association as a student and future speech-language pathology practitioner.

Non-Degree Seeking Students

Refer to the Non-degree Seeking Student section on the website.

Curriculum**First Year****Fall Semester**

SLP-5000	Neuroscience	3
SLP-5001	Counseling Foundations in CSD	2
SLP-5100	Speech Sound Disorders	2.5
SLP-5130	Prevention, Assessment and Treatment of Communication Disorders in Children: Zero to Five	2
SLP-5230	Adult Language Disorders 1: Aphasia	2.5
SLP-6100	Clinical Management and Practicum 1	2
Subtotal: 14.0		

Spring Semester

SLP-5002	Applied Integrative Anatomy for SLP	2
SLP-5005	Cleft Palate and Craniofacial Anomalies	1
SLP-5131	Prevention, Assessment and Treatment of Communication Disorders in School-Aged Children: Six-21	2
SLP-5231	Adult Language Disorders 2: Cognitive-Linguistic Communication Disorders	2.5
SLP-5400	Research Design and Application of Evidenced Based Practice in Speech-Language Pathology	2.5
SLP-5401	Dysphagia	3
SLP-6200	Clinical Management and Practicum 2	2
Subtotal: 15.0		

SLP-5002: Gross Anatomy Course with Dissected/Prosected Cadavers.

SLP-5400: Includes students identifying Capstone Project Topic.

Summer Semester

SLP-5003	Communication Disorders in Culturally and Linguistically Diverse Populations	2
SLP-5300	Motor Speech Disorders	2

SLP-5302	Fluency Disorders	2
SLP-5303	Voice Disorders	2
SLP-5304	Technology in Speech-Language Pathology: Augmentative and Alternative Communication and Computer Applications	2
SLP-6300	Clinical Management and Practicum 3	2

Subtotal: 12**Second Year****Fall Semester**

SLP-5030	Special Topics Seminar 1	2
SLP-5301	Autism Spectrum Disorders	2
SLP-5500	Aural Habilitation/Rehabilitation	2
SLP-6400	Clinical Management and Practicum 4	3

Subtotal: 9**Spring Semester**

SLP-5004	Professional Issues and Ethics in Speech-Language Pathology	2
SLP-5031	Special Topics Seminar 2	2
SLP-5402	Capstone Project in SLP	2
SLP-6500	Clinical Management and Practicum 5	3
SLP-6050	Comprehensive Exam in Speech-Language Pathology	0

Subtotal: 9

SLP-5402: Required with single day presentation on campus.

Additional Courses

SLP-5557	Professionally Speaking	1
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SLP-5556: Variable options -- 1 credit, 2 credits or 3 Credits.

Total Credit Hours: 60.0**Post-Baccalaureate Program in SLP**

The Post-Baccalaureate Program in SLP is designed to prepare students to excel academically and professionally by providing a rigorous, holistic and comprehensive experience that will establish a foundation necessary for their success in the field of Speech-Language Pathology.

Students who complete the Post-Baccalaureate Program in SLP are eligible to pursue two career options:

Speech-Language Pathology Assistant (SLPA)

According to the American Speech-Language-Hearing Association, speech-language pathology assistants (SLPAs) are support personnel who, following academic coursework, fieldwork, and on-the-job training, perform tasks prescribed, directed, and supervised by ASHA-certified speech-language pathologists.

The Post-Baccalaureate Program in SLP provides students with all of the necessary content-specific coursework required to become an SLPA. Completion of SLPA Practicum 1 and 2 fulfills the academic equivalent of the ASHA Assistant Modules, the prerequisite courses, the clinical field work requirement, and prepares students to take the SLPA national exam.

Speech-Language Pathologist (SLP)

According to the American Speech-Language-Hearing Association, speech-language pathologists (SLPs) are healthcare professionals who identify, assess, and treat speech and language problems as well as swallowing disorders.

The Post-Baccalaureate Program in SLP provides all of the content-specific coursework that CAA accredited graduate programs require for admission. Required observation hours (a minimum of 25) are also integrated into the program.

Curriculum highlights:

Courses can be taken as a full certificate, with up to 9 transfer credits; in order to be considered for transfer credit, the course must:

1. Be equivalent to an SLP prerequisite in terms of content
2. The student must have received a B- or higher

Courses can also be taken a la carte with coordinator approval. Non-certificate students wishing to take the SLPA Practicum courses must meet the following criteria:

1. Completed bachelor's degree in CSD
1. Students should have received a B- or higher in SLP prerequisite courses, with no more than two C grades. Students who are in the process of re-taking necessary courses will be considered on a case-by-case basis.

The full certificate is 30-34 credits and can be completed in approximately 1 year of study.

Observation hours with a variety of clinical populations

The Speech-Language Institute provides opportunities to observe clients across the lifespan with a wide range of communication and feeding/swallowing disorders.

Individualized attention

Classes are small and held primarily face-to-face. Your advisor will help you explore your interests and develop professional goals.

Fieldwork experience for future SLPAs

Students who take our SLPA preparation courses acquire clinical fieldwork hours on- and off-campus in a highly supported environment that hones your skills.

A solid foundation for future SLPs

Students who are graduate school bound will complete coursework designed to introduce you to clinical methods across the SLP scope of practice, increasing your preparedness for clinical training.

SLP Graduate Program

Eligible students accepted into the Post-Baccalaureate Program in SLP who successfully complete the certificate, submit a complete application, and meet the program prerequisite requirements will be guaranteed an interview to the Drexel SLP graduate program.

Students accepted into the Post-baccalaureate Program in Speech-Language Pathology with an overall GPA of 3.5 or higher from their undergraduate institution will be automatically accepted into the SLP graduate program upon completion of the PBP in SLP certificate, given the following conditions are met:

- Maintain an overall GPA of 3.5 or higher in the PBP coursework
- Earn a grade of "A-" or higher in Clinical Methods and Observation in SLP 1 & 2
- Complete the admissions requirements for the MS program, including a successful interview

Admissions

The University's Post-Baccalaureate Program in SLP accepts applications online through the GradCAS application service.

The intended program start date of the ***Post-Baccalaureate Program in SLP*** is July of each year (September start is possible with permission from program). Applications received on or before **June 1** of the year of desired enrollment are given priority consideration.

- Applications are accepted on a rolling basis.
- Review and selection begin after applicants submit all the necessary documents via the GradCAS application service.
- To receive priority consideration, applicants are encouraged to apply early and to complete the application requirements as soon as possible.
- During the review process for the certificate program, the academic background of the applicant is assessed to determine academic eligibility and the evaluation includes an interview with the program director.
- Selected courses in the Post-Baccalaureate Program are open to non-degree seeking students wishing to expand their knowledge and skills in the health sciences.

Criteria

All applicants to the Post-Baccalaureate Program in SLP must hold a Bachelor's degree, or its international equivalent, from an accredited institution.

An overall GPA of 2.70 or higher is recommended for application to this program.

To Be Considered an Applicant Must:

- Submit a completed application through GradCAS, which includes a non-refundable fee of \$138.00. Payment may be made through the GradCAS application portal.
- Submit official transcripts from all colleges and universities attended (or currently attending) directly to GradCAS. Final transcripts indicating Bachelor's degree conferred are required prior to the start of the program.
 - Note: if an applicant has applied to a Drexel University degree program within the current application cycle, and there have been no changes to their academic record, previously submitted transcripts may be used toward the certificate program application. Please check with the Office of Admissions in order to determine if official transcripts will need to be submitted once again.

- Complete the following short answer essays (maximum 250 words each):
 - ***Describe how participation in the Post-Baccalaureate Program will benefit your career goals in the field of speech-language pathology.***
 - ***In what ways do you expect your particular skills, experience and perspective to contribute to the field of speech-language pathology?***
- Submit one letter of recommendation through the GradCAS application portal from an individual who can describe your skills, accomplishments and personality, such as a professor or supervisor.
- Submit a CV/Resume through the GradCAS application portal. This should include the applicant's education, work experience, publications, honors or achievements, and community/extracurricular activities to date.
- Applicants seeking to matriculate into the certificate program must complete a successful face-to-face or online interview with the program director.
- Students who wish to earn a certificate must meet the requirements for clinical observation (e.g., background checks) prior to registration for Introduction to Patient Care I.
- International Students, please review any additional requirements below.
 - All credentials submitted on behalf of an applicant become a part of that applicant's file with the University and cannot be returned.
 - Students will be required to meet University compliance requirements upon matriculation.

International Students

Important information for international students:

Please be aware that Drexel University cannot issue I-20's (Certificate of Eligibility for Nonimmigrant Student Status) for the Post-Baccalaureate Program in SLP.

International Transcripts

For applicants who have attended foreign and French-Canadian schools, please provide the Office of Admissions with the following information:

A course-by-course credential review from a NACES recognized agency which evidences all post-secondary studies completed. Please consult the agency's web site for requirements to complete the evaluation.

- Recommended agencies include:
 - World Education Services
 - SpanTran
- An official credential evaluation (not a copy) must be sent from the evaluation service directly to the Office of Admissions.
- Applicants also have the option to submit their credential evaluation directly to GradCAS. If you choose this option, please view GradCAS foreign transcripts instructions for more details.

English Language Proficiency

Fluency in written and spoken English is essential for success in a Drexel University academic program as well as to help ensure patient/client/student safety and/or effective communication with members of a healthcare or education team.

Official results from the TOEFL iBT, TOEFL Essentials, IELTS or Duolingo examination are required of all non-native English speakers. One of these approved exams must be taken within two years prior to the start date of the entering class to which an applicant seeks admission.

While we recommend that applicants submit TOEFL iBT, TOEFL Essentials, IELTS or Duolingo, exceptions will be considered for foreign applicants who meet one of the following criteria*:

1. successfully completed a degree or diploma held from an accredited, post-secondary institution where the coursework was entirely in English, and provide evidence that it was conducted in English; or
2. successfully completed, and provide evidence of, an approved English language learner's program

*Note: All exemption materials and other appeals are reviewed on a case-by-case basis and subject to the admission committee's final discretion. Should any exceptions not be accepted toward the English language requirement, the Office of Admissions will inform the applicant of an alternative to fulfill it.

Admissions Selection Process

For more information regarding the admissions selection, interview and matriculation process, please refer to the website.

SLP Graduate Program

Students accepted into the Post-Baccalaureate Program SLP Track with an overall GPA of 3.5 or higher from their undergraduate institution will be automatically accepted into the SLP graduate program upon completion of the PBP SLP Track certificate, given the following conditions are met:

- Maintain an overall GPA of 3.5 or higher in the PBP coursework
- Earn a grade of "A-" or higher in Intro to Patient Care 1 & 2

Non-Degree Seeking Students

Selected courses in the Post-Baccalaureate Program in SLP are open to non-degree seeking students wishing to expand their knowledge and skills in speech-language pathology.

All courses may be taken on an a la carte basis, except for Introduction to Patient Care I & II and Career Guidance & Academic Success. The maximum credit total allowed as a non-certificate seeking student is 24 credits.

For more information, refer to the Non-degree Seeking Student section of the website.

Curriculum

First Year

Fall Semester

SLP-3003	Health Psychology	3
SLP-3100	Introduction to Communication Disorders	3
SLP-3101	Phonetics	2
SLP-3102	Speech and Hearing Science	3
SLP-4030	Introduction to Patient Care I	1
SLP-4040	Career Guidance & Academic Success	0

Subtotal: 12

Summer Semester

SLP-3001	General Biology	3
SLP-3002	Introduction to Biophysics	3

Subtotal: 6

Spring Semester

SLP-3004	Biostatistics for Health	3
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	Professionals	
SLP-3103	Introduction to Audiology	2
SLP-3104	Anatomy and Physiology of the Speech and Hearing Mechanism	3
SLP-3105	Speech and Language Development	3
SLP-4031	Introduction to Patient Care II	1
SLP-4041	Career Guidance & Academic Success	0
Subtotal: 12		

Additional Courses - Require Program Director
Approval

SLP-4930	SLPA Practicum 1	2
SLP-4931	SLPA Practicum 2	2
Subtotal: 4		

Total Credit Hours: 34.00

College of Medicine

Biomedicine

Doctor of Philosophy in Biomedicine

Master of Science in Biomedicine

Physician Assistant

Master of Medical Science (MMS)

Global, Interprofessional, and Specialized Programming

Master of Science in Clinical Optometry (MSCO)

Master of Science, Low Vision Rehabilitation (LVR)

Master of Science, Vision Rehabilitation Therapy (VRT)

Master of Science, Orientation and Mobility (O&M)

Master of Education, Blindness and Vision Impairment (BVI)

Biomedicine Programs

Drexel University offers a Doctor of Philosophy (PhD) and an embedded Master of Science (MSc) graduate research degree program in Biomedicine.

This fully accredited program allows students to specialize in any area of health science such as:

- Optometry
- Audiology
- Occupational Therapy
- Physician Assistant Studies
- Speech-Language Pathology
- Rehabilitation Sciences
- Biological Sciences

Master's and Doctoral graduate students in Biomedicine will be trained and challenged to:

- Formulate a feasible, interesting, novel, ethical and relevant research question
- Use effective means of reviewing literature
- Develop a sound research plan including a statistical analysis plan
- Find and master the most specific and sensitive research techniques

- Produce and manage data with sensitivity to quality assurance
- Understand ethical and confidentiality mandates
- Publish findings using methods that maintain the integrity of the research and its interpretation

Flexible Learning Options (Distance/Online and On-Campus)

The **distance/online** learning option meets the needs of the University's unique international and domestic student markets. In this 84-credit program, students take all courses online and link research projects with established mentors in successful research laboratories in the student's community.

This program format allows the mid-level faculty member who requires a PhD for academic advancement and professional growth to remain embedded in his/her community. Most students continue to maintain full-time employment while completing this program in about four years.

Students selecting the **on-campus** option will need to relocate to the Philadelphia area. With this option courses are presented on-campus and research projects are arranged with established mentors in successful research laboratories either at Drexel University or other sites in the Philadelphia community.

Program Goals

The main goal of the Office of Graduate Programs in Biomedicine is to provide students with the experiences and education needed for them to become independent scholars. Two options are available; a traditional, on-campus learning approach, and a non-traditional, distance learning option that allows a student to complete the program while remaining embedded in their own community and work. Both options are designed with a goal of efficiency, productive research training, strengthened personal intellect, and multiple experiences that enrich the student's confidence and facilitate a more seamless transition into the academic or clinical workplace.

To support this goal, the program emphasizes publications, presentations, and the ability to develop and execute rigorous research plans. Student mentors are expected to take on an aggressive role in guiding the student through

the process. The interaction between mentors and their students is a crucial component of the Drexel program. The mentor is responsible to be an advisor, a teacher, a role model, and even, if need be, a disciplinarian.

Program Overview

Both degree programs are designed for those individuals who:

- Hold various bachelors or master's degrees or terminal clinical degrees (such as OD, AuD, OT, SLP) and wish to secure either a doctoral or master's research credentials
- Currently work (or intend to work) in the health sciences in medicine, optometry, audiology, speech-language pathology, occupational therapy, audiology, physician assistant, rehabilitation, and related fields, or basic medical or vision lab-based research.

The Master of Science (MSc) degree program is designed to have research completed under normal circumstances in 18 full-time months and provide an additional six months for completion of the dissertation for the MSc degree program. (Part-time programs also are permitted).

The Doctor of Philosophy (PhD) degree program is designed to have research completed under normal, full-time circumstances in three full-time years, and provide one additional year for completion of the dissertation and passing of the Oral Defense (viva) examination for the PhD program. (A part-time program is allowed and will generally consist of six years of research and one year for the writing of the dissertation and oral defense (viva) examination).

MSc Program in Graduate Biomedicine (p. 87)

PhD Program in Graduate Biomedicine (p. 91)

MSc Program in Graduate Biomedicine

Admissions

The Biomedicine program seeks individuals who have educational prerequisites, interest and motivation for undertaking advancing in biomedicine and research careers, consistent with the program's stated mission, goals and objectives.

Application Processing & Review

Drexel University's Graduate Programs in Biomedicine accepts applications to the Doctor of Philosophy (PhD) and Master of Science (MSc) in Biomedicine degree programs

online through the GradCAS application service.

The intended program start date of the Biomedicine degree programs (PhD and MSc) is August (fall term) of each year. Applications received on or before July 1 of the year of desired enrollment are given priority consideration.

- Applications are accepted on a rolling basis.
- Review and selection begins after applicants submit all the necessary documents via the GradCAS application service.
- To receive priority consideration, applicants are encouraged to apply early and to complete the application requirements as soon as possible.

During the review process, the academic background of the applicant is assessed to determine academic eligibility and his/her entry point into the Doctor of Philosophy in Biomedicine (PhD) or the Master of Science in Biomedicine (MSc). Each candidate is evaluated by the Biomedicine Admissions Committee and the evaluation includes a formal interview.

Criteria

All applicants must have completed their undergraduate studies and must hold an undergraduate (or equivalency) or graduate degree from an accredited college or university in order to be admitted to the Graduate Biomedicine programs.

To Be Considered, An Applicant Must Submit:

- Submit a completed application through GradCAS, which includes a non-refundable fee of \$138.00. Payment may be made through the GradCAS application portal.
- Submit official transcripts from all colleges (undergraduate, graduate, professional) attended. Partial transcripts should be submitted if courses are still in progress. Official transcripts must be issued directly to the GradCAS Transcript Processing Center from each institution, not to the student. *A transcript marked "issued to student" is not acceptable, even when delivered in a sealed envelope.*
 - Further instructions on submitting official transcripts.
- **Educational Resume/Curriculum Vitae** - the document should list, in chronological order, an applicant's education and work experiences, publications, honors and achievements to date and

can be submitted through the GradCAS application portal.

- **Two Letters of Evaluation** - to be submitted through the GradCAS application portal on your behalf. When completing the online application, applicants must supply the name and email address of two people who are not related to the applicant and who will provide the University with a reference. References will be contacted by GradCAS and provided with instructions on how to submit an evaluation electronically. The references should be from persons familiar with the applicant's academic work, employment record, and/or personal characteristics.
- **Life Experience Essay** - describe those life experiences that have contributed to your perspectives on biomedical issues, values and needs, both domestically and internationally, as appropriate. This essay is submitted through the GradCAS application portal.
- **Statement of Interest (5-page single-space limit)** - the application process serves as an entry point into the program. It is important that the applicant has previously thought through which of the general areas and disciplines he/she wishes to embrace. From the point of registration forward, the student begins the process of becoming a scholar in his specific chosen area(s) and will thereby devote the greater time of his professional academic life to the pursuit of stewardship of this discipline(s). Please follow the guidelines below when crafting your statement, which is submitted through the GradCAS application portal.
- International Students, please review any additional requirements below.
- All credentials submitted on behalf of an applicant become a part of that applicant's file with the University and cannot be returned.

Statement of Interest Guidelines:

The Doctor of Philosophy in Biomedicine (PhD) and Master of Science in Biomedicine (MSc) degrees teach the student to investigate and apply facts and concepts in a unique manner that are taught within individual professional goals and areas of interest. In addition, it is equally important that the student utilize their training and experience to begin to establish a network of colleagues and facilities in their home country that embraces interests similar to their own. The goal of the educational

experience is to facilitate continuing further research activities immediately upon graduation.

It is essential, therefore, in the selection of both students and their mentors, for each applicant to reflect upon and answer the following questions/statements:

What is your purpose in earning a MSc or a PhD degree?

- Please provide examples of the research questions you are interested in pursuing. Include sufficient background information to explain why you view such questions as important to pursue. Lastly, you should identify what society will gain in your pursuit of this type of research.

Which of the biomedical disciplines would you apply to the above question?

- (e.g. clinical sciences, laboratory sciences, rehabilitation sciences and population sciences)

How would you classify your area of research interest?

- You may indicate more than one choice. Please describe any sub-specialization within the areas below:
 - clinical including clinical trials
 - basic research
 - military application
 - industrial (pharmaceutical, development of devices or equipment or other)

Please provide a brief synopsis of your professional experience so far, including any research.

The University reserves the right to use software to detect plagiarism in the application essays. The applicant's statement must be written in his/her own words.

International Students & Practitioners

International Transcripts

For applicants who have attended foreign and French-Canadian schools, please provide the Office of Admissions with the following information:

A course-by-course credential review from a NACES recognized agency which evidences all post-

secondary studies completed. Please consult the agency's web site for requirements to complete the evaluation.

- Recommended agencies include:
 - World Education Services
 - SpanTran
- An official credential evaluation (not a copy) must be sent from the evaluation service directly to the Office of Admissions.
- Applicants also have the option to submit their credential evaluation directly to GradCAS. If you choose this option, please view GradCAS foreign transcripts instructions for more details.

English Language Proficiency

Fluency in written and spoken English is essential for success in a Drexel University academic program as well as to help ensure patient/client/student safety and/or effective communication with members of a healthcare or education team.

Official results from the TOEFL iBT, TOEFL Essentials, IELTS or Duolingo examination are required of all non-native English speakers. One of these approved exams must be taken within two years prior to the start date of the entering class to which an applicant seeks admission.

A recommended score for the TOEFL iBT is 70 or above (or its equivalent if taking an approved alternate exam).

- If submitting TOEFL iBT scores, please use the GradCAS code of B886.
- If submitting an approved alternate English proficiency exam, please send official scores directly to the Office of Admissions.

While we recommend that applicants submit and hold at least the recommended scores for TOEFL iBT, TOEFL Essentials, IELTS or Duolingo, exceptions will be considered for foreign applicants who meet one of the following criteria*:

1. successfully completed a degree or diploma held from an accredited, post-secondary institution where the coursework was entirely in English, and provide evidence that it was conducted in English; or
2. successfully completed, and provide evidence of, an approved English language learner's program

*Note: All exemption materials and other appeals are reviewed on a case-by-case basis and subject to the admission committee's final discretion. Should any exceptions not be accepted toward the English language requirement, the Office of Admissions will inform the applicant of an alternative to fulfill it.

Admissions Selection Process

For more information regarding the admissions selection, interview and matriculation process, please refer to theDrexel website.

Advanced Standing or Transfer Credit

Applicants who have earned credits at another accredited institution have the right to petition for transfer credits at the time of application.

A maximum of eight (8) courses (24 credits) can be transferred by credit into the Biomedicine Program. Other transfer requests will be evaluated on an individual basis and must be approved by the program director.

More information regarding transfer credit may be found in the Program's Academic Policy.

Deferment of Admission

An accepted student with an unforeseen, extenuating circumstance prohibiting them from matriculating may request a deferment of admission in writing. *The request must be directed to the Director of Graduate Programs in Biomedicine, and made via the Office of Admissions.*

For deferment consideration, the following is required:

- A deferment request submitted **in writing by June 1**, before the August start of the academic year. Please note, submission of a deferral request by the deadline does not guarantee approval.
- Official documentation verifying the extenuating circumstance.
- All matriculation materials must be received (as directed in the University's official Letter of Acceptance).

If deferment is approved:

- Admission will be extended to August matriculation of the next academic year.
- A deferment will not extend beyond one admission cycle.

- The student must contact the Office of Admissions, **in writing, by April 1** of the deferred admission calendar year regarding his/her intention to resume enrollment.
- The student will be required to meet with a member of the Admissions Committee prior to matriculation (this may be done in person or via phone/online).

If a deferral request is denied:

- A student has the option to withdraw acceptance from the Program, and reapply through GradCAS for future admission.

For questions regarding this policy, please contact the Office of Admissions at graduateadmissions@drexel.edu.

Non-Degree Seeking Students

Refer to the Non-degree Seeking Students section in the catalog.

Curriculum

MSc GB Core

BIO-5001	Introduction to Academic Writing	3
BIO-5100	Research Methodology: Introduction to Research Methods	1.5
BIO-5101	Research Methodology: Measurement and Design	2
BIO-5102	Research Methodology: Data Analysis and Biostatistics	2
BIO-5103	Research Methodology: Approaches and Concepts in Biomedical Research	2
BIO-5300	Research Seminar: Introduction to Teaching and Learning	1
BIO-5301	Research Seminar: Critical Review of the Literature	1
BIO-5302	Research Seminar: How to Prepare, Present and Critique Posters and Presentations	1
BIO-5600	Preparatory Course: The Qualifying Examination	0.5
BIO-6300	Research Seminar: Epidemiology and Biomedical Research	1
BIO-6330	Research Seminar I: Project Rationale, Design & Hypothesis	1

BIO-6930	Research Project 1	3.5
BIO-6931	Research Project 2	5
BIO-6932	Research Project 3	5
BIO-6933	Research Project 4	4.5
BIO-6934	Research Project 5	7.5
BIO-7100	Research Methodology: Epidemiology	2
BIO-8330	The Qualifying Exam (Viva Seminar I)	0.5

Subtotal: 44.0

MSc GB Elective

Choose one course (1.0 or 2.0 credit)

BIO-6530	Independent Study 1	1
BIO-6531	Independent Study 2	1
BIO-6532	Independent Study 3	1
BIO-6533	Independent Study 4	1
BIO-7500	Special Topics: Genetics, Genomics, and Research	1
BIO-7501	Special Topics: From Bench to Impact	2
BIO-7502	Special Topics: Approaches to Education	2
BIO-7505	Special Topics: Statistical Analysis using SPSS	2
BIO-8500	Special Topics: Academic Life and Stewardship	1
BIO-8501	Research Modeling Using Computing Software and other Tools	1
BIO-8530	Special Topics: Writing Competitive Grant Proposals (Part 1)	1
BIO-8531	Special Topics: Writing Competitive Grant Proposals (Part 2)	1
BIO-8532	Special Topics: Writing Competitive Grant Proposals (Part 3)	1
BIO-8533	Issues in Aging	1
BIO-8534	Special Topics: Survey Research Methods	1
BIO-8535	Introduction to Principles of Qualitative Research	2

Subtotal: 1.0-2.0

Total Credit Hours: 45.0-46.0

PhD Program in Graduate Biomedicine

Admissions

The Biomedicine program seeks individuals who have educational prerequisites, interest and motivation for undertaking advancing in biomedicine and research careers, consistent with the program's stated mission, goals and objectives.

Application Processing & Review

Drexel University's Graduate Programs in Biomedicine accepts applications to the Doctor of Philosophy (PhD) and Master of Science (MSc) in Biomedicine degree programs online through the GradCAS application service.

The intended program start date of the Biomedicine degree programs (PhD and MSc) is August (fall term) of each year. Applications received on or before July 1 of the year of desired enrollment are given priority consideration.

- Applications are accepted on a rolling basis.
- Review and selection begins after applicants submit all the necessary documents via the GradCAS application service.
- To receive priority consideration, applicants are encouraged to apply early and to complete the application requirements as soon as possible.

During the review process, the academic background of the applicant is assessed to determine academic eligibility and his/her entry point into the Doctor of Philosophy in Biomedicine (PhD) or the Master of Science in Biomedicine (MSc). Each candidate is evaluated by the Biomedicine Admissions Committee and the evaluation includes a formal interview.

Criteria

All applicants must have completed their undergraduate studies and must hold an undergraduate (or equivalency) or graduate degree from an accredited college or university in order to be admitted to the Graduate Biomedicine programs.

To Be Considered, An Applicant Must Submit:

- Submit a completed application through GradCAS, which includes a non-refundable fee of \$138.00. Payment may be made through the GradCAS application portal.
- Submit official transcripts from all colleges

(undergraduate, graduate, professional) attended. Partial transcripts should be submitted if courses are still in progress. Official transcripts must be issued directly to the GradCAS Transcript Processing Center from each institution, not to the student. *A transcript marked "issued to student" is not acceptable, even when delivered in a sealed envelope.*

- Further instructions on submitting official transcripts.
- **Educational Resume/Curriculum Vitae** - the document should list, in chronological order, an applicant's education and work experiences, publications, honors and achievements to date and can be submitted through the GradCAS application portal.
- **Two Letters of Evaluation** - to be submitted through the GradCAS application portal on your behalf. When completing the online application, applicants must supply the name and email address of two people who are not related to the applicant and who will provide the University with a reference. References will be contacted by GradCAS and provided with instructions on how to submit an evaluation electronically. The references should be from persons familiar with the applicant's academic work, employment record, and/or personal characteristics.
- **Life Experience Essay** - describe those life experiences that have contributed to your perspectives on biomedical issues, values and needs, both domestically and internationally, as appropriate. This essay is submitted through the GradCAS application portal.
- **Statement of Interest (5-page single-space limit)** - the application process serves as an entry point into the program. It is important that the applicant has previously thought through which of the general areas and disciplines he/she wishes to embrace. From the point of registration forward, the student begins the process of becoming a scholar in his specific chosen area(s) and will thereby devote the greater time of his professional academic life to the pursuit of stewardship of this discipline(s). Please follow the guidelines below when crafting your statement, which is submitted through the GradCAS application portal.
- International Students, please review any additional requirements below.

- All credentials submitted on behalf of an applicant become a part of that applicant's file with the University and cannot be returned.

Statement of Interest Guidelines:

The Doctor of Philosophy in Biomedicine (PhD) and Master of Science in Biomedicine (MSc) degrees teach the student to investigate and apply facts and concepts in a unique manner that are taught within individual professional goals and areas of interest. In addition, it is equally important that the student utilize their training and experience to begin to establish a network of colleagues and facilities in their home country that embraces interests similar to their own. The goal of the educational experience is to facilitate continuing further research activities immediately upon graduation.

It is essential, therefore, in the selection of both students and their mentors, for each applicant to reflect upon and answer the following questions/statements:

What is your purpose in earning a MSc or a PhD degree?

- Please provide examples of the research questions you are interested in pursuing. Include sufficient background information to explain why you view such questions as important to pursue. Lastly, you should identify what society will gain in your pursuit of this type of research.

Which of the biomedical disciplines would you apply to the above question?

- (e.g. clinical sciences, laboratory sciences, rehabilitation sciences and population sciences)

How would you classify your area of research interest?

- You may indicate more than one choice. Please describe any sub-specialization within the areas below:
 - clinical including clinical trials
 - basic research
 - military application
 - industrial (pharmaceutical, development of devices or equipment or other)

Please provide a brief synopsis of your professional experience so far, including any research.

The University reserves the right to use software to detect plagiarism in the application essays. The applicant's statement must be written in his/her own words.

International Students & Practitioners

International Transcripts

For applicants who have attended foreign and French-Canadian schools, please provide the Office of Admissions with the following information:

A course-by-course credential review from a NACES recognized agency which evidences all post-secondary studies completed. Please consult the agency's web site for requirements to complete the evaluation.

- Recommended agencies include:
 - World Education Services
 - SpanTran
- An official credential evaluation (not a copy) must be sent from the evaluation service directly to the Office of Admissions.
- Applicants also have the option to submit their credential evaluation directly to GradCAS. If you choose this option, please view GradCAS foreign transcripts instructions for more details.

English Language Proficiency

Fluency in written and spoken English is essential for success in a Drexel University academic program as well as to help ensure patient/client/student safety and/or effective communication with members of a healthcare or education team.

Official results from the TOEFL iBT, TOEFL Essentials, IELTS or Duolingo examination are required of all non-native English speakers. One of these approved exams must be taken within two years prior to the start date of the entering class to which an applicant seeks admission.

A recommended score for the TOEFL iBT is 70 or above (or its equivalent if taking an approved alternate exam).

- If submitting TOEFL iBT scores, please use the GradCAS code of B886.
- If submitting an approved alternate English proficiency exam, please send official scores directly to Drexel University, Office of Admissions.

While we recommend that applicants submit and hold at least the recommended scores for TOEFL iBT, TOEFL Essentials, IELTS or Duolingo, exceptions will be considered for foreign applicants who meet one of the following criteria*:

1. successfully completed a degree or diploma held from an accredited, post-secondary institution where the coursework was entirely in English, and provide evidence that it was conducted in English; or
2. successfully completed, and provide evidence of, an approved English language learner's program

*Note: All exemption materials and other appeals are reviewed on a case-by-case basis and subject to the admission committee's final discretion. Should any exceptions not be accepted toward the English language requirement, the Office of Admissions will inform the applicant of an alternative to fulfill it.

Admissions Selection Process

For more information regarding the admissions selection, interview and matriculation process, please refer to the Drexel website.

Advanced Standing or Transfer Credit

Applicants who have earned credits at another accredited institution have the right to petition for transfer credits at the time of application.

A maximum of eight (8) courses (24 credits) can be transferred by credit into the Biomedicine Program. Other transfer requests will be evaluated on an individual basis and must be approved by the Office of the Provost and Vice President of Academic Affairs.

More information regarding transfer credit may be found in the Program's Academic Policy.

Deferment of Admission

An accepted student with an unforeseen, extenuating circumstance prohibiting them from matriculating may request a deferment of admission in writing. *The request must be directed to the Director of Graduate Programs in Biomedicine, and made via the Office of Admissions.*

For deferment consideration, the following is required:

- A deferment request submitted **in writing by June 1**, before the August start of the academic year. Please note, submission of a deferral request by the deadline does not guarantee approval.

- Official documentation verifying the extenuating circumstance.
- All matriculation materials must be received (as directed in the University's official Letter of Acceptance).

If deferment is approved:

- Admission will be extended to August matriculation of the next academic year.
- A deferment will not extend beyond one admission cycle.
- The student must contact the Office of Admissions, **in writing, by April 1** of the deferred admission calendar year regarding his/her intention to resume enrollment.
- The student will be required to meet with a member of the Admissions Committee prior to matriculation (this may be done in person or via phone/online).

If a deferral request is denied:

- A student has the option to withdraw acceptance from the Program, and reapply through GradCAS for future admission.

For questions regarding this policy, please contact the Office of Admissions at graduateadmissions@drexel.edu.

Non-Degree Seeking Students

Refer to the Non-degree Seeking Students section in the catalog.

Curriculum

PhD GB Core

BIO-5001	Introduction to Academic Writing	3
BIO-5100	Research Methodology: Introduction to Research Methods	1.5
BIO-5101	Research Methodology: Measurement and Design	2
BIO-5102	Research Methodology: Data Analysis and Biostatistics	2
BIO-5103	Research Methodology: Approaches and Concepts in Biomedical Research	2
BIO-5300	Research Seminar: Introduction to Teaching and	1

	Learning		BIO-7501	Special Topics: From Bench to Impact	2
BIO-5301	Research Seminar: Critical Review of the Literature	1	BIO-7502	Special Topics: Approaches to Education	2
BIO-5302	Research Seminar: How to Prepare, Present and Critique Posters and Presentations	1	BIO-8500	Special Topics: Academic Life and Stewardship	1
BIO-5600	Preparatory Course: The Qualifying Examination	0.5	BIO-8501	Research Modeling Using Computing Software and other Tools	1
BIO-6300	Research Seminar: Epidemiology and Biomedical Research	1	BIO-8530	Special Topics: Writing Competitive Grant Proposals (Part 1)	1
BIO-6330	Research Seminar I: Project Rationale, Design & Hypothesis	1	BIO-8531	Special Topics: Writing Competitive Grant Proposals (Part 2)	1
BIO-7100	Research Methodology: Epidemiology	2	BIO-8532	Special Topics: Writing Competitive Grant Proposals (Part 3)	1
BIO-7101	Research Methodology: Budget Construction	1	BIO-8533	Issues in Aging	1
BIO-7102	Research Methodology: Special Issues Related to Biomedical Research	2	BIO-8534	Special Topics: Survey Research Methods	1
BIO-7331	Research Seminar II: Preliminary Data & Design Adjustments	1	BIO-8535	Introduction to Principles of Qualitative Research	2
BIO-7332	Research Seminar III: Final Results & Significance	1	BIO-8730	Research Rotation 1	1
BIO-7505	Special Topics: Statistical Analysis using SPSS	2	BIO-8731	Research Rotation 2	1
BIO-8330	The Qualifying Exam (Viva Seminar I)	0.5	Subtotal: 3.0		
BIO-8331	The Dissertation Defense (Viva Seminar II)	0.5	Candidacy Status after successful completion of BIO-8330 (Viva Sem 1).		
BIO-8930	Research Project 1	3.5	Total Credit Hours: 84.0		
BIO-8931	Research Project 2	5	Physician Assistant Studies		
BIO-8932	Research Project 3	5	Rachel Ditoro, EdD, MSPAS, PA-C, Program Director		
BIO-8933	Research Project 4	4.5	Physician Assistant Program Mission		
BIO-8934	Research Project 5	7.5	The mission of the Salus at Drexel University Physician Assistant program is to graduate collaborative clinicians who will serve the healthcare needs of a global community with intelligence, compassion, and integrity.		
BIO-8935	Research Project 6	8.5	Master of Medical Science (MMS) Physician Assistant (PA) Program		
BIO-8936	Research Project 7	10	Our competitive, full-time, 25-month Physician Assistant (PA) program prepares graduates to join one of the fastest-growing professions in the country and become integral members of today’s healthcare delivery team. The program consists of a 12-month didactic phase and a 13-month clinical phase. Upon successful completion of the program, students receive a Master of Medical Science degree (MMS).		
BIO-8937	Research Project 8	11			
BIO-8938	Research Project 9: Defense of Dissertation	0			
		Subtotal: 81.0			
Elective					
<i>Take 3.0 credits</i>					
BIO-6530	Independent Study 1	1			
BIO-6531	Independent Study 2	1			
BIO-6532	Independent Study 3	1			
BIO-6533	Independent Study 4	1			
BIO-7500	Special Topics: Genetics, Genomics, and Research	1			

The program is patient-centered with a primary care philosophy and holistic approach, so our students appreciate the need to care not only **for** the patient, but **about** the patient. Our outstanding faculty is accessible and committed to the personal and professional development of our students.

Early clinical experiences plus innovative teaching through small group and case-based learning are integral to the program. The Clinical Phase is dedicated to supervised clinical practice experiences that afford direct patient care in primary and specialty care disciplines.

Salus at Drexel University Physician Assistant students receive:

- A strong basic science and pathophysiology foundation for clinical medicine
- Anatomy instruction with an onsite full cadaver dissection lab augmented with virtual anatomy
- Innovative, evidence-based instruction integral to the development of critical thinking skills
- Observational patient care introduced in the first year

Master of Medical Science in Physician Assistant Studies

Admissions

The Salus at Drexel University Physician Assistant program actively seeks individuals with an undergraduate degree and diverse life experiences who desire to become physician assistants.

Application Processing & Review

The College of Health Sciences, Education and Rehabilitation Physician Assistant program accepts applications only through the Centralized Application Service for Physician Assistants (CASPA).

The processing of applications by CASPA begins in April, sixteen (16) months prior to the year of desired enrollment. Applications must be received by CASPA on or before **December 1** of the year prior to desired enrollment.

- Student application reviews begin when CASPA has verified an application.
- Interviews are scheduled and initiated, beginning in July.
- Candidates are admitted by the Admissions

Committee on a rolling basis with a maximum entering class size of 50 students.

It is to an applicant's advantage to apply as early as possible to ensure priority consideration for admission.

It is recommended that students with less than a 3.0 grade point average should consult the Office of Admissions prior to applying.

Criteria

To Be Considered, An Applicant Must:

- Submit a properly completed application to CASPA.
- Submit official transcripts from all colleges and universities attended (or currently attending) directly to CASPA.
- Complete a bachelor's degree and admissions prerequisites prior to enrollment (see **Prerequisites** section below).
- Submit three letters of recommendation; one must be written by a person with authority (e.g., professor, work supervisor, etc.) who knows you well enough to speak to your work ethic and professionalism, and can assess your qualifications for graduate education, ability to complete graduate work, and qualifications for entering a health profession career. A letter from a physician assistant is recommended. Arrange for the required letters of recommendation to be sent directly to CASPA.
- Accrue a minimum of 300 hours of direct patient care experience. This may be a volunteer and/or employed position(s).
- In order to be familiar with the role of the physician assistant (PA) as a member of the health care team, a minimum of 20 hours of PA shadowing is required. Shadowing PAs in various medical disciplines is highly recommended.
- Optional: Submit Graduate Record Exam (GRE) score results. If you choose, you may submit GRE results directly to CASPA (Designated Institution code is 0432). However, submission of the GRE is optional.
- International Students, please review any additional requirements below.
- All credentials submitted on behalf of an applicant become part of that applicant's record with the

University and cannot be returned.

If Accepted, An Applicant Must:

- Complete a criminal background check, child abuse clearance, annual health clearances, fingerprinting and drug screening. Immunization requirements are compliant with state regulations and CDC recommendations for healthcare providers.
- Students are responsible for all fees associated with these clearance protocols.
- Provide proof of health insurance prior to the start of the program.
- Meet the **Technical Standards** (see section below) with allowance for reasonable accommodations.

The following institutions have formed articulation agreements with the Salus at Drexel University PA Program:

3+2 Physician Assistant Program:

Western New England University

4+2 Physician Assistant Program:

Caldwell University

Cedar Crest College

Immaculata University

Indiana University of Pennsylvania

Keystone College

Messiah University

Rosemont College

Please refer to the drexel.edu website for additional information regarding the criteria for each articulation.

Prerequisites

A candidate must have completed a bachelor's degree from an accredited undergraduate institution. Candidates must have **a minimum cumulative and science GPA of 3.0** on a 4.0 scale.

Prerequisite courses must be completed within ten years of the anticipated entrance date to the Program. An applicant may have prerequisites in progress at the time of application; however, all outstanding prerequisites must be successfully completed prior to enrollment. In order to

fairly evaluate a candidate, it is recommended that **no more than two prerequisites** be outstanding at the time of the interview.

Undergraduate credits must include the courses listed below, completed with a 2.0 (C) or better.

Given the COVID-19 pandemic, the program will accept Pass (P) as satisfying any of the program's academic course prerequisites that were taken during spring or summer 2020 and on a case-by-case basis otherwise. Grades reported as Failing (F) or as Incomplete (I) will not be considered as fulfilling prerequisites. Please note that courses taken for pass/no pass will not be considered in GPA calculations.

Four semester credits* are required in each of the following courses:

- Anatomy and Physiology I (or Anatomy) with laboratory
- Anatomy and Physiology II (or Physiology) with laboratory
- Biology I with laboratory
- Biology II with laboratory
- Chemistry I with laboratory
- Chemistry II with laboratory

*Three semester credit course/s will be reviewed on an individual basis.

Three semester credits are required in each of the following courses:

- Microbiology (laboratory recommended, but not required)
- Organic Chemistry (laboratory recommended, but not required)
- Psychology
- Statistics or Biostatistics
- English Composition

Recommended courses, but not required: medical terminology (strongly recommended), physics, genetics, immunology, embryology, histology, biochemistry, cell biology, public speaking, ethics, and developmental or abnormal psychology.

International Students & Practitioners

International Transcripts

For applicants who have attended foreign and French-Canadian schools, please provide the Office of Admissions with the following information:

- A course-by-course credential review from a NACES recognized agency which evidences all post-secondary studies completed. Please consult the agency's web site for requirements to complete the evaluation.
- Recommended agencies include:
 - World Education Services
 - SpanTran
- An official evaluation may be sent from the agency directly to CASPA.
 - Instructions for submitting a foreign credential evaluation.

English Language Proficiency

Fluency in written and spoken English is essential for success in a Drexel University academic program as well as to help ensure patient/client/student safety and/or effective communication with members of a healthcare or education team.

Official results from the TOEFL iBT, TOEFL Essentials, IELTS or Duolingo examination are required of all non-native English speakers. One of these approved exams must be taken within two years prior to the start date of the entering class to which an applicant seeks admission.

For applicants to the Physician Assistant program, the minimum required score for the TOEFL iBT is 94.

- A minimum score of 26 is required for the speaking section; a minimum of 24 for the writing section; a minimum of 22 for the listening section; and a minimum of 22 for the reading section.
- Official scores from the TOEFL Essentials, IELTS or Duolingo English Test examination will be accepted in substitution for the TOEFL iBT (minimum score requirements comparable to the TOEFL iBT).

While we recommend that applicants submit and hold at least the required minimum scores for TOEFL iBT,

TOEFL Essentials, IELTS, or Duolingo, exceptions will be considered for foreign applicants who meet one of the following criteria*:

1. successfully completed a degree or diploma from an accredited, post-secondary institution where the coursework was entirely in English, and provide evidence that it was conducted in English; or
2. successfully completed, and provide evidence of, an approved English language learner's program

*Note: All exemption materials and other appeals are reviewed on a case-by-case basis and subject to the admission committee's final discretion. Should any exceptions not be accepted toward the English language requirement, the Office of Admissions will inform the applicant of an alternative to fulfill it.

Admissions Selection Process

For more information regarding the admissions selection, interview, and matriculation process, please refer to the Drexel website.

Compliance Requirements

All students admitted to the Salus at Drexel University Physician Assistant Program are required to have a criminal background check, child abuse clearance, annual health clearances, fingerprinting and drug screening. Immunization requirements are compliant with state regulations and CDC recommendations for healthcare providers. Students are responsible for all fees associated with these clearance protocols.

Students will be responsible for uploading their required documentation via *CastleBranch*, an online-tracking system, and monitoring their compliance records to ensure that all information remains current and accurate. Clinical sites that require such clearances may deny a student's participation in a clinical experience based on the results of these clearances.

As participation in clinical experiences is a required component of the curriculum and a requirement for graduation, denial by a clinical site may result in a delay of graduation, or the inability to graduate from the Program, or obtain certification or licensure as a healthcare professional.

Advanced Placement or Transfer Credit

The Salus at Drexel University Physician Assistant Program does not grant advanced placement based upon

transfer of credits for academic work completed at other institutions of higher learning or prior experiential learning. All courses within the curriculum are required.

Matriculating students who have withdrawn or been dismissed from the Program may be awarded advanced placement depending upon the designed remediation plan related to their readmission.

Deferment of Admission

An accepted student to the Salus at Drexel University Physician Assistant program with an unforeseen, extenuating circumstance prohibiting them from matriculating may request a deferment of admission in writing. *The request must be directed to the PA Program Director, and made via the Office of Admissions.*

For deferment consideration, the following is required:

- A deferment request submitted in writing by **May 15**, before the August start of the academic year. Please note, submission of a deferral request by the deadline does not guarantee approval.
- Official documentation verifying the extenuating circumstance.
- All non-refundable deposit fees and the matriculation supplement must be received (as directed in the University's official Letter of Acceptance.)

If deferment is approved:

- Admission will be extended to August matriculation of the next academic year.
- A deferment will not extend beyond one admission cycle.
- The student must contact the PA Program Director, in writing, by **April 1** of the deferred admission calendar year regarding their intention to resume enrollment.
- The student will be required to meet with the PA Program Director prior to matriculation.

If a deferral request is denied:

- A student has the option to withdraw acceptance from the Program, or reapply through CASPA for future admission.

Technical Standards

Minimum Technical Standards for Admissions, Continuation, and Graduation

Technical standards are defined as the attributes considered necessary for students to complete their education and training and subsequently enter clinical practice. These standards are prerequisites for entrance to, continuation within, and graduation from the Salus at Drexel University Physician Assistant program. They are also prerequisites to licensure by various state professional boards. Reasonable accommodation will be offered for persons with disabilities in conjunction with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act.

Students must possess aptitude, ability, and skills in the following five (5) areas:

1. Observation
2. Communication
3. Sensory and motor coordination and function
4. Conceptualization, integration, and quantitation
5. Behavioral and social skills, abilities, and aptitudes

The functions described below are critically important and must be autonomously performed by the student. It should be understood that these are standards for minimum competence in the program:

Observation

Students must be able to observe demonstrations and conduct experiments in the basic sciences, including, but not limited to, chemical, biological, anatomic, and physiologic sciences. Students must be able to observe details through a microscope, and observe demonstrations in the classroom, including films, projected overheads, slides, or other forms of visual presentation.

Students must be able to accurately observe a patient near and at a distance, noting nonverbal, as well as verbal signs. Specific vision related criteria include, but are not limited to, detecting and identifying changes in color of fluids, skin, culture media, visualizing and discriminating findings on x-rays and other imaging tests, and reading written and illustrated materials.

Students must be able to observe and differentiate changes in body movement, observe anatomic structures, discriminate among numbers and patterns associated with diagnostic tests such as an electrocardiogram, and competently use diagnostic instruments such as an otoscope, ophthalmoscope, and microscope.

Communication

Students must be able to relate effectively to patients while conveying compassion and empathy. They must be able to clearly communicate with patients in order to elicit information, accurately describe changes in mood, activity, and posture of patients, and understand verbal as well as nonverbal communication.

Communication includes not only speech, but also reading and writing. Physician Assistant education presents exceptional challenges in the volume and breadth of reading required to master subject areas and impart the information to others. Students must be able to communicate quickly, effectively, and efficiently in oral and written English in the classroom and later with all members of the health care team. Specific requirements include, but are not limited to the following: rapidly and clearly communicating with the medical staff on rounds or elsewhere, eliciting an accurate history from patients, and communicating complex findings in appropriate terms to patients and to various members of the health care team. Students must learn to recognize and promptly respond to emotional cues, such as sadness and agitation.

Students must be able to accurately and legibly record observations and plans in legal documents, such as the patient record. Students must be able to prepare and communicate concise, complete summaries of both limited patient encounters and complex, prolonged encounters, including hospitalizations. Students must be able to complete forms in a timely fashion and according to directions.

Sensory and Motor Coordination and Function

Students must possess sufficient sensory and motor function to perform physical examinations using palpation, auscultation, percussion and other diagnostic maneuvers. This requires sufficient exteroceptive sense (visual, auditory, touch, and temperature), coordination to manipulate patients, and adequate motor and diagnostic instruments.

Students must be able to evaluate various components of the voice, such as pitch, intensity, and timbre. They must also be able to accurately differentiate percussive notes and auscultatory findings, including but not limited to heart, lung, and abdominal sounds. Students must be able to accurately discern normal and abnormal findings, using instruments including, but not limited to, tuning forks, stethoscopes, and sphygmomanometers.

Students should be able to execute physical movements needed to provide general care and emergency treatments to patients. The student, therefore, must be able to respond

promptly to emergencies within the hospital or practice setting, and must not hinder the ability of their co-workers to provide prompt care. Examples of emergency treatment reasonably required of a physician assistant include arriving quickly when called and assisting in cardiopulmonary resuscitation (CPR), administering intravenous medications, applying pressure to arrest bleeding, maintaining an airway, suturing wounds, and assisting with obstetrical maneuvers. As further illustration, CPR may require moving an adult patient, applying considerable chest pressure over a prolonged period of time, delivering artificial respiration, and calling for help.

Students should be able to learn to perform basic laboratory tests such as wet mount, urinalysis, gram stain, etc., and diagnostic/therapeutic procedures such as venipuncture or placement of catheters and tubes. The administration of intravenous medications requires a certain level of dexterity, sensation, and visual acuity. Students must be able to measure angles and diameters of various body structures using a tape measure or other devices to measure blood pressure, respiration, and pulse, and interpret graphs describing biological relationships. Clinical rotations require the ability to transport oneself to a variety of settings in a timely manner.

Intellectual, Conceptualization, Integration, and Quantitation

Problem-solving, a critical skill demanded of physician assistants, often requires rapid intellectual function, especially in emergency situations. These intellectual functions include numerical recognition, measurement, calculations, reasoning, analysis, judgment, and synthesis. Students must be able to identify significant findings in the patient's history, physical examination, and laboratory data, provide a reasoned explanation for likely diagnoses, and choose appropriate medications and therapy.

It is essential that the student is able to incorporate new information, from many sources, toward the formulation of a diagnosis and plan. Good judgment in patient assessment and diagnostic/therapeutic planning is also essential. When appropriate, students must be able to identify and communicate the extent of their knowledge to others.

Behavioral and Social Skills; Abilities and Aptitudes

Students must possess the emotional health required for full use of their intellectual abilities, the exercise of good judgment, the prompt completion of all responsibilities associated with the diagnosis and care of patients, and the development of mature, sensitive, and effective

relationships in the diagnosis and care of patients. Empathy, integrity, honesty, concern for others, good interpersonal skills, interest in people, and motivation are all required personal qualities. Students must be able to monitor and react appropriately to their own emotional needs. For example, students need to maintain a balanced demeanor and good organization in the face of long hours, fatigued colleagues, and dissatisfied patients.

Students must be able to develop appropriate professional relationships with their colleagues and patients, provide comfort and reassurance to patients, and protect patients' confidentiality. Students must possess the endurance to tolerate physically taxing workloads and to function effectively under stress. All students are, at times, required to work for extended periods of time, occasionally with rotating schedules. Students must be able to adapt to changing environments, to display flexibility, and to learn to function in the face of uncertainties inherent in the practice of medicine. Students are expected to accept suggestions and criticisms, and if necessary, to respond by modifying their behavior.

Admission

Candidates accepted for admission to the Physician Assistant program will be required to verify that they understand and meet these technical standards. Admission decisions are made on the assumption that each candidate can meet the technical standards without consideration of disability. Letters of admission will be offered contingent on either a signed statement from the applicant that they can meet the program's technical standards without accommodation or a signed statement from the applicant that they believe they can meet the technical standards if reasonable accommodation is provided.

The University reserves the right of final determination for applicants requesting accommodations to meet the program's technical standards. This includes a review of whether the accommodations requested are reasonable, taking into account whether the accommodation would jeopardize patient safety, or the educational process of the student or the institution, including all coursework and internships deemed essential to graduation.

The Office of Disability Resources and the Physician Assistant program will jointly determine what accommodations are suitable or possible in terms of reasonable accommodation, and will render the person capable of performing all essential functions established by the program.

Technology Requirements

The Physician Assistant Program has requested that students utilize laptop computers that meet certain technical capabilities for use throughout the duration of the program. These devices are required to ensure each student's ability to access educational websites/databases/software during the didactic and clinical year. For example, students will need laptops for testing, to access evidence-based websites, Blackboard for course access, e-books, and designated course materials during the didactic and clinical year. Students are responsible for the maintenance of their personal computers.

Curriculum

First Year

Fall Semester

PAS-5001	Gross Human Anatomy 1	3
PAS-5002	Medical Microbiology and Genetics	2
PAS-5007	PA Seminar	1
5012-5012	Foundations of Clinical Problem Solving	1
PAS-5030	Physiology and Pathophysiology 1	3
PAS-5040	Pharmacology and Clinical Therapeutics 1	2
PAS-5060	Physical Diagnosis 1	2.5
PAS-5130	Clinical Medicine 1	4.5
PAS-5140	Advanced Clinical Skills 1	2
Subtotal:		21.0

Spring Semester

PAS-5003	Behavioral Science	2.5
PAS-5009	Community Health	1
PAS-5011	Gross Human Anatomy 2	1
PAS-5031	Physiology and Pathophysiology 2	2.5
PAS-5041	Pharmacology and Clinical Therapeutics 2	1.5
PAS-5050	Clinical Problem Solving 1	2.5
PAS-5061	Physical Diagnosis 2	1.5
PAS-5102	Integrative Medicine and Nutrition	1
PAS-5131	Clinical Medicine 2	6
PAS-5141	Advanced Clinical Skills 2	3
Subtotal:		22.5

Summer Semester

PAS-5008	Acute and Invasive Medicine	3
PAS-5032	Physiology and Pathophysiology 3	2
PAS-5042	Pharmacology and Clinical	1.5

	Therapeutics 3	
PAS-5051	Clinical Problem Solving 2	1.5
PAS-5062	Physical Diagnosis 3	1
PAS-5132	Clinical Medicine 3	6
PAS-5142	Advanced Clinical Skills 3	2.5
Subtotal: 17.5		

Second Year

Fall Semester		
PAS Rotations	3 PAS Rotations*	13.5
Subtotal: 13.5		

Spring Semester		
PAS-5930	Capstone Project 1	0.5
PAS Rotations	3 PAS Rotations*	13.5
PAS Rotations	1 PAS Rotation* Part 1	2.5
Subtotal: 16.5		

Summer Semester		
PAS Rotations	2 PAS Rotations*	9
PAS Rotations	1 PAS Rotation* Part 1	2.5
PAS Rotations	1 PAS Rotation* Part 2	2
Subtotal: 14		

Third Year

Fall Part of Term		
PAS-5901	Transition to Practice	2
PAS-5931	Capstone Project 2	0.5
PAS Rotations	1 PAS Rotation* Part 2	2
Subtotal: 4.5		

*Rotation Descriptions

PAS-6200	Emergency Medicine Clinical Rotation	4.5
PAS-6201	Surgery Clinical Rotation	4.5
PAS-6202	Internal Medicine Clinical Rotation	4.5
PAS-6203	Women's Health/Prenatal Care Clinical Rotation	4.5
PAS-6204	Pediatrics Clinical Rotation	4.5
PAS-6206	Behavioral/Mental Health Clinical Rotation	4.5
PAS-6230	Elective 1 Clinical Rotation	4.5
PAS-6231	Elective 2 Clinical Rotation	4.5
PAS-6240	Family Medicine/Primary Care 1 Clinical Rotation	4.5
PAS-6241	Family Medicine/Primary Care 2 Clinical Rotation	4.5

Total Credit Hours: 109.0

Global, Interprofessional, and Specialized Programming

Mission

The mission of the Division of Global, Interprofessional, and Specialized Programming is to provide innovative degree programs and professional development offerings, including interprofessional education for collaborative practice (IPECP), to improve student, patient, client, and community outcomes both nationally and internationally.

Programming

The Division of Global, Interprofessional, and Specialized Programming provides degree program offerings in Blindness and Low Vision Studies, clinical degree program offerings for international practitioners, short-term clinical training programs for international students, Interprofessional Education for Collaborative Practice (IPECP) for students, faculty, alumni, and preceptors, and profession-specific and interprofessional continuing education programs, including microcredentials for students, faculty, alumni, preceptors, and practitioners.

MSc in Clinical Optometry with an Advanced Studies Certificate Degree Program

Drexel University's Division of Global, Interprofessional, and Specialized Programming offers a Master of Science in Clinical Optometry (MSCO) with an Advanced Studies Certificate Degree program for international ophthalmic practitioners desiring to advance their knowledge and skills in optometric care and to experience specialized training within a specific content area. This degree program features biomedical and visual sciences, clinical sciences, research design and application, and small group learning experiences, delivered in 38 semester hour credits over a 12-month period. This program is delivered in a full-time program of study taking place at Drexel University, Elkins Park, PA, USA or via a hybrid track where students can participate in didactic coursework and examinations delivered online during the first two Quarters and then come to campus for hands-on training during the second two Quarters.

Master of Science in Four Modules

The MSCO portion of the degree program is comprised of four modules, each containing a series of courses with

compilations of lectures, workshops, clinical skills training, controlled patient care and research.

Module 1: Foundations of Basic Science

Module 2: Optometric Applications and Ophthalmic Disease

Module 3: Clinical Practice and Applications

Module 4: Research Design and Applications

Advanced Studies Certificates

This degree program offers students the opportunity to customize their experience by gaining specialized knowledge and skills while earning an additional credential within a specific content area.

The current Advanced Studies content offerings are:

- Advanced Studies in Binocular Vision and Vision Therapy
- Advanced Studies in Vision Impairment and Rehabilitation
- Advanced Studies in Contact Lens

The Master of Science in Clinical Optometry with an Advanced Studies Certificate degree program starts in August of each calendar year.

Admissions

The Master of Science in Clinical Optometry with an Advanced Studies Certificate degree program starts in August of each calendar year.

The application deadline is on or before July 1 of the year of desired enrollment.

Students planning on participating in the full-time, on-campus track and coming to the US on a full-time F1 visa should apply by May 1.

Drexel University accepts applications through the GradCAS centralized application service. Please follow all instructions as indicated on the application portal.

Criteria

The following application items are required for submission:

- A completed application through GradCAS, which includes a non-refundable fee of \$138.00. Payment may be made through the GradCAS application portal.
- A course-by-course foreign credential evaluation from a NACES recognized agency confirming that all of an applicant's post-secondary studies are at least equivalent to a Bachelor's degree level in a vision-

related field such as optics, optometry or ophthalmology.

- Please view GradCAS foreign transcripts instructions for more details on submitting an official credential evaluation through the application portal.
- Recommended agencies include World Education Services and SpanTran.
- An official credential evaluation (not a copy) may also be sent from the evaluation service to the Office of Admissions.
- For non-native English speakers, official results from the TOEFL iBT, TOEFL Essentials, IELTS or Duolingo examination are required. Exceptions will be considered.*
 - Exam scores must be dated within two years prior to the start date of the program. Minimum score recommendations:
 - TOEFL iBT: 70 or above. If submitting TOEFL iBT scores, please use the GradCAS code of B886.
 - IELTS: 5.5 or above. If submitting IELTS scores, please send scores directly to the Office of Admissions.
 - Duolingo English Test: 95 or above. If submitting Duolingo scores, please send scores via Duolingo to the Office of Admissions.

*Exceptions will be considered for non-native English speaking applicants who successfully completed a degree or diploma held from an accredited, post-secondary institution where the coursework was entirely in English, and provide evidence that it was conducted in English; OR successfully completed, and provide evidence of, an approved English language learner's program.

Note: All exemption materials and other appeals are reviewed on a case-by-case basis and subject to the admission committee's final discretion. Should any exceptions not be accepted toward the English language requirement, the Office of Admissions will inform the applicant of an alternative to fulfill it.

- One letter of recommendation from a professional organization, teacher or colleague.
- Personal Goal Statement detailing your reasons for choosing the MSCO degree and your post-degree career plans (minimum 900 words, maximum 1100

words).

- Applicants from Saudi Arabia must submit a Saudi Arabian Cultural Mission (SACM) guarantee. Applicants without a SACM guarantee, and who meet all other requirements, will be issued a provisional acceptance letter.

The following items are also required for admission to the program:

- Completion of a successful interview with a member of the Division of Global, Interprofessional, and Specialized Programming Admissions Committee. Interviews may take place face-to-face or online via video conference.
- Ability to meet University compliance requirements upon matriculation.

Please note: All documents that are not in English must include a notarized English translation. All credentials submitted on behalf of an applicant become a part of that applicant's file with the University and cannot be returned.

Deferment of Admission

An accepted student with an unforeseen, extenuating circumstance prohibiting them from matriculating may request a deferment of admission in writing. The request must be directed to the Director of the Master of Science in Clinical Optometry program, and made via the Office of Admissions.

For deferment consideration, the following is required:

- A deferment request submitted in writing by June 15th, before the August start of the academic year. Please note, submission of a deferral request by the deadline does not guarantee approval.
- Official documentation verifying the extenuating circumstance.
- All matriculation materials must be received (as directed in the University's official Letter of Acceptance).

If deferment is approved:

- Admission will be extended to the next academic year.
- A deferment will not extend beyond one admission cycle.

- The student must contact the Office of Admissions, in writing, by April 1st of the deferred admission calendar year regarding his/her intention to resume enrollment.
- The student will be required to meet with a member of the Admissions Committee prior to matriculation (this may be done in person or via phone/online).

If a deferral request is denied:

- A student has the option to withdraw acceptance from the Program, and reapply through GRADCAS for future admission.

For questions regarding this policy, please contact the Office of Admissions at graduateadmissions@drexel.edu.

Curriculum

Fall Semester

CLO-6301	Evidence-Based Practice	1.0
CLO-6330	Scholarly Project - Part 1	3
		Subtotal: 4.0

Fall Part of Term A

CLO-5000	Molecular and Cellular Processes	0.5
CLO-5001	Microbiology and Immunology	0.5
CLO-5002	Ocular Anatomy and Physiology	0.5
CLO-5004	General Physiology, Pathology and Pathophysiology 1	1
CLO-5104	Concepts of Cataracts, Low Vision and Geriatric Care	0.5
CLO-5300	Epidemiology, Biostatistics, Research & Design	1
		Subtotal: 4.0

Fall Part of Term B

CLO-5006	Principles and Applications of Pharmacology	1
CLO-5105	Pediatrics and the Study of Normal & Abnormal Binocular Function	1
CLO-5106	Contact Lens Applications	0.5
CLO-5107	Refraction and Pre & Post Refractive Surgery	1
		Subtotal: 3.5

Spring Semester

CLO-6203	Clinical Case Studies	5.0
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Subtotal: 5.0		
Spring Part of Term A		
CLO-5108	Environmental Optometry	0.5
CLO-5109	Case Presentations and Panel Discussion	0.5
CLO-6001	Practice Management and Professional Development	0.5
CLO-6231	Controlled Patient Care 2	2.5
CLO-6333	Scholarly Project - Part 3	1.5
Subtotal: 5.5		

Advanced Studies 1

Choose one

CLO-9033	Advanced Studies in Contact Lens Part 3	1.5
CLO-9043	Advanced Studies in Vision Impairment & Rehabilitation Part 3	1.5
CLO-9053	Advanced Studies in Binocular Vision and Vision Therapy Part 3	1.5

Spring Part of Term B

Advanced Studies 2

Choose one

CLO-9034	Advanced Studies in Contact Lens Part 4	1.5
CLO-9044	Advanced Studies in Vision Impairment & Rehabilitation Part 4	1.5
CLO-9054	Advanced Studies in Binocular Vision and Vision Therapy Part 4	1.5

Summer Semester

CLO-5108	Environmental Optometry	0.5
CLO-5109	Case Presentations and Panel Discussion	0.5
CLO-6001	Practice Management and Professional Development	0.5
CLO-6203	Clinical Case Studies	5.0
CLO-6231	Controlled Patient Care 2	2.5
CLO-6333	Scholarly Project - Part 3	1.5
Subtotal: 10.5		

Advanced Studies 3

Choose one

CLO-9033	Advanced Studies in Contact Lens Part 3	1.5
CLO-9043	Advanced Studies in Vision	1.5

	Impairment & Rehabilitation Part 3	
CLO-9053	Advanced Studies in Binocular Vision and Vision Therapy Part 3	1.5
Advanced Studies 4		
Choose one		
CLO-9034	Advanced Studies in Contact Lens Part 4	1.5
CLO-9044	Advanced Studies in Vision Impairment & Rehabilitation Part 4	1.5
CLO-9054	Advanced Studies in Binocular Vision and Vision Therapy Part 4	1.5

Total Credit Hours: 38.0

Department of Blindness and Low Vision Studies

Fabiana Perla, EdD, COMS, CLVT, Chair

Programs in Blindness and Low Vision Studies were first developed at Salus University in 1983, making Salus University the first institution in the country to offer four master's degrees and certificates in the following areas: Low Vision Rehabilitation, Orientation and Mobility, Teachers of Students with Visual Impairment, and Vision Rehabilitation Therapy.

BLVS Mission

To develop and offer graduate programs preparing highly qualified professionals to support individuals with blindness and low vision through the education and rehabilitation process, by creating an interprofessional environment of practitioners committed to lifelong learning, critical thinking, and dedication to the individuals and communities they serve.

BLVS Vision

To enhance the quality of life of individuals with blindness and low vision through excellence in interprofessional education, service delivery and research; and to increase the numbers, diversity and leadership roles of vision professionals in education and rehabilitation settings worldwide.

Department of Blindness and Low Vision Studies (BLVS) Programs:

Master of Science, Low Vision Rehabilitation (LVR)
 Certificate Program, Low Vision Rehabilitation
 Master of Science, Orientation and Mobility (O&M)
 Certificate Program, Orientation and Mobility
 Master of Education, Blindness and Vision Impairment (BVI)
 Certificate Program, Blindness and Visual Impairment
 Master of Science, Vision Rehabilitation Therapy (VRT)
 Certificate Program, Vision Rehabilitation Therapy

The maximum number of years to complete the above degrees is five.

Low Vision Rehabilitation

Kerry S. Lueders, M.Ed., COMS, TVI, CLVT, LVR
 Program Director

The University offers a Master of Science (MS) degree and a graduate certificate program in Low Vision Rehabilitation (LVR).

These programs prepare professionals to effectively work in clinical rehabilitation and educational settings with people who have low vision. Emphasis is placed on an interdisciplinary team approach to service delivery. Program participants often come from disciplines such as rehabilitation counseling, vision rehabilitation therapy, special education, orientation and mobility, occupational therapy, social work, optometry and ophthalmology. This program is delivered online with a summer residency requirement (3-4 weeks) and an internship.

Master of Science and Graduate Certificate Programs in LVR

Both the Master of Science (MS) degree and the graduate certificate program require didactic course work which must be taken in a prescribed manner. Students, working with a faculty advisor, develop an individualized Program of Studies to ensure appropriate course sequencing and integration. The program may be taken part-time or full-time. All didactic coursework must be completed prior to engaging in the off-campus internship.

This program provides the coursework and supervised fieldwork experiences required for certification by the Academy for the Certification of Vision Rehabilitation and Education Professionals (ACVREP) in Low Vision Therapy. While fieldwork placements are generally local, internships in clinical rehabilitation and educational facilities may be located in other states.

Admissions

Applications for the Department of Blindness and Low Vision Studies masters and certificate programs are accepted through the GradCAS centralized application service each semester with the following deadlines:

- Fall Semester – July 31
- Spring Semester – November 30
- Summer Semester - April 15

Once accepted, students can register for courses in the term immediately following matriculation, depending on the student's course of studies.

Criteria

All applicants must have completed their undergraduate studies and must hold a Bachelor's degree, or its equivalent, from an accredited college or university in order to be admitted to a program of studies in Department of Blindness and Low Vision Studies.

The following application items are required for submission:

- **Submit** a completed application through GradCAS,
- **Application Fee:** A non-refundable fee of \$138.00 is required. Payment may be made through the GradCAS application portal.
- **Transcripts:** All applicants are responsible for having official transcripts for every college or university attended sent directly to GradCAS centralized application service, regardless of whether a degree has been received from that particular institution or not. Please note, a transcript marked "issued to student" is not acceptable, even when delivered in a sealed envelope.
- **Letters of Reference:** Applications must include three letters of reference highlighting your academic and professional skills and addressing applicant qualities in relation to working in the field of blindness and low vision, education and/or rehabilitation. Please follow the directions for submitting letters of reference through the GradCAS application portal.
- **Statement of Purpose** (minimum 250 words): Applicants must submit a typewritten, double-spaced, two- to three-page personal statement through the GradCAS application portal explaining their purpose

in undertaking graduate study in their program of interest. This is an opportunity to inform the Admissions Committee about the applicant's goals, interests, motivation, and background as they relate to their career plans and academic pursuits.

- **Job Résumé/Curriculum Vitae:** All applicants must submit an educational and job resume/curriculum vitae through the GradCAS application portal. This should include the applicant's education, work experience, publications, honors or achievements, and community /extracurricular activities to date.
- **License/Certificates:** Applicants may submit a copy of any certificate or license held as it pertains to their current profession through the GradCAS application portal. Applicants to the **Teacher of Students with Visual Impairments** who are currently certified teachers must upload a copy of a teaching certificate.
- **Background Clearances:** Applicants to Blindness and Low Vision Studies programs must complete Child Abuse History, State Police and Federal FBI clearances at the time of matriculation to the program. The Office of Student Affairs will contact the matriculated student with further instructions on submitting these requirements prior to enrollment.
- **National Test Scores (Optional):** National test scores (such as GRE or MAT) are not required to be considered for admission into the BLVS programs.
- **International Students:** Please review any additional requirements in the section below.

Prerequisite Skills

Due to the nature of the coursework for all of the degree and certificate programs offered in BLVS, the following prerequisites skills apply:

- **Writing Skills:** Applicants are expected to demonstrate scholarly writing in their application essay, develop coherent and complete thoughts, and use correct grammar, and spelling.
- **Computer Skills & Technology Requirements:** The Blindness and Low Vision Studies programs require graduate students to have computer literacy skills upon entry into their respective programs. Most of the courses are online and require computer skills related to emailing, word processing, uploading and downloading files and assignments, conducting internet searches, and interacting online among others.

- Prior to entering the program, students who lack basic skills in using the computer should complete a basic computer course from a computer education service, a community college, or university.

International Students

International Transcripts

For applicants who have attended foreign and French-Canadian schools, please provide the Office of Admissions with the following information:

A course-by-course credential review from a NACES recognized agency which evidences all post-secondary studies completed. Please consult the agency's web site for requirements to complete the evaluation.

- Recommended agencies include:
 - World Education Services
 - SpanTran
- An official credential evaluation (not a copy) must be sent from the evaluation service directly to the Office of Admissions.
- Applicants also have the option to submit their credential evaluation directly to GradCAS. If you choose this option, please view GradCAS foreign transcripts instructions for more details.

English language Proficiency

Fluency in written and spoken English is essential for success in a Drexel University academic program as well as to help ensure patient/client/student safety and/or effective communication with members of a healthcare or education team.

Official results from the TOEFL iBT, TOEFL Essentials, IELTS or Duolingo examination are required of all non-native English speakers. One of these approved exams must be taken within two years prior to the start date of the entering class to which an applicant seeks admission.

- If submitting TOEFL iBT scores, please use the GradCAS code of B886.
- If submitting an approved alternate English proficiency exam, please send official scores directly to the Office of Admissions.

While we recommend that applicants submit TOEFL iBT, TOEFL Essentials, IELTS or Duolingo, exceptions will be

considered for foreign applicants who meet one of the following criteria*:

1. successfully completed a degree or diploma held from an accredited, post-secondary institution where the coursework was entirely in English, and provide evidence that it was conducted in English; or
2. successfully completed, and provide evidence of, an approved English language learner's program

*Note: All exemption materials and other appeals are reviewed on a case-by-case basis and subject to the admission committee's final discretion. Should any exceptions not be accepted toward the English language requirement, the Office of Admissions will inform the applicant of an alternative to fulfill it.

Admissions Selection Process

For more information regarding the admissions selection, interview and matriculation process, please refer to the program's website.

Non - Degree Seeking Students

Refer to the Non-degree Seeking Student section in the catalog.

Certificate

LVR Certificate Core

BLV-5000	Foundations of Education & Rehabilitation	2.0
BLV-5001	Clinical & Functional Implications of Visual Impairment	3.0
BLV-5002	Psychological & Social Implications of Visual Impairment	1.0
BLV-5130	Low Vision Assessment & Intervention 1	3.0
BLV-5131	Low Vision Assessment & Intervention 2	2.0
Subtotal:		11.0

LVR Certificate Program

BLV-5103	Introduction to Assistive Technology	3.0
BLV-5104	Neurological Visual Impairment in Adults	1.0
BLV-5107	Visual Impairments and Multiple Disabilities	2.0
BLV-5132	Low Vision Assessment & Intervention 3	2.0

BLV-5200	Principles of Low Vision Rehabilitation	3.0
BLV-6200	LVR Fieldwork	2.0
BLV-6201	LVR Internship	6.0
Subtotal:		19.0

Total Credit Hours: 30.0

Master of Science

MS LVR Core

BLV-5000	Foundations of Education & Rehabilitation	2.0
BLV-5001	Clinical & Functional Implications of Visual Impairment	3.0
BLV-5002	Psychological & Social Implications of Visual Impairment	1.0
BLV-5004	Critical Analysis of Research	2.0
BLV-5130	Low Vision Assessment & Intervention 1	3.0
BLV-5131	Low Vision Assessment & Intervention 2	2.0
Subtotal:		13.0

MS LVR Program

BLV-5100	Introduction to Braille	0.5
BLV-5101	Introduction to Independent Living Skills	1.0
BLV-5102	Introduction to Orientation and Mobility	1.0
BLV-5103	Introduction to Assistive Technology	3.0
BLV-5104	Neurological Visual Impairment in Adults	1.0
BLV-5107	Visual Impairments and Multiple Disabilities	2.0
BLV-5132	Low Vision Assessment & Intervention 3	2.0
BLV-5200	Principles of Low Vision Rehabilitation	3.0
BLV-5290	LVR Independent Study	2.0
BLV-6200	LVR Fieldwork	2.0
BLV-6201	LVR Internship	6.0
BLV-6290	LVR Comprehensive Examination	0
Subtotal:		23.5

Total Credit Hours: 36.5

Orientation and Mobility

Jamie Maffit, MS, COMS, O&M Program Director

The University offers a Master of Science (MS) degree and a graduate certificate program in Orientation and Mobility (O&M).

Orientation and Mobility (O&M) specialists teach children and adults with blindness or low vision critical skills to remain oriented in their environment as well as specific mobility skills in order to travel safely, efficiently and as independently as possible within the home, at school, at work and in the community.

O&M instruction is typically conducted one-on-one, tailored to each individual, and includes skills such as effective use of the individual's remaining senses, concept development, orientation skills, problem-solving skills, use of a long cane or other mobility systems, instruction in the use of optical and/or electronic devices, and travel in a variety of settings including the use of public transportation when appropriate.

O&M specialists work in various professional settings, including public schools, residential schools for students with visual impairments, rehabilitation agencies, low vision clinics, and Veteran Administration Medical Centers, among others. There are excellent employment opportunities in the field of O&M due to a national shortage of these professionals.

Master of Science and Graduate Certificate Programs in O&M

Full-time students can complete the program in four semesters. The majority of this program's curriculum is taught online, with a summer residency requirement (6-8 weeks) and one additional week in the fall on campus. Founded on evidence-based practice, the O&M coursework is sequentially designed and integrated to ensure that a student's necessary skills are developed prior to entry into fieldwork and internship off-campus.

Coursework prepares students to work effectively with individuals who have low vision, as well as those who are blind, and to work across the life span. Students in the O&M program learn the importance of an interprofessional approach to the provision of comprehensive services.

The graduate certificate program in Orientation and Mobility (COM) is for individuals who have completed an academic undergraduate or graduate degree specific to educating individuals with visual impairments and in one of the following fields: Education of Visually Impaired,

Vision Rehabilitation Therapy or Low Vision Rehabilitation.

This certificate program includes courses taught online, in-person, on weekends and during the summers. It is offered in part-time format in consideration of the demands of working professionals. In collaboration, the program director and students design individual programs of studies to better meet the students' needs. Fieldwork and internship placements can typically be secured in the students' area or nearby.

Successful completion of both Master's and graduate certificate programs prepares participants to apply for professional certification by Academy for Certification of Vision Rehabilitation and Educational Professionals (ACVREP) and state O&M certification where applicable.

Admissions

Applications for the Department of Blindness and Low Vision Studies masters and certificate programs are accepted through the GradCAS centralized application service each semester with the following deadlines:

- Fall Semester – July 31
- Spring Semester – November 30
- Summer Semester - April 15

Once accepted, students can register for courses in the term immediately following matriculation, depending on the student's course of studies.

Criteria

All applicants must have completed their undergraduate studies and must hold a Bachelor's degree, or its equivalent, from an accredited college or university in order to be admitted to a BLVS program.

The following application items are required for submission:

- **Submit** a completed application through GradCAS,
- **Application Fee:** A non-refundable fee of \$138.00 is required. Payment may be made through the GradCAS application portal.
- **Transcripts:** All applicants are responsible for having official transcripts for every college or university attended sent directly to GradCAS centralized application service, regardless of whether a degree has been received from that particular

institution or not. Please note, a transcript marked "issued to student" is not acceptable, even when delivered in a sealed envelope.

- **Letters of Reference:** Applications must include three letters of reference highlighting your academic and professional skills and addressing applicant qualities in relation to working in the field of blindness and low vision, education and/or rehabilitation. Please follow the directions for submitting letters of reference through the GradCAS application portal.
- **Statement of Purpose** (minimum 250 words): Applicants must submit a typewritten, double-spaced, two- to three-page personal statement through the GradCAS application portal explaining their purpose in undertaking graduate study in their program of interest. This is an opportunity to inform the Admissions Committee about the applicant's goals, interests, motivation, and background as they relate to their career plans and academic pursuits.
- **Job Résumé/Curriculum Vitae:** All applicants must submit an educational and job resume/curriculum vitae through the GradCAS application portal. This should include the applicant's education, work experience, publications, honors or achievements, and community /extracurricular activities to date.
- **License/Certificates:** Applicants may submit a copy of any certificate or license held as it pertains to their current profession through the GradCAS application portal. Applicants to the **Teacher of Students with Visual Impairments** who are currently certified teachers must upload a copy of a teaching certificate.
- **Background Clearances:** Applicants to Blindness and Low Vision Studies programs must complete Child Abuse History, State Police and Federal FBI clearances at the time of matriculation to the program. The Office of Student Affairs will contact the matriculated student with further instructions on submitting these requirements prior to enrollment.
- **National Test Scores (Optional):** National test scores (such as GRE or MAT) are not required to be considered for admission into the BLVS programs.
- **International Students:** Please review any additional requirements in the section below.

Prerequisite Skills

Due to the nature of the coursework for all of the degree

and certificate programs offered in BLVS, the following prerequisites skills apply:

- **Writing Skills:** Applicants are expected to demonstrate scholarly writing in their application essay, develop coherent and complete thoughts, and use correct grammar, and spelling.
- **Computer Skills & Technology Requirements:** The Blindness and Low Vision Studies programs require graduate students to have computer literacy skills upon entry into their respective programs. Most of the courses are online and require computer skills related to emailing, word processing, uploading and downloading files and assignments, conducting internet searches, and interacting online among others.
- Prior to entering the program, students who lack basic skills in using the computer should complete a basic computer course from a computer education service, a community college, or university.

International Students

International Transcripts

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English language Proficiency

Fluency in written and spoken English is essential for success in a Drexel University academic program as well as to help ensure patient/client/student safety and/or

effective communication with members of a healthcare or education team.

Official results from the TOEFL iBT, TOEFL Essentials, IELTS or Duolingo examination are required of all non-native English speakers. One of these approved exams must be taken within two years prior to the start date of the entering class to which an applicant seeks admission.

- If submitting TOEFL iBT scores, please use the GradCAS code of B886.
- If submitting an approved alternate English proficiency exam, please send official scores directly to the Office of Admissions.

While we recommend that applicants submit TOEFL iBT, TOEFL Essentials, IELTS or Duolingo, exceptions will be considered for foreign applicants who meet one of the following criteria*:

1. successfully completed a degree or diploma held from an accredited, post-secondary institution where the coursework was entirely in English, and provide evidence that it was conducted in English; or
2. successfully completed, and provide evidence of, an approved English language learner's program

*Note: All exemption materials and other appeals are reviewed on a case-by-case basis and subject to the admission committee's final discretion. Should any exceptions not be accepted toward the English language requirement, the Office of Admissions will inform the applicant of an alternative to fulfill it.

Admissions Selection Process

For more information regarding the admissions selection, interview and matriculation process, please refer to the program's website.

Non - Degree Seeking Students

Refer to the Non-degree Seeking Student section in the catalog.

Certificate

OM Certificate Core

BLV-5130	Low Vision Assessment & Intervention 1	3.0
BLV-5131	Low Vision Assessment & Intervention 2	2.0
Subtotal: 5.0		

OM Certificate Program

BLV-5007	Neurological Visual Impairments in Children	2.0
BLV-5104	Neurological Visual Impairment in Adults	1.0
BLV-5300	O&M Techniques	5.0
BLV-5330	Principles of O&M 1	2.0
BLV-5331	Principles of O&M 2	3.0
BLV-5332	Principles of O&M 3	3.0
BLV-6300	O&M Fieldwork	3.0
BLV-6301	O&M Internship	6.0

Subtotal: 25.0

Optional Independent Study

BLV-5390	O&M Independent Study	1.0 or 2.0
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Total Credit Hours: 30.0 - 32.0

Master of Science

MS OM Core

BLV-5000	Foundations of Education & Rehabilitation	2.0
BLV-5001	Clinical & Functional Implications of Visual Impairment	3.0
BLV-5002	Psychological & Social Implications of Visual Impairment	1.0
BLV-5004	Critical Analysis of Research	2.0
BLV-5130	Low Vision Assessment & Intervention 1	3.0
BLV-5131	Low Vision Assessment & Intervention 2	2.0
Subtotal: 13.0		

MS OM Program

BLV-5007	Neurological Visual Impairments in Children	2.0
BLV-5100	Introduction to Braille	0.5
BLV-5101	Introduction to Independent Living Skills	1.0
BLV-5104	Neurological Visual Impairment in Adults	1.0
BLV-5300	O&M Techniques	5.0
BLV-5330	Principles of O&M 1	2.0
BLV-5331	Principles of O&M 2	3.0
BLV-5332	Principles of O&M 3	3.0
BLV-6300	O&M Fieldwork	3.0
BLV-6301	O&M Internship	6.0
BLV-6390	O&M Comprehensive Examination	0

Subtotal: 26.5

Optional Independent Study

BLV-5390 O&M Independent Study 1.0 or
2.0**Subtotal: 0-2****Total Credit Hours: 39.5 - 41.5**

Blindness and Vision Impairment

Katherine Alstrin, EdD, TVI, COMS, TVI Program
Director

The University offers a Master of Education (M Ed) degree or a graduate certificate in Blindness and Visual Impairment. Either route prepares students for licensure as a Teacher of Students with Visual Impairments (TVI). This is an initial teaching certification. No background in education required.

Master of Education, Blindness and Visual Impairment Graduate Certificate Programs, Blindness and Visual Impairment

These competency-based programs offer coursework and practical experiences that develop the necessary knowledge and skills required for the education of infants, children and youth who are totally blind or visually impaired, including those with multiple disabilities.

The program director and the student jointly plan an individualized program of studies that can accommodate either full or part time status, and ensure appropriate course sequencing and integration. Programs of studies are modified for students with a background in special education in collaboration with the program director. Some courses have prerequisites which must be taken into account in planning the program of studies. Students may enroll during any semester. The internship (student teaching) is the last course which students complete after completing all didactic courses.

Students successfully completing the curriculum are prepared for initial teaching certification by the state credentialing body in Pennsylvania (PDE). No prior background in education is required. The master's degree program offers students the possibility of reciprocity of certification in other states. Coursework is delivered online during the fall and spring terms, and includes a summer residency requirement on-campus for two summers.

Program Mission

To develop and offer graduate education programs

preparing highly qualified professionals to support children with visual impairment, including multiple disabilities, by creating an interprofessional environment of educators committed to lifelong learning, critical thinking, and dedication to the individuals and communities they serve.

Requirements for Certification

Individuals entering the program must meet BLVS Admissions Requirements and the Pennsylvania Department of Education requirements for certification in Pennsylvania. These requirements depend upon whether the individual already holds a teaching certificate in another area, or wishes to earn their initial certificate.

In order to obtain a Pennsylvania certificate as a teacher of the visually impaired, the Commonwealth of Pennsylvania has established requirements (listed below) for teacher certification in visual impairment.

A candidate who does not hold a teaching certificate in the Commonwealth is considered an applicant for Initial Certification.

A candidate who already holds a teaching certificate is considered an applicant for Advanced Certification.

Candidates for both initial and advanced certification must have an undergraduate degree with a minimum GPA of 3.0.

Upon completion of the program, Pennsylvania requires that the applicant take the appropriate PRAXIS 2 examinations in Visual Impairments. These change from time to time and should be verified with the Educational Testing Service as to requirements in Pennsylvania at the time of completion of the program. Students who reside in another state must follow that state's requirements for licensure and certification.

Applicants to the Teacher of the Visually Impaired program must submit copies of current state and federal background clearances at the time of application to the program. A copy must also be submitted to the Drexel Protection of Minors department:
ProtectionofMinors@Drexel.edu

Admissions

Applications for the Department of Blindness and Low Vision Studies masters and certificate programs are accepted through the GradCAS centralized application service each semester with the following deadlines:

- Fall Semester – July 31
- Spring Semester – November 30
- Summer Semester - April 15

Once accepted, students can register for courses in the term immediately following matriculation, depending on the student's course of studies.

Criteria

All applicants must have completed their undergraduate studies and must hold a Bachelor's degree, or its equivalent, from an accredited college or university in order to be admitted to a BLVS program.

The following application items are required for submission:

- **Submit** a completed application through GradCAS
- **Application Fee:** A non-refundable fee of \$138.00 is required. Payment may be made through the GradCAS application portal.
- **Transcripts:** All applicants are responsible for having official transcripts for every college or university attended sent directly to GradCAS centralized application service, regardless of whether a degree has been received from that particular institution or not. Please note, a transcript marked "issued to student" is not acceptable, even when delivered in a sealed envelope.
- **Letters of Reference:** Applications must include three letters of reference highlighting your academic and professional skills and addressing applicant qualities in relation to working in the field of blindness and low vision, education and/or rehabilitation. Please follow the directions for submitting letters of reference through the GradCAS application portal.
- **Statement of Purpose** (minimum 250 words): Applicants must submit a typewritten, double-spaced, two- to three-page personal statement through the GradCAS application portal explaining their purpose in undertaking graduate study in their program of interest. This is an opportunity to inform the Admissions Committee about the applicant's goals, interests, motivation, and background as they relate to their career plans and academic pursuits.
- **Job Résumé/Curriculum Vitae:** All applicants must submit an educational and job resume/curriculum

vitae through the GradCAS application portal. This should include the applicant's education, work experience, publications, honors or achievements, and community /extracurricular activities to date.

- **License/Certificates:** Applicants may submit a copy of any certificate or license held as it pertains to their current profession through the GradCAS application portal. Applicants to the **Teacher of Students with Visual Impairments** who are currently certified teachers must upload a copy of a teaching certificate.
- **Background Clearances:** Applicants to Blindness and Low Vision Studies programs must complete Child Abuse History, State Police and Federal FBI clearances at the time of matriculation to the program. The Office of Student Affairs will contact the matriculated student with further instructions on submitting these requirements prior to enrollment.
- **National Test Scores (Optional):** National test scores (such as GRE or MAT) are not required to be considered for admission into the BLVS programs.
- **International Students:** Please review any additional requirements in the section below.

Prerequisite Skills

Due to the nature of the coursework for all of the degree and certificate programs offered in BLVS, the following prerequisites skills apply:

- **Writing Skills:** Applicants are expected to demonstrate scholarly writing in their application essay, develop coherent and complete thoughts, and use correct grammar, and spelling.
- **Computer Skills & Technology Requirements:** The Blindness and Low Vision Studies programs require graduate students to have computer literacy skills upon entry into their respective programs. Most of the courses are online and require computer skills related to emailing, word processing, uploading and downloading files and assignments, conducting internet searches, and interacting online among others.
- Prior to entering the program, students who lack basic skills in using the computer should complete a basic computer course from a computer education service, a community college, or university.

International Students

International Transcripts

For applicants who have attended foreign and French-Canadian schools, please provide the Office of Admissions with the following information:

A course-by-course credential review from a NACES recognized agency which evidences all post-secondary studies completed. Please consult the agency's web site for requirements to complete the evaluation.

- Recommended agencies include:
 - World Education Services
 - SpanTran
- An official credential evaluation (not a copy) must be sent from the evaluation service directly to the Office of Admissions.
- Applicants also have the option to submit their credential evaluation directly to GradCAS. If you choose this option, please view GradCAS foreign transcripts instructions for more details.

English language Proficiency

Fluency in written and spoken English is essential for success in a Drexel University academic program as well as to help ensure patient/client/student safety and/or effective communication with members of a healthcare or education team.

Official results from the TOEFL iBT, TOEFL Essentials, IELTS or Duolingo examination are required of all non-native English speakers. One of these approved exams must be taken within two years prior to the start date of the entering class to which an applicant seeks admission.

- If submitting TOEFL iBT scores, please use the GradCAS code of B886.
- If submitting an approved alternate English proficiency exam, please send official scores directly to the Office of Admissions.

While we recommend that applicants submit TOEFL iBT, TOEFL Essentials, IELTS or Duolingo, exceptions will be considered for foreign applicants who meet one of the following criteria*:

1. successfully completed a degree or diploma held from an accredited, post-secondary institution where the coursework was entirely in English, and provide evidence that it was conducted in English; or

2. successfully completed, and provide evidence of, an approved English language learner's program

*Note: All exemption materials and other appeals are reviewed on a case-by-case basis and subject to the admission committee's final discretion. Should any exceptions not be accepted toward the English language requirement, the Office of Admissions will inform the applicant of an alternative to fulfill it.

Admissions Selection Process

For more information regarding the admissions selection, interview and matriculation process, please refer to the program's website.

Non - Degree Seeking Students

Refer to the Non-degree Seeking Student section in the catalog.

TVI Program-Plan of Studies

BVI - TVI Core

BLV-5000	Foundations of Education & Rehabilitation	2.0
BLV-5001	Clinical & Functional Implications of Visual Impairment	3.0
BLV-5002	Psychological & Social Implications of Visual Impairment	1.0
BLV-5004	Critical Analysis of Research	2.0
BLV-5130	Low Vision Assessment & Intervention 1	3.0
BLV-5131	Low Vision Assessment & Intervention 2	2.0

Subtotal: 13.0

BVI - TVI Program

BLV-5007	Neurological Visual Impairments in Children	2.0
BLV-5101	Introduction to Independent Living Skills	1.0
BLV-5102	Introduction to Orientation and Mobility	1.0
BLV-5103	Introduction to Assistive Technology	3.0
BLV-5105	Literary Braille Code	3.0
BLV-5106	Braille Literacy	0.5
BLV-5400	Expanding the Core Curriculum	3.0
BLV-5401	Teaching Students with Multiple Disabilities	2.0

BLV-5402	Numeracy & Science	2.0
BLV-5403	Literacy for Students with Visual Impairment	3.0
BLV-5404	Educating Emergent Bilinguals	1.5
BLV-5430	Principles of Teaching Students with Visual Impairment 1	1.0
BLV-5431	Principles of Teaching Students with Visual Impairment 2	2.0
BLV-6400	TVI Fieldwork	1.0
BLV-6401	TVI Internship	6.0
BLV-6490	TVI Comprehensive Examination	0
Subtotal:		32.0

Optional Independent Study		
BLV-5490	TVI Independent Study	1.0 or 2.0
Subtotal:		0-2

Total Credit Hours: 45 (*or fewer)

Master of Education BVI/TVI = 45 Credits

***Certificate TVI – exempt from Critical Analysis of Research and Comps Exam. = 43 credits**

***With Special Education background, applicants might be exempt from certain classes following transcript review by the Program Director.**

Vision Rehabilitation Therapy

Lachelle Smith, MS, CVRT, VRT Program Director

The University offers a Master of Science (MS) degree and a graduate certificate program in Vision Rehabilitation Therapy (VRT)

These programs prepare professionals to provide comprehensive vision rehabilitation therapy services (adaptive activities of daily living/independent living skills) to blind or visually impaired adults/older adults in a variety of settings, including public schools, residential schools for students with visual impairments, rehabilitation agencies, low vision clinics, and Veteran Administration Medical Centers, among others. There are excellent employment opportunities in the field of VRT due to a national shortage of these professionals.

While students can apply to these programs with any undergraduate major, the programs are often attractive to those with expertise in related fields (e.g., occupational

therapy, social work, gerontology, rehabilitation, special education in visual impairment, O&M, among others)

Both the Master of Science degree and graduate certificate programs in Vision Rehabilitation Therapy require didactic coursework in addition to supervisory field practice and an off-campus internship.

Programs can be taken on a full or part-time VRT basis and are hybrid, with fall and spring semesters online, and on-campus attendance required during a single, intensive, Summer Institute (8-10 weeks) for all methodology and hands-on coursework.

All didactic coursework must be completed prior to entry into the off-campus internship.

Successful completion of both Master's and graduate certificate programs prepares participants to apply for professional certification by Academy for Certification of Vision Rehabilitation and Educational Professionals (ACVREP).

Admissions

Applications for the Department of Blindness and Low Vision Studies masters and certificate programs are accepted through the GradCAS centralized application service each semester with the following deadlines:

- Fall Semester – July 31
- Spring Semester – November 30
- Summer Semester - April 15

Once accepted, students can register for courses in the term immediately following matriculation, depending on the student's course of studies.

Criteria

All applicants must have completed their undergraduate studies and must hold a Bachelor's degree, or its equivalent, from an accredited college or university in order to be admitted to a program of studies in a BLVS program.

The following application items are required for submission:

- **Submit** a completed application through GradCAS,
- **Application Fee:** A non-refundable fee of \$138.00 is required. Payment may be made through the GradCAS application portal.

- **Transcripts:** All applicants are responsible for having official transcripts for every college or university attended sent directly to GradCAS centralized application service, regardless of whether a degree has been received from that particular institution or not. Please note, a transcript marked "issued to student" is not acceptable, even when delivered in a sealed envelope.
- **Letters of Reference:** Applications must include three letters of reference highlighting your academic and professional skills and addressing applicant qualities in relation to working in the field of blindness and low vision, education and/or rehabilitation. Please follow the directions for submitting letters of reference through the GradCAS application portal.
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- **National Test Scores (Optional):** National test scores (such as GRE or MAT) are not required to be considered for admission into the BLVS programs.

- **International Students:** Please review any additional requirements in the section below.

Prerequisite Skills

Due to the nature of the coursework for all of the degree and certificate programs offered in BLVS, the following prerequisites skills apply:

- **Writing Skills:** Applicants are expected to demonstrate scholarly writing in their application essay, develop coherent and complete thoughts, and use correct grammar, and spelling.
- **Computer Skills & Technology Requirements:** The Blindness and Low Vision Studies programs require graduate students to have computer literacy skills upon entry into their respective programs. Most of the courses are online and require computer skills related to emailing, word processing, uploading and downloading files and assignments, conducting internet searches, and interacting online among others.
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International Students

International Transcripts

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*Note: All exemption materials and other appeals are reviewed on a case-by-case basis and subject to the admission committee's final discretion. Should any exceptions not be accepted toward the English language requirement, the Office of Admissions will inform the applicant of an alternative to fulfill it.

Admissions Selection Process

For more information regarding the admissions selection, interview and matriculation process, please refer to the Drexel website.

Non - Degree Seeking Students

Refer to the Non-degree Seeking Student section in the catalog.

Certificate

VRT Certificate Core

BLV-5000	Foundations of Education &	2.0
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BLV-5001	Rehabilitation Clinical & Functional Implications of Visual Impairment	3.0
BLV-5002	Psychological & Social Implications of Visual Impairment	1.0
BLV-5130	Low Vision Assessment & Intervention 1	3.0
BLV-5131	Low Vision Assessment & Intervention 2	2.0

Subtotal: 11.0

VRT Certificate Program

BLV-5102	Introduction to Orientation and Mobility	1.0
BLV-5103	Introduction to Assistive Technology	3.0
BLV-5104	Neurological Visual Impairment in Adults	1.0
BLV-5105	Literary Braille Code	3.0
BLV-5106	Braille Literacy	0.5
BLV-5107	Visual Impairments and Multiple Disabilities	2.0
BLV-5500	Principles of Vision Rehabilitation Therapy	3.0
BLV-5502	Independent Living Skills for Vision Rehabilitation Therapists	4.0
BLV-5503	Literacy for Adults with Visual Impairment	2.0
BLV-5504	Communication Skills for Vision Rehabilitation Therapists	1.0
BLV-6501	VRT Internship	6.0

Subtotal: 26.5

Optional Independent Study

BLV-5590	VRT Independent Study	1.0 or 2.0
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Subtotal: 0-2

Total Credit Hours: 37.5 - 39.5

Certificate with BVI Background

VRT Certificate Core

BLV-5000	Foundations of Education & Rehabilitation	2.0
BLV-5001	Clinical & Functional Implications of Visual Impairment	3.0

BLV-5002	Psychological & Social Implications of Visual Impairment	1.0	Intervention 2		
				Subtotal: 13.0	
BLV-5130	Low Vision Assessment & Intervention 1	3.0	MS VRT Program		
BLV-5131	Low Vision Assessment & Intervention 2	2.0	BLV-5102	Introduction to Orientation and Mobility	1.0
	Subtotal: 11.0		BLV-5103	Introduction to Assistive Technology	3.0
VRT Certificate Program			BLV-5104	Neurological Visual Impairment in Adults	1.0
BLV-5102	Introduction to Orientation and Mobility	1.0	BLV-5105	Literary Braille Code	3.0
BLV-5103	Introduction to Assistive Technology	3.0	BLV-5106	Braille Literacy	0.5
BLV-5104	Neurological Visual Impairment in Adults	1.0	BLV-5107	Visual Impairments and Multiple Disabilities	2.0
BLV-5107	Visual Impairments and Multiple Disabilities	2.0	BLV-5500	Principles of Vision Rehabilitation Therapy	3.0
BLV-5500	Principles of Vision Rehabilitation Therapy	3.0	BLV-5502	Independent Living Skills for Vision Rehabilitation Therapists	4.0
BLV-5502	Independent Living Skills for Vision Rehabilitation Therapists	4.0	BLV-5503	Literacy for Adults with Visual Impairment	2.0
BLV-5503	Literacy for Adults with Visual Impairment	2.0	BLV-5504	Communication Skills for Vision Rehabilitation Therapists	1.0
BLV-5504	Communication Skills for Vision Rehabilitation Therapists	1.0	BLV-6500	VRT Fieldwork	2.0
BLV-6501	VRT Internship	6.0	BLV-6501	VRT Internship	6.0
	Subtotal: 23.0		BLV-6590	VRT Comprehensive Examination	0
Optional Independent Study				Subtotal: 28.5	
BLV-5590	VRT Independent Study	1.0 or 2.0	Optional Independent Study		
			BLV-5590	VRT Independent Study	1.0 or 2.0
	Subtotal: 0-2			Subtotal: 0-2	

Total Credit Hours: 34.0 - 36.0

Total Credit Hours: 41.5 - 43.5

Master of Science

MS VRT Core

BLV-5000	Foundations of Education & Rehabilitation	2.0
BLV-5001	Clinical & Functional Implications of Visual Impairment	3.0
BLV-5002	Psychological & Social Implications of Visual Impairment	1.0
BLV-5004	Critical Analysis of Research	2.0
BLV-5130	Low Vision Assessment & Intervention 1	3.0
BLV-5131	Low Vision Assessment &	2.0

Faculty at Drexel University - Elkins Park Campus

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Yan, Michelle, OD
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Courses

AUB-Audiology-Bridge

AUB 7001 - Cochlear Implants and Other Implantable Devices (1.5)

This course is designed to provide students with a clear understanding of the scientific principles and a review of advances in technology of cochlear implants (CI) and other implantable devices including the bone-anchored hearing aid (BAHA), active middle ear implants (AMEI) and auditory brainstem implant (ABI). This course will review history of cochlear implants, regulatory role of cochlear implants and other implantable devices and overview of components and function of these devices. Students will learn basics of electrical stimulation and signal processing strategies used in implantable devices, behavioral and objective assessment techniques, candidacy criteria and factors affecting outcomes, measurement tools for children and adults.

AUB 7002 - Advanced Auditory Biology 1: Peripheral & Central Auditory Mechanisms (1.5)

This course provides a detailed description of the structure and function of the auditory system. The course covers basic mechanics and physiology of auditory detection and transduction at the level of the cochlea, as well as important aspects of central auditory processing.

AUB 7004 - Sound Transmission into the Cochlea (1.5)

This course examines sound transmission in normal and abnormal ears. This includes sound transmission from the sound field to the entrance of the ear, transmission through the ear canal, conversion of the acoustic signal to mechanical vibrations at the eardrum, transmission of these vibrations through the middle ear to the cochlea and processing of these signals by the cochlea. The effect of hearing loss at each of these stages will be discussed. Concepts such as reflectance, admittance, group delay and resonance will be explained in terms relevant to audiology. After successful completion of this course, the student will have acquired a working knowledge of sound transmission from the sound field to the cochlea and the effects of hearing loss at each stage of the sound transmission path.

AUB 7005 - Evidence-based Audiology: Research to Practice (1.5)

Evidence-based practice is the use of current best evidence in making decisions about individual patients. It involves

formulating a question, searching for information, appraisal of the literature, implementation and subsequent audit. This course is designed to provide students with the knowledge of evidence-based audiology, its principles, and how it is used in everyday clinical decision making in Audiology.

AUB 7006 - Pediatric Audiology: Current Trends in Behavioral Assessment (1.5)

This course reviews the fundamental principles in behavioral audiometric assessment of young children and patients with developmental delay/cognitive impairment. The cross-check principle, incorporating aspects of objective test measures with results of behavioral testing, will be used to help students develop clinical decision-making skills for pediatric patients with hearing loss. Clinical case examples will be provided as a tool to illustrate clinical practices. After successful completion of this course, the student should acquire a working knowledge that will facilitate the successful behavioral evaluation of hearing in children.

AUB 7007 - Genetics and Hearing Loss (1.5)

Students will study the basic concepts of genetics and its relation to hearing loss. They also will learn about the hereditary syndromes and birth defects associated with hearing impairments. Additionally, they will gain knowledge about audiologic counseling and interpretation of genetic data.

AUB 7008 - Topics in Pediatric Hearing (1.5)

This course is designed to provide students with an understanding of contemporary, evidence-based practice for the fitting of hearing aids for the pediatric population. After successful completion of this course, students should be able to use the skills/knowledge developed throughout this course to provide hearing aid services (entry-level competence) to children with hearing loss and their families.

AUB 7009 - Auditory Processing Disorders: Behavioral Issues (1.5)

The general objective of this course is to provide students with an understanding of diagnostic procedures and management strategies for auditory processing disorders (APD). The emphasis will be on the neurobiological basis of APD, differential diagnosis, and management. After successful completion of this course, students should be able to use their skills and knowledge to develop auditory

processing services to children and adults.

AUB 7010 - Early Hearing Detection in Infants (EHDI) (1.5)

The course will address issues relating to risk factors for hearing loss, infant hearing screening protocols and construction of a program for Early Hearing Detection in Infants.

AUB 7011 - Otoacoustic Emissions (1.5)

This course will discuss the fundamentals of Otoacoustic Emissions (OAEs) generation, recording and interpretation. The course will address the following specific topics: cochlear physiology, types of OAEs, OAE in clinical populations, recording techniques, interpretation, and inclusion in clinical protocols. Clinical cases will be provided to illustrate the role of OAE in hearing loss diagnosis. After successful completion of this course, the student should acquire a working knowledge to properly use and successfully interpret OAEs in clinical populations.

AUB 7012 - Auditory Evoked Potentials in Pediatric & Adult ABR (1.5)

This course will focus on advances in the application of electrophysiological techniques in the measurement of auditory function. Recent advances in the assessment of hearing using auditory evoked responses across all age ranges and various evoked potential measures will be discussed. After successful completion of this course, students will have learned both basic and applied techniques in the measurement and interpretation of the neurophysiological and electrophysiological methods that are currently used to assess auditory function in adults and children.

AUB 7013 - Advanced Electrophysiology (1.5)

The general objective of this course is to provide students with an understanding of the electrophysiological basis for auditory processing disorders (APD). The emphasis will be on neurobiological, neurological, and neuro-maturational correlates to Auditory Processing Disorders.

AUB 7014 - Medical Audiology (1.5)

This course will systematically review etiologies, diseases, and disorders that can cause hearing loss. Practical information will be provided about evaluation (differential diagnostics) and appropriate referral and management.

AUB 7015 - Counseling in Audiology (1.5)

This course will describe the basics of patient- and family-

centered care and an introductory set of counseling skills, including counseling with cultural humility. Long-term success in audiologic care depends on building positive and supportive patient relationships. Health literacy and patient education will also be discussed. Research supporting counseling as an evidence-based practice will be fully explored.

AUB 7102 - Advanced Auditory Biology 2: Vestibular & Balance System (1.5)

This course provides a detailed description of the structure and function of the vestibular system. The course will cover basic mechanics and physiology of angular and linear motion detection and transduction at the level of the peripheral vestibular system as well as important central vestibular pathways. The course will cover details of normal vestibular function as well as pathophysiology. The course will include consideration of the early development of the peripheral and central vestibular reflexes, as well as age related adaptation mechanisms. These concepts will be linked to issues relating to various vestibular pathologies. In general, the basic science concepts will be related to clinical issues in the evaluation of the vestibular system, as a way of providing insight into underlying deficiencies, and thus providing insight into improved diagnosis and treatment.

AUB 7103 - Intraoperative Neurophysiologic Monitoring (1.5)

This course will provide an overview of principles and applications of neurophysiologic intraoperative monitoring (IOM) for audiologists. Following a general overview of objectives and goals of IOM, and a review of pertinent evoked potentials and electromyography, lectures will focus on general principles of IOM. Discussions will include case examples involving multiple cranial nerve monitoring, with practical recommendations of how to optimize the acquisition of electrophysiologic data in an electrically hostile environment – the operating room.

AUB 7104 - Assessment & Rehabilitation of Vestibular & Balance System (1.5)

The purpose of this course is to gain knowledge regarding vestibular and balance assessment techniques and treatment options for a variety of vestibular and balance disorders.

AUB 7105 - Tinnitus and Hyperacusis (1.5)

This course will address tinnitus and hyperacusis, including psychological and physiological models, symptoms, diagnostic methods and treatment options. This course will facilitate the ability to offer tinnitus and

hyperacusis management in a clinical practice.

AUB 7106 - Amplification 1: Signal Processing Strategies in Digital Hearing Aids (1.5)

This course will discuss several signal processing strategies commonly used in modern hearing aids. The specific topics to be addressed include: compression/expansion, directionality, noise reduction, feedback cancellation, frequency translation, and wireless technology. Within each topic, students will learn the fundamental principles underlying the strategy, various approaches to obtaining a common objective, benefits and weaknesses of the technology, and methods for assessing efficacy and effectiveness. The course will involve lectures, problem-solving cases (with discussion), and literature review. After successful completion, students should feel comfortable in prescribing, fitting, evaluating and troubleshooting the signal processing strategies covered in this course.

AUB 7107 - Amplification 2: Assessment, Selection & Outcome Measures in Hearing Aid Fittings (1.5)

This course will focus on all aspects of the selection and fitting of amplification. Candidacy, pre-fitting measures, real-ear measures, speech testing, and outcome measures will be addressed. Particular focus will be placed on matching patient characteristics and needs with appropriate technology. Best practice guidelines will be reviewed. After completion of this course, students should be able to identify patient specific characteristics that are critical in the fitting process, efficiently identify solutions, and conduct verification and outcome measures to ensure that maximal benefit is obtained by the patient.

AUB 7108 - Psychoacoustics & Audiological Correlates (1.5)

This course will discuss behavioral measures of auditory function and how they may be affected by hearing impairments. It will address methodology, indices of spectral, temporal and binaural processing, and how these processes relate to the perception of complex stimuli. After successful completion of this course, the student should acquire a working knowledge of the supra-threshold auditory processes that impact hearing function in normal hearing listeners and those with hearing impairments.

AUB 7109 - Cognition, Speech Perception, & Sensorineural Hearing Loss: Implications of Amplification (1.5)

This course will examine the nature of how we understand speech, especially in complex, challenging listening environments. We will draw from the field of ecological

acoustics and Gestalt psychology. We will look at the effects of sensori-neural hearing loss (SNHL) from the perspective of how it disrupts the normal organizational processes involved in speech understanding. In addition, we will examine the effects of normal aging on cognitive function, with an eye towards the combined effects of SNHL and cognitive changes. Hearing aid technologies will be reviewed within the context of how they can support normal cognitive organizational processes. Finally, the role of non-technology rehabilitation will be studied.

AUB 7110 - Aural Rehabilitation (1.5)

This course focuses on advances in audiologic rehabilitation as they relate to children and adults with hearing loss. We will explore the role of aural rehabilitation in audiologic practice and consider the effect that psychosocial and cultural factors have on the patients with whom we work. Current rehabilitation strategies and techniques used for children and adults will be discussed along with outcome measures that are available to help audiologists assess their patients' success and function. Advances in hearing assistance technology will be reviewed and discussed with regard to incorporating such technology into audiologic practice.

AUB 7111 - School-Based Audiology (1.5)

This course will discuss the unique aspects of audiology that apply to school-based audiology services. Topics include demographic and educational characteristics of children with hearing loss, management of hearing identification and hearing loss prevention programs, classroom listening and assessment beyond the sound booth, classroom acoustics, hearing assistive technology, current issues in deaf education, regulations and case law, IFSP/IEP/504 Plans, self-advocacy and transition from school to work, and school program management considerations. A problem-based learning approach will be used to illustrate issues and to develop potential solutions. After successful completion of this course, the student should acquire a working knowledge that will facilitate the successful implementation of a school-based audiology program.

AUB 7112 - Pharmacology and Ototoxicity (1.5)

This course will provide a survey of the general principles of pharmacology and the application of these principles to patient care situations. Evidence-based practice is woven through the above areas where available and appropriate. This course will cover an introduction to pharmacology and receptors, pharmacokinetic and pharmacodynamics basic principles, processes of drug development and a description of governing bodies for pharmaceutical agents.

The course will also include information on the mechanisms of action behind known/suspected ototoxic agents.

AUB 7113 - Green Audiology: Hearing Loss Prevention and Preservation (1.5)

This course will address the hazards of noise and risks from noise exposure on hearing in all age groups. Students will learn noise measurement techniques, screening programs to identify and prevent noise-induced hearing loss, noise abatement strategies in workplace as well as in various social spaces and regulatory requirements relating to occupational hearing loss.

AUB 7114 - Global Audiology Care & Tele-Audiology (1.5)

The goal of this course is to provide international students with a clear understanding of the delivery of audiology services via tele-health, now referred to as “tele-audiology”. The course begins with a discussion of tele-health in general. This is followed with a description of teleaudiology principles, terminology, and service delivery models including asynchronous (store and-forward) and synchronous (online or real time) paradigms. The substantial literature on teleaudiology is reviewed with an emphasis on validation studies for a wide range of hearing health care services ranging from identification and diagnosis of hearing loss and related disorders (e.g., tinnitus and vestibular/balance disorders) to rehabilitation services. Much of the course includes practical information about how to apply tele-audiology in clinical practice, including equipment and personnel requirements, billing issues, as well as current options for “low” or “no touch” options for remote delivery of audiological care. The final portion of the course focuses on global audiology issues, among them the burden of hearing loss in the world, inadequacy of audiology resources world-wide, and sustainable solutions to hearing health care delivery in developing countries, such as social entrepreneurship.

AUB 7115 - Public Health & Audiology (1.5)

AUB 7130 - Advanced Seminars in Audiology 1 (1.5)

This course will systematically review three timely and important topics in clinical audiology today. The first topic, ethics in audiology, will be reviewed comprehensively with practical information and guidelines on ethical behavior in clinical practice, precepting, teaching, publishing, and research. Students will then be introduced to the critical role of co-morbid conditions in hearing loss and related disorders (e.g., auditory processing disorders, tinnitus and vestibular dysfunction). Finally, students will

receive instruction in business practices that includes an international perspective on management, marketing, differentiation, and sustainability of audiology services in competitive business settings.

AUB 7131 - Advanced Seminars in Audiology 2 (1.5)

This course will systematically review four timely and important topics in audiology and hearing science. The first topic, intraoperative monitoring, will be reviewed comprehensively with practical information and guidelines on clinical practice and certification. Second, students will be introduced to the current status of hearing restoration through hair cell regeneration. In order to stay current, it is imperative that students learn how to identify well-executed published research, and how the research is supported. To achieve these goals, the third topic will have students reviewing scientific journal articles and partake in a mock editorial process. Fourth, students will become familiar with the various funding resources to carry out research and create a sample research proposal.

AUB 8000 - Workshop: Electrophysiology in Audiology (1.5)

This four-day workshop will address the theoretical concepts of electrophysiological testing in audiology and provide training in the advanced assessment techniques to include otoacoustic emissions (OAE), middle latency response (MLR) and 40 Hz responses, late potentials including N1-P2, P300 and MMN, cognitive evoked potentials in speech and language disorders and electrocochleography (ECochG).

AUB 8001 - Workshop: Auditory Processing Disorders (1.5)

This four-day workshop will combine didactic and hands-on training on the foundations of neuroscience of auditory processing and auditory processing disorders (APD), auditory plasticity and relevance to auditory processing, digital dissection of central auditory nervous system (CANS), keys to assessment and practical implications in the management of children with APD.

AUB 8100 - Workshop: Hearing Aid Technologies (1.5)

This four-day workshop is designed to provide audiologists a didactic and hands-on experience in contemporary hearing aid techniques in the selection, verification and validation of hearing aid fitting as well as practical considerations relating to BAHA. Technological advances in hearing aids will be addressed with specific emphasis on evidence-based techniques.

AUB 8101 - Workshop: Vestibular & Balance Disorders:

This four-day workshop is designed to provide audiologists a didactic and hands-on immersion experience in the assessment, diagnosis and management of all different types of vestibular and balance disorders.

AUB 8102 - Workshop: Diagnosis and Management of the External Ear (1.5)

This four-day workshop will address the properties of sound transmission to the tympanic membrane and its relevance to hearing aid fitting, ear canal management techniques, medical issues relating to the outer ear canal and the audiologists role and scope of practice with respect to ear canal management. The course will culminate in a one-day hands-on workshop in cerumen management.

AUB 8103 - Workshop: Hearing Conservation (1.5)

This four-day workshop is designed to provide audiologists with practical tools and techniques to measure noise and review various hearing protection devices. Audiologists will be guided on best practices in hearing conservation and training will be provided towards becoming an Occupational Hearing Conservationist.

AUB 8104 - Workshop: Cochlear Implants and other Implantable Devices (1.5)

This workshop is designed to enhance audiologists experience with lectures and hands-on training covering cochlear implants and other implantable devices.

AUB 8105 - Workshop: Tinnitus & Hyperacusis**AUD-Audiology-4-year****AUD 7132 - Cell and Molecular Processes (1.5)**

This course introduces the students to a number of fundamental mechanisms that govern cellular metabolism, basic histological characteristics of the four tissue types of the human body and basic physiological properties common to all cell types. These sections also include some limited examples of regulatory breakdown or pathology and clinical correlates. The goal is to provide the student with sufficient understanding of normal cellular and tissue organization and function to facilitate the recognition and understanding of the mechanisms that underlie both normal and disease processes covered in subsequent courses.

AUD 7201 - Pharmacology (2)

Basic concepts and terminology of pharmacology will be explored, including pharmacokinetics, pharmacodynamics

and ototoxic drugs. Medications that may contribute to or treat audiologic and vestibular diagnoses will be discussed. Legislation and regulatory issues related to drug clinical trials and the Food and Drug Administration (FDA) will be reviewed.

AUD 7232 - Systemic Organ Biology (2.5)

This course concentrates on the integration of the anatomy, histology, physiology and pathology to understand the basic function and pathology of specific organ systems, including the cardiovascular, pulmonary, urinary, gastrointestinal and endocrine.

AUD 7330 - Auditory Biology 1 (1.5)

This course provides a comprehensive introduction to the anatomy and physiology of the normal auditory system, including the auditory periphery (outer, middle, and inner ears), auditory nerve and brainstem, and auditory thalamus and cortex. The broad goal is to understand “how hearing happens”, and the structures involved in the process.

AUD 7331 - Auditory Biology 2 (1)

Building on Auditory Biology 1, this course covers the pathophysiology of the auditory system, from the auditory periphery (outer, middle and inner ears) to the central auditory system. In other words, it is a course about hearing loss and its associated problems (e.g., tinnitus and hyperacusis), and includes an introduction to hearing conservation (i.e. hearing loss prevention) and to treating hearing loss (e.g., with hearing aids and cochlear implants).

AUD 7400 - Head and Neck Anatomy (2)

The study of structures is used to discuss functional human gross anatomy of the head and neck. This course emphasizes anatomical relationships that support clinical application, including imaging and the relationship of the head and neck to organ systems.

AUD 7401 - Neurosciences (2)

The course deals with the structure and function of the nervous system. This is applied to the understanding of neuropathology later in the course. The course forms the foundation for understanding the impact of neurological disease on the auditory and vestibular system.

AUD 7501 - Cerumen Management (0.5)

In-depth anatomy and physiology of the external auditory meatus and tympanic membrane. Instruments, equipment and techniques used for effective removal of cerumen and prevention and treatment of complications that may arise

in specific populations. Related professional topics such as infection control, reimbursement, and professional liability.

AUD 7503 - Speech & Language Development & Disorders (2)

Normal speech and language development will be addressed with speech-language disorders commonly found in children with hearing loss. The collaborative roles of the audiologist and the speech-language pathologist in the evaluation and treatment of speech-language disorders are overviewed.

AUD 7505 - Auditory Processing Disorders (2)

Diagnosis, evaluation and treatment of auditory processing disorders. Emphasis is placed on auditory neuroanatomy, neurophysiology and neuroplasticity. Students will obtain experience in administering and interpreting auditory processing tests and developing management plans.

AUD 7514 - Hearing Conservation & Industrial Audiology (2)

Introduction to the basic principles of sound and its measurement, including Damage Risk Criteria and its application to noise-induced hearing loss will be addressed, as well as components of hearing conservation programs in a variety of settings and evaluation of their effectiveness in the prevention of hearing loss.

AUD 7515 - Management of Tinnitus and Hyperacusis (1)

Theories related to the etiologies of tinnitus and hyperacusis. Practices of the evaluation and treatment of tinnitus and hyperacusis, including sound therapies, counseling, and the potential for future pharmacological treatments.

AUD 7517 - Instrumentation (1)

An introduction to the technology and instrumentation used in the assessment of hearing, with both lecture and lab components. Covered topics include electricity, analog and digital electronics, transducers (microphones/ loudspeakers), sound stimuli, audiometers and audiometric test enclosures and tympanometers.

AUD 7518 - Calibration (0.5)

Reliable hearing assessment depends on the accurate specification and delivery of sound stimuli. This requires at least annual equipment calibration to standards set forth by the American National Standards Institute (ANSI). We

will learn about and use precision sound level meters to calibrate audiometers during lab exercises, and discuss the calibration of other audiometric instruments.

AUD 7520 - Otoacoustic Emissions (0.5)

A comprehensive look at the theoretical basis and clinical utility of spontaneous, transient-evoked, and distortion-product otoacoustic emissions (OAE's), including a laboratory component for measuring and analyzing these important, non-invasive windows into outer hair cell and middle ear function.

AUD 7523 - Medical Co-Management of Auditory Diseases (1)

Focuses on the diagnosis and follow-up of medically related disorders of hearing, includes genetic syndromes, infectious diseases and chronic disorders. This course will be team taught by an otologist and an audiologist.

AUD 7524 - Acoustics and Acoustic Phonetics (3)

Information is covered on the principles of sound, its measurement and the acoustic parameters of sound and perception of speech.

AUD 7525 - Psychoacoustics (3.0)

Physical and psychological attributes related to sound in normal hearing and impaired ears. Classical psychophysical methods discussed, with an emphasis on their application to audiological testing.

AUD 7530 - Audiometric Principles 1 (1)

Evaluation of the auditory mechanisms from otoscopy through theories of comprehensive audiometric testing leading up to sites-of-lesion.

AUD 7531 - Audiometric Principles 2 (1)

This course is a continuation of the audiometric principles course sequence. Evaluation of the auditory mechanism including theory for site of lesion testing necessary to determine differential diagnosis of auditory pathologies.

AUD 7540 - Vestibular and Balance Evaluation 1 (2)

Anatomy and physiology of the vestibular mechanism, with emphasis on the disorders that can influence the balance system. Experience in determining which diagnostic tools may be appropriate for patients with balance disorders. Conduct and interpret the basic case history, bedside evaluations, and ENG/VNG test battery.

AUD 7541 - Vestibular and Balance Evaluation 2 (2.5)

Advanced diagnostic vestibular techniques and functional

balance assessment with emphasis on rotational chair, evoked potentials, and computerized dynamic posturography. Integration and synthesis of various tests as well as case studies to further clinical knowledge.

AUD 7542 - Vestibular Rehabilitation (1)

Identification and administration of selected treatment options for a variety of vestibular disorders including canolith repositioning techniques and principles in vestibular compensation.

AUD 7552 - Hearing Technologies 1 (2)

Emphasis in HT1 is on the elements of prescription and fitting of auditory-assistance technologies. Topics include hearing aid components, hearing aid systems, device-to ear coupling systems, measurements of hearing aids in the test box, digital signal processing algorithms, amplification prescriptions, measurements of hearing aids in the real ear, hearing assistive technology systems, and the utilization of combined technologies in a holistic approach to meet patient needs.

AUD 7553 - Hearing Technologies 2 (0.5)

Hearing Technologies 2 (HT2) concentrates on the human factors in the audiological intervention process for persons with hearing loss and covers the American Academy of Audiology (AAA) Guidelines for the Audiologic Management of Adult Hearing Impairment, including (2) Assessment and Goal Setting, (4) Orientation, Counseling, and Follow-up, and (5) Assessing Outcomes.

AUD 7554 - Hearing Technologies 3 (2.5)

The HT3 course has multiple components. First, there is an emphasis on the practical applications of hearing instrument theory to include guest lecture presentations from the global hearing instrument manufacturers covering their respective product portfolios (hardware), wireless communications (smartphone and accessories), and programming systems (software). Second, there is an introduction to nonprescription, over-the-counter hearing aids. Third, there is an overview of implantable amplification technologies. Fourth, there is an overview of public health initiatives that are underway which will have an impact on the future practice of audiology. Fifth, there is a summary of the impact of selected clinical procedures on patient outcomes.

AUD 7555 - Cochlear and Brain Stem Implants (2.5)

Covers a variety of auditory prosthetic devices with emphasis on cochlear implant technology. History, pediatric and adult candidacy, signal processing strategies

and fitting protocols will be explored in detail.

AUD 7562 - Auditory Evoked Responses 1 (1)

This course focuses on the ‘early’ auditory evoked responses (AERs), generated by the cochlea (cochlear microphonic, summing potential, compound action potential) and the auditory brainstem (ABR). Technical aspects of the recordings and their clinical applications are stressed in equal measure.

AUD 7563 - Auditory Evoked Responses 2 (1.5)

Further study of electrodiagnostic testing including, but not limited to, Auditory Steady-State Response (ASSR), Cochlear Hydrops Analysis Masking Procedure (CHAMP), Vestibular Evoked Myogenic Potential (VEMP) and suppression Otoacoustic Emissions (OAE).

AUD 7565 - Inter-Operative Neuro Monitoring (1)

Application of neurophysiological testing in the intraoperative setting. Includes measurement of somatosensory evoked potentials, motor evoked potentials, brainstem auditory evoked potentials, electromyography and electroencephalography.

AUD 7570 - Pediatric Audiologic Assessment (1.5)

This course will help students understand the development of the human auditory system, genetic causes of hearing loss, universal newborn hearing screening, early hearing detection and identification programs, components of a pediatric case history, behavioral and physiological assessment.

AUD 7571 - Pediatric Intervention & Management (1.5)

This course will help prepare students to address the unique audiological needs of children with hearing impairment. The focus of the course is the support of children with hearing impairment and their families-from diagnosis through intervention, including amplification, assistive listening devices, supporting development and transitioning into educational programs. Topics will include hearing aids, remote microphone technology, assistive listening devices, supporting development and transitioning into educational programs.

AUD 7572 - Educational Audiology (1)

This course will help students understand the educational audiologist’s role within the school setting, classroom acoustics, effects of hearing loss on development and learning, hearing conservation and legal foundations of educational audiology.

AUD 7580 - Patient Centered Clinical Interviewing (1)

Issues related to the professional relationship between doctors of audiology and patients in the clinical practice of audiology, with emphasis on the development of a humanistic approach to patient care. Effective communication skills addressed, especially as related to case-history taking and counseling.

AUD 7581 - Psychosocial Aspects of Hearing Impaired (0.5)

Psychosocial aspects of hearing loss will be addressed. Untreated hearing loss can lead to psychological and social difficulties. Successful treatment for hearing loss can lead to a reduction in the psychosocial impact and improvement in quality of life. The differences in effects of hearing loss and hearing loss treatment for individuals on psychological and social problems will be covered.

AUD 7582 - Auditory Rehabilitation (1)

Outcome measurements used to assess the effectiveness of adult audiologic rehabilitation programs will be addressed. Case study approach will be used to develop, implement and evaluate adult audiologic rehabilitation programs.

AUD 7583 - Aging and Management of Geriatric Patient (1)

Bio-psychosocial model of aging addresses the impact of aging on the auditory mechanism. Specific modifications that should be made when providing hearing and balance services to older adults will be emphasized.

AUD 7730 - Clinical Problem Solving 1 (0.5)

Students build clinical reasoning skills through a problem-based learning approach and develop the ability to acquire, interpret, synthesize and record significant clinical decision-making information to diagnose and treat hearing and balance disorders.

AUD 7731 - Clinical Problem Solving 2 (0.5)

Students continue to build clinical reasoning skills through a problem-based learning approach and increase the ability to acquire, interpret, synthesize and record significant clinical decision-making information to diagnose and treat hearing and balance disorders

AUD 7740 - Introduction to Clinical Research (2)

Introduction to the research environment and research methods used in the health sciences and audiology. Overview of key statistical analyses used in descriptive and experimental research. Students will attain

the skills necessary to be consumers and producers of audiology research.

AUD 7750 - Audiology Grand Rounds (0.5)

Utilizing an evidence-based approach, case presentations are made by students in a grand rounds format (presenting a particular patient's medical problems, diagnostic testing results and treatment effects) to other audiology students and faculty incorporating various clinical practices and evaluation and treatment protocols.

AUD 7934 - Ethics in Healthcare Professions (0.5)

Ethics in Healthcare Profession is an overview of policy and documents related to student and professional Code of Ethics, with a focus on healthcare and the profession of audiology. Case studies of ethical issues and dilemmas related to clinical practice and research in audiology are considered.

AUD 7936 - Resume Writing and Interviewing Skills (0.5)

This course prepares students for the expectations and challenges of the future including resumes, curriculum vita, cover letters supporting applications, and interviewing skills for externships and employment.

AUD 7937 - Professional Issues in Audiology (0.5)

This course reviews current issues in the profession of audiology including scope of practice, employment opportunities, state licensure requirements, professional certification options and current legislative issues which may impact the future of audiology.

AUD 7940 - Audiology Practice Management (2)

This course is designed to provide a basic understanding of the business of audiology. Topics include finance, marketing and operations, and the foundations of business. The class culminates with the development of an audiology business plan that will assist the student in future practice management settings.

AUD 8630 - Clinical Skills: Audiometric Principles 1 (0.5)

This course series provides the opportunity for students to develop clinical skills through supervised labs. Students are expected to demonstrate growth of clinical skills throughout the term during scheduled lab activities. Students are expected to continue independently practicing those skills learned in an effort to successfully complete the credentialing examination that will be given at the end of the term.

AUD 8631 - Clinical Skills: Audiometric Principles 2 (0.5)

This course is a continuation of the clinical skills sequence in audiometric training combining lecture and lab formats. These learning experiences culminate in another credentialing exam to verify competence in foundational clinical skills.

AUD 8642 - Clinical Skills: Hearing Technologies 1 (0.5)

Supervised training and practice to reinforce knowledge acquired in didactic Hearing Technologies 1 class. Lab includes information and activities on the hearing aid evaluation and selection process, hearing aid checks, repairs and modifications, culminating in a credentialing examination to verify the student's abilities.

AUD 8643 - Clinical Skills: Hearing Technologies 2 (0.5)

Supervised training and practice to reinforce knowledge acquired in didactic Hearing Technologies 2. Lab includes information and activities on hearing aid fitting, verification and validation techniques, as well as hearing aid adjustments using various hearing aid manufacturers, culminating in a credentialing examination to verify the student's abilities.

AUD 8644 - Clinical Skills: Hearing Technologies 3 (1)

Supervised training and practice to reinforce knowledge acquired in Module 5 didactic Hearing Technologies classes. Lab includes information and activities related to assistive listening devices, personal sound amplification devices, "hearables," and other non-traditional amplification options. Students will learn verification and validation techniques for FM systems and other wireless hearing instruments accessories, culminating in a credentialing examination to verify the student's abilities.

AUD 8645 - Clinical Skills: Vestibular & Balance Eval 1 (0.5)

Supervised training and practice to reinforce knowledge acquired in didactic Vestibular and Balance 1. Labs include hands on practice in the set up and instructions for Videonystagmography, caloric, and basic bedside vestibular testing. Students' skills are assessed through a midterm and final credentialing demonstrations to verify the student's abilities.

AUD 8662 - Clinical Skills: Auditory Evoked Responses 1 (0.5)

Laboratory training in the recording and analysis of

auditory brainstem responses (ABRs), to put into practice knowledge acquired in the lecture component (Auditory Evoked Responses 1). The course culminates in a credentialing examination to verify the student's abilities.

AUD 8670 - Clinical Skills: Pediatric Audiologic Assessment (0.5)

Students receive hands-on experience in the assessment of hearing in the pediatric patient population including case history, otoscopy, immittance measures and behavioral assessment using visual reinforcement and conditioned play audiometric techniques. Course culminates in a credentialing exam to verify the student's abilities.

AUD 8851 - Professional Practice 1 (0.5)

Audiologic clinical skills development through a combination of observation and participation in direct patient care performed at the Pennsylvania Ear Institute. Students will be expected to be active observers by interacting with the patient and engaging in problem-solving to assist in the formation of the diagnosis of hearing and balance problems.

AUD 8852 - Professional Practice 2 (0.5)

Audiologic clinical skills development through a combination of observation and participation in direct patient care performed at the Pennsylvania Ear Institute. Students are expected to continue to develop new clinical skills and integrate the information developed through didactic preparation.

AUD 8853 - Professional Practice 3 (1.5)

Direct faculty supervised patient care at the Pennsylvania Ear Institute with emphasis on refinement of skills in case history taking, subjective and objective diagnostic tests and rehabilitation, including hearing aids.

AUD 8854 - Professional Practice 4 (1.5)

Direct faculty supervised patient care at the Pennsylvania Ear Institute, with emphasis on refinement of skills in case history taking, subjective and objective diagnostic tests and rehabilitation, including hearing aid assessment and orientation and exposure to vestibular and balance testing, which many include VNG/ENG, CDP and/or Rotary Chair when diagnostically appropriate.

AUD 8855 - Professional Practice 5 (2.0)

Co-managed patient care with faculty preceptors at Pennsylvania Ear Institute. Emphasis on continued refinement of skills in case history taking, subjective and objective diagnostic tests, and rehabilitation including

hearing aid assessment and fitting. When the opportunity presents student will be exposed to vestibular and balance testing, which many include VNG/ENG, CDP and/or Rotary Chair depending on clinical site.

AUD 8856 - Professional Practice 6 (3)

Clerkship experience is expanded to off-campus regional locations to include experience in one of the following four environments: private practice, hospital, pediatric, or medical offices (ENT/otologist/neuro-otologist). Off campus rotations allow for student clinicians to experience a rich variety of patient demographics and scope of practice. Consideration of rotation site in an adjacent state will be considered on an individual student basis.

AUD 8857 - Professional Practice 7 (5)

Clerkship experience is expanded to off-campus regional locations to include experience in one of the following four environments: private practice, hospital, pediatric, or medical offices (ENT/otologist/neuro-otologist). Off campus rotations allow for student clinicians to experience a rich variety of patient demographics and scope of practice. Consideration of rotation site in an adjacent state will be considered on an individual student basis.

AUD 8858 - Professional Practice 8 (5)

Clerkship experience is expanded to off campus regional locations to include experience in one of the following four environments: private practice, hospital, pediatric, or medical offices (ENT/otologist/neuro-otologist). Off campus rotations allow for student clinicians to experience a rich variety of patient demographics and scope of practice. Consideration of rotation site in an adjacent state will be considered on an individual student basis.

AUD 8860 - Clinical Externship 1 (9.5)

Summer Term. Beginning of the full-time fourth year clinical externship. Opportunity for national site placement. Intent is to offer student clinician the means to focus full time on fine tuning clinic skills in a variety of settings and to focus on areas of interest when available.

AUD 8861 - Clinical Externship 2 (9.5)

Fall Term. Continuation of the full-time fourth year clinical externship. Opportunity for national site placement. Intent is to offer student clinician the means to focus full time on fine tuning clinic skills in a variety of settings and to focus on areas of interest as desired.

AUD 8862 - Clinical Externship 3 (9.5)

"J" Term. Completion of the full-time fourth year clinical

externship. Opportunity for national site placement. Intent is to offer student clinician the means to focus full time on fine tuning clinic skills in a variety of settings and to focus on areas of interest as desired.

AUD 8863 - Clinical Externship 4 (9.5)

Spring Term. Conclusion of the full-time fourth year clinical externship. Opportunity for national site placement. Intent is to offer student clinician the means to focus full time on fine tuning clinic skills in a variety of settings and to focus on areas of interest as desired.

BIO - Biomedicine

BIO 5001 - Introduction to Academic Writing (3)

This course will provide a comprehensive study of academic writing to enable graduate students develop the skills they need to become successful writers in their academic and post-academic careers. This course will focus on skills in preliminary writing, drafting, revision, peer review, and review of scientific literature.

BIO 5100 - Research Methodology: Introduction to Research Methods (1.5)

This course presents the scientific method and examines the way in which one reviews and uses the literature in developing and formulating a research question. It discusses the hierarchy of the strength of evidence found in different forms of research literature including the results from clinical trials so as to help the student be a critical appraiser of the current information. The course addresses some aspects important to the formulation of a research question. Course discussion will include identification of cognitive errors and biases as major pitfalls to avoid. Approaches to problem-solving before, during and after a study will also be discussed.

BIO 5101 - Research Methodology: Measurement and Design (2)

This course focuses on how to design studies to answer clinical research questions. It includes design of cohort, cross-sectional and natural history studies as well as pilot studies and clinical trials. The course will cover the conduct of studies including development of a research question, study monitoring, data assessment and outcome analysis writing. Discussion will include how to critically evaluate research findings on the basis of construct validity, internal validity, statistical significance and conformity to ethical research principles.

BIO 5102 - Research Methodology: Data Analysis and Biostatistics (2)

This course reviews methods for describing data sets statistically. The student will learn probability distributions and their role in the testing for statistical significance. The most commonly used parametric and non-parametric comparison and correlation tests are taught and applied to biomedical hypotheses within appropriate research study designs.

BIO 5103 - Research Methodology: Approaches and Concepts in Biomedical Research (2)

The student must choose one of the following two options: Option 1: is directed at those students who will be undertaking clinical research. The students will be registered and participate in the NIH course entitled Principles and Practice of Clinical Research which begins each year in mid-October with on-line weekly lectures and ends with an exam at the end of March. Students must pass this examination. They must also fulfill a list of assignments which Drexel University mandates in order to receive credit for this course which prepares clinicians for participation in NIH-supported clinical trials and research. Option 2: addresses the application of laboratory techniques to basic science research in biomedicine and is directed at those students that wish to undertake lab-bench research. Candidates will be trained in aspects related to their areas of research. For example, for basic research in biomedicine, the teaching will include but not be limited to protein chemistry, biochemistry, clinical immunology, RNA/DNA analysis, microscopy and tissue culture procedures. In addition, the course will include competencies in the evaluation and interpretation of the results obtained via laboratory techniques.

BIO 5300 - Research Seminar: Introduction to Teaching and Learning (1)

This course begins by discussing the fundamentals of presenting a quality seminar or lecture. Specific rules and guidelines are used as a template, and "real world" examples of presentation techniques and strategies will be demonstrated through the use of specific internet sites. Students will be asked to review, critique and comment through lively class discussions, and through their own presentations. The final exam is a seminar that demonstrates all of the skills that the students have learned during the course of the entire term.

BIO 5301 - Research Seminar: Critical Review of the Literature (1)

During the introductory course of studies, the students will

have developed skills in performing a literature search as well as techniques in delivering an effective presentation. This course takes the skills acquired in the previous seminar experience and asks the students to use their established literature base as a seminar resource for the justification of their planned research projects. The student prepares and subsequently presents a seminar on their reasons and justification for undertaking the proposed research project. The course instructor, the student's mentor and a faculty member critique and comment on the student's effort in a constructive approach and provide feedback. All students are expected to participate in each other's presentation by asking one focused question each of the presenter who then formulates an appropriate answer.

BIO 5302 - Research Seminar: How to Prepare, Present and Critique Posters and Presentations (1)

This seminar begins with lectures on how to construct a poster or presentation for scientific meetings. Both traditional and e-posters are reviewed. The lectures present the elements of good poster presentations and several pitfalls to avoid. Students then write up an abstract and draft a poster using their pilot data which they then present to the course director for constructive review. The student then modifies and presents their poster in seminar fashion to the class. The audience is expected to ask questions and comment on the poster as part of their class participation.

BIO 5600 - Preparatory Course: The Qualifying Examination (0.5)

This course reviews the purpose and the elements of the qualifying examination, the strategy behind the selection of the examining committee, how to prepare for a *viva voce* format and the possible outcomes. The student is then guided through the organization of the submitted document, the relevance of each section and what must be included. There is also a discussion of how the student should structure answers to questions and the way one addresses differences. Role playing is used to make certain points with examples of successful and unsuccessful documents and behaviors. If the student is not successful, the alternatives are discussed as are the various appeal procedures so that the student is informed prior to the examination.

BIO 6300 - Research Seminar: Epidemiology and Biomedical Research (1)

Having previously identified their research question and topic, students will prepare and present a review of data sources on the distribution, prevalence and incidence of their topic. Each student will address specific risk and preventive factors, organize their findings by biologic and

behavioral variables, and prioritize the at-risk populations.

BIO 6330 - Research Seminar I: Project Rationale, Design & Hypothesis (1)

Each student presents a seminar on their individual research project and the data gathered so far. Other attending students must formulate questions and constructively critique their colleagues' presentation on the overall organization of the material, the clarity of the questions being asked and the method of presentation of the data. Faculty members are also expected to provide written suggestions to the student regarding the presentation. If there are too few students, other invited speakers may be asked to present.

BIO 6530 - Independent Study 1 (1)

The topics are to be tailored to the individual student needs.

BIO 6531 - Independent Study 2 (1)

The topics are to be tailored to the individual student needs.

BIO 6532 - Independent Study 3 (1)

The topics are to be tailored to the individual student needs.

BIO 6533 - Independent Study 4 (1)

The topics are to be tailored to the individual student needs.

BIO 6930 - Research Project 1 (3.5)

The student together with the primary mentor is expected to identify a project and meet certain documentation requirements such as, but not limited to a preliminary title, a search strategy for the review of the literature, and a draft Table of Contents for the dissertation. All will be refined and revised as the project develops. While the role of the primary mentor is limited at this time, this mentor takes on a far more significant role in the following terms. The interaction is used as one during which the mentor and student become acquainted and form the bond of trust that leads to more effective mentorship and training.

BIO 6931 - Research Project 2 (5)

Each student will be expected to complete their first draft of the literature review to be presented and discussed at length with the primary mentor. The student will also be expected to develop their primary hypothesis and identify the specific aims as guided by the primary mentor. At the end of the term, the student will identify their pilot data

experiment.

BIO 6932 - Research Project 3 (5)

During the term, the student must refine the experimental design to an actionable entity. This is the time when submission of the project to IRB committee is expected. The student must also identify pilot experiments for the submission. These will be directly related to facilitation of later research work. The student must meet with their dissertation committee by the end of the semester.

BIO 6933 - Research Project 4 (4.5)

This course is subdivided into two components. The first includes conducting and organizing pilot data, and its analysis. This is followed by a description of how the experimental design has been altered by the results of pilot experiments. The greater part of the time is devoted to step two, i.e., the writing of the qualifying report or the thesis for the Master's student. The elements include a substantial review of the literature, the hypothesis, specific aims and the experimental design. At this stage, the Doctoral student will present the pilot data, while the Master's student is gathering most of their data and developing the discussion part of the thesis. The MSc student then proceeds to write the thesis, while the PhD student schedules the *viva* examination. Passing this examination allows the doctoral student to enter the "doctoral candidacy" stage.

BIO 6934 - Research Project 5 (7.5)

During this term, the doctoral candidate continues their experimentation and data gathering and has regular meetings with the mentors. The student addresses any issues that have surfaced with the pilot projects and adjusts the experimental design or methodology as determined by the outcome of the qualifying examination. At this point, the Ph.D. candidate begins aggressive experimentation. Since this is the endpoint for the Master's student, he/she must complete gathering and interpreting the data for the Master's thesis and prepares for the thesis *viva*. The process of the *viva* is very similar to that for the Ph.D.

BIO 7100 - Research Methodology: Epidemiology (2)

The course discusses the distribution and determinants of human health and disease. It focuses on the quantitative aspects of measuring disease frequency, the use of large public data sources, and how the data are acquired. The student will learn the types of study designs used in biomedical research, the advantages and disadvantages of each, and results of some major epidemiology studies. Particular attention is given to interpreting and critiquing published biomedical research articles.

BIO 7101 - Research Methodology: Budget Construction (1)

This course trains the student in budget preparation skills and strategy for an NIH or NSF grant submission, and for grants/contract submissions to industry and military agencies. Fundamental concept and nuances of each funding agency's budget requirements are reviewed and discussed. Guest lectures from experts in the field participate in the presentations. During the course of the term, the student will be asked to prepare a research budget for the project that each is pursuing for their Ph.D. degree.

BIO 7102 - Research Methodology: Special Issues Related to Biomedical Research (2)

This course discusses certain topics which require decision-making expertise in several aspects of research. The course will consist of various scenarios from which discussion will occur. Topics will include issues of data acquisition, data management, academic-industry conflicts, authorship, publication, as well as problems that occur in the course of studies such as relying on graduate students, issues of integrity, and authority/responsibility issues in the laboratory to name a few. While some of the scenarios relate to clinical and clinical trials research problems, many apply to research in general. The format will be for students to receive scenarios and to undertake group discussion as to how to address and resolve the problems ethically and professionally.

BIO 7331 - Research Seminar II: Preliminary Data & Design Adjustments (1)

This seminar is a continuation of the seminar series in which the student presents their data and is critiqued by students and faculty. These seminars are expected to facilitate the process of dissertation defense and oral presentations at meetings.

BIO 7332 - Research Seminar III: Final Results & Significance (1)

This seminar is a continuation of the seminar series in which the student presents their data and is critiqued by students and faculty. These seminars are expected to facilitate the process of dissertation defense and oral presentations at meetings.

BIO 7500 - Special Topics: Genetics, Genomics, and Research (1)

The Human Genome Project and other revolutionary advances have increased and broadened the importance of genetics/genomics in all health care fields. Since virtually all diseases have a genetic component, the clinician and

researcher will need to raise genetic hypotheses with every patient and realize when genetic factors play a role in a patient's condition. This course will provide students with a basic knowledge of genomics and genetics necessary for clinical care and research and will enhance their scientific skills. The course will be individualized to accommodate students with varying interests.

BIO 7501 - Special Topics: From Bench to Impact (2)

This course covers the methods whereby research findings can be translated into specific applications or products and how researchers can protect themselves and their intellectual property in the process. The various ways in which one can move bench findings to clinical, industrial, and military applications are discussed by faculty experienced in this process. Legal advice is also provided to discuss royalties, contractual agreements and institutional/shared ownership. Lastly, financial advice is given in general terms about expectations and self-protection.

BIO 7502 - Special Topics: Approaches to Education (2)

Since research is often based in academic centers and many graduates will be employed by institutions of higher learning, this course is designed to introduce the student to contemporary principles and practices in education, including distance learning approaches. It describes the difference between various modes of student learning and proposes multiple methods of assessment.

BIO 7505 - Special Topics: Statistical Analysis using SPSS (2)

This course is designed to assist students as they analyze data using SPSS software. It is designed to provide students with a strong understanding on the use of this statistical software and interpretation of the report provided. Each topic will be explored first in a lecture format and then with follow-up assignments using SPSS. During each lecture, Prof. Bunin will demonstrate the appropriate SPSS actions related to the topic as specified in Section 5 Course Schedule and Topical Outline.

BIO 8330 - The Qualifying Exam (Viva Seminar I) (0.5)

The first seminar in this series is presented at the first *viva* for the doctoral degree, prior to the defense of the preliminary document. Both the seminar and the following examination are required for transfer of the student to the "candidate" status. The first *viva* seminar not only builds on the skills learned so far but also serves as a "training rehearsal" for the final defense of the dissertation. This

seminar also serves as the final defense seminar for the master's student.

BIO 8331 - The Dissertation Defense (Viva Seminar II) (0.5)

The second seminar is the last of the seminars in the doctoral program and is to be presented immediately before the final defense of the dissertation.

BIO 8500 - Special Topics: Academic Life and Stewardship (1)

During this course, the post-doctoral fellowship and research associate positions are discussed as options for the new graduate. Establishing oneself in Academia is also discussed with a review of academic life and expectations, promotions and the hierarchy of professorships, tenure and grantsmanship, including the K08 and the K23. The students and faculty discuss establishing one's professional identity, the role of societies, meetings, and service to the profession. Special attention is devoted to group research and its advantages. The last lecture is devoted to what it means to be a "steward of a discipline."

BIO 8501 - Research Modeling Using Computing Software and other Tools (1)

This course will present different techniques in the modeling of experimental paradigms and population dynamics. New technologies have revolutionized the study of medicine and biological phenomena. Mathematical strategies are being increasingly used to measure and track health and disease. Students will be introduced as to how mathematics, biology and health care converge to disclose new dimensions to understanding biomedical interventions.

BIO 8530 - Special Topics: Writing Competitive Grant Proposals (Part 1) (1)

The candidate is expected to put together a draft grant proposal. This may be for a Post-Doctoral Fellowship, a Young Investigator award, a K08 or K23, an R01 or for an industrial or military contract. The mentors will review and critique the proposal which will be amended and presented in Part 2 by the student.

BIO 8531 - Special Topics: Writing Competitive Grant Proposals (Part 2) (1)

The candidate is expected to construct a substantive grant proposal based on the feedback received in BIO 8530 (Part 1). This may be for a Post-Doctoral Fellowship, a Young Investigator award, a K08 or K23, an R01 or for an

industrial or military contract. The mentors will review once again and critique the proposal such that the candidate has a proposal in hand, ready to submit as the student moves to graduation and employment. This course is a continuation of BIO 8530.

BIO 8532 - Special Topics: Writing Competitive Grant Proposals (Part 3) (1)

This is a continuation of BIO 8531 that facilitates the completion of the grant proposal.

BIO 8533 - Issues in Aging (1)

A gerontology course designed to introduce the student to the study of aging, its impact on individuals, families and society, and what factors have driven the creation of health policy related to older persons. A wide variety of aging topics will be explored, including the prevention and management of chronic conditions; demography; biology; epidemiology of diseases; physical and mental disorders; functional capacity and disability; health services; health policies; social aspects of aging, and ethical issues in the care of older individuals as well as hospice and palliative care.

BIO 8534 - Special Topics: Survey Research Methods (1)

Surveys are commonly used in biomedical research, either as stand-alone studies on health behavior and attitudes or as part of subject experience in clinical trials and observational studies. This course reviews the principles of study design, specifically, survey study design for developing a protocol for valid survey studies. Principles covered include developing study goals and objectives, identifying the target population, sample size, recruitment and sampling, constructing a valid and reliable survey instrument, and disseminating surveys through a variety of ways, focusing on online survey application platforms. Students will learn the types of data generated and how to analyze, interpret, and appropriately generalize survey results.

BIO 8535 - Introduction to Principles of Qualitative Research (2)

This course is designed to introduce graduate-level students to qualitative research methods in public health and the health sciences. The course will provide students with a basic, introductory exposure; while you will learn and, by the end of the course, be equipped with qualitative techniques, this class will not allow students to reach mastery. In this course, students will learn qualitative theory, frameworks, data collection methods, data analysis, and dissemination. Qualitative research methods will be

discussed in context of applied research, program evaluations, mixed-methods research, and other health-related projects. Students will walk away from the course with exposure to data collection software programs, ways to catalog and manage qualitative data, and how to analyze data. It is recommended that students bring their own qualitative data, or be prepared to collect their own qualitative data, in fulfillment of their dissertation research or own research agenda.

BIO 8730 - Research Rotation 1 (1)

Students rotate for 10 days through a laboratory site that conducts research using a different approach than that used by the student. For example, if a student is doing wet-lab bench work, he/she may rotate through a clinical trial site or an industrial site. During the rotation the student analyzes the research protocol, attends research meetings, looks at data gathering and housekeeping, and analyzes any publications that have been published by the site. When the student returns to campus, he/she must write a report on their experience.

BIO 8731 - Research Rotation 2 (1)

The student completes a second rotation (10 days) in a research environment different than their own. Other venues include industrial or military research, multicenter clinical trials, and laboratory; i.e., dry vs. wet lab research, or specialized equipment development.

BIO 8930 - Research Project 1 (3.5)

The student together with the primary mentor is expected to identify a project and meet certain documentation requirements such as, but not limited to a preliminary title, a search strategy for the review of the literature, and a draft Table of Contents for the dissertation. All will be refined and revised as the project develops. While the role of the primary mentor is limited at this time, this mentor takes on a far more significant role in the following terms. The interaction is used as one during which the mentor and student become acquainted and form the bond of trust that leads to more effective mentorship and training.

BIO 8931 - Research Project 2 (5)

Each student will be expected to complete their first draft of the literature review to be presented and discussed at length with the primary mentor. The student will also be expected to develop their primary hypothesis and identify the specific aims as guided by the primary mentor. At the end of the term, the student will identify their pilot data experiment.

BIO 8932 - Research Project 3 (5)

During the term, the student must refine the experimental design to an actionable entity. This is the time when submission of the project to IRB committee is expected. The student must also identify pilot experiments for the submission. These will be directly related to facilitation of later research work. The student must meet with their dissertation committee by the end of the semester.

BIO 8933 - Research Project 4 (4.5)

This course is subdivided into two components. The first includes conducting and organizing pilot data, and its analysis. This is followed by a description of how the experimental design has been altered by the results of pilot experiments. The greater part of the time is devoted to step two, i.e., the writing of the qualifying report or the thesis for the Master's student. The elements include a substantial review of the literature, the hypothesis, specific aims and the experimental design. At this stage, the Doctoral student will present the pilot data, while the Master's student is gathering most of their data and developing the discussion part of the thesis. The MSc student then proceeds to write the thesis, while the PhD student schedules the *viva* examination. Passing this examination allows the doctoral student to enter the "doctoral candidacy" stage.

BIO 8934 - Research Project 5 (7.5)

During this term, the doctoral candidate continues their experimentation and data gathering and has regular meetings with the mentors. The student addresses any issues that have surfaced with the pilot projects and adjusts the experimental design or methodology as determined by the outcome of the qualifying examination. At this point, the Ph.D. candidate begins aggressive experimentation. Since this is the endpoint for the Master's student, he/she must complete gathering and interpreting the data for the Master's thesis and prepares for the thesis *viva*. The process of the *viva* is very similar to that for the Ph.D.

BIO 8935 - Research Project 6 (8.5)

During this phase of the course, the student is expected to acquire a major accumulation of data through single and replicate studies and pursue statistical analysis of the data. Having completed the major review of the literature. The student should also begin drafting the overall organization of the data and discussion chapters for their dissertation.

BIO 8936 - Research Project 7 (10)

This course continues with further accumulation of data, replicate experiments and data analysis. At this stage, the student should be able to identify what are the

embellishments to the design that might increase the significance of the research and provide pilot data for the next grant. The writing of the dissertation continues. A second meeting with the dissertation committee must occur during this semester.

BIO 8937 - Research Project 8 (11)

The candidate should be working almost exclusively on completing the experimentation, the data collection and its analysis. Further experimental work can be continued after the term if requested by the mentor or directed by the Viva Committee. The writing of the dissertation continues.

BIO 8938 - Research Project 9: Defense of Dissertation (0)

The candidate is expected to complete and submit the dissertation and register for the Defense of the Dissertation through the Office of Graduate Programs in Biomedicine. The completed Record of Research Activity must be submitted before the *viva* date can be set. If no publications have as yet been submitted or accepted, the candidate must also present drafts of one publication before the *viva* can be set. The *viva* will have an examining committee which will consist of a faculty member who did not serve as a mentor to the student and an external examiner and will be conducted in a closed session. The candidate is expected to present their last seminar on their research on the day of the *viva*. The candidate has up to one academic year to schedule the *viva* which must be held within that academic year, after which the candidature of the student will be closed without award if no document has been submitted and the *viva* has not been successfully completed. If there are extenuating circumstances, an appeal granting appropriate extension of time may be submitted to the Office of Graduate Programs in Biomedicine at least four months before the end of that year. A response will be given to the candidate within a time frame (three months) which will allow him/her to prepare for the defense should additional time not be granted.

BLV - Blindness and Low Vision

BLV 5000 - Foundations of Education & Rehabilitation (2.0)

This is survey course representing disciplines dedicated to the education and rehabilitation of individuals with visual impairments. The course introduces learners to history, definitions, legislation, referral processes, education and rehabilitation planning, procedures and resources (human, physical, financial), cultural diversity, learning theories and teamwork related to the needs of individuals with visual impairments. Learners will explore professionalism

and ethics as well as issues related to accessibility, privacy, confidentiality, and advocacy.

BLV 5001 - Clinical & Functional Implications of Visual Impairment (3.0)

The student will know the anatomy of the eye, visual pathways, optics, visual examinations, eye disorders, age related changes in the eye, innervations of the eye, medications and their side effects, and disease of the eye as well as the functional and educational implications. The student will understand and be able to relate these topics functionally to an individual's visual performance.

BLV 5002 - Psychological & Social Implications of Visual Impairment (1.0)

This course explores the psychosocial factors affecting the process of adjustment to visual impairment across the life span. Through case analysis and consumer participation, learners explore a variety of issues related to adjustment, including demographics, life stage, type of visual impairment, personality, self-concept, social support network and the grieving process. The course also explores the impact of societal attitudes and stereotypes toward blindness and visual impairment. An overview of the range of psychosocial interventions is provided including resources for referrals.

BLV 5004 - Critical Analysis of Research (2.0)

This course teaches learners the tools necessary for becoming critical readers of research and how to conceptualize and conduct basic research in their professional environments. Learners become familiar with the basic attributes of quantitative and qualitative methods of research and investigate the ethics involved in conducting research. Research designs covered include true experimental, quasi-experimental, descriptive, correlational, single-subject, survey, ethnographic and case study approaches.

BLV 5007 - Neurological Visual Impairments in Children (2.0)

This course introduces students to the causes, characteristics and educational implications of neurological visual impairment specific to children and youth with or without additional disabilities. Students will learn about assessment and intervention strategies from experts and family members and will be connected to relevant resources in this specific area for their future practice.

BLV 5100 - Introduction to Braille (0.5)

This course involves learning uncontracted braille and the

use a variety of tools to produce the basic braille alphabet, numbers and punctuation as well as raised line diagrams for labeling and maps. The course provides learners with information about Americans with Disabilities Act (ADA) signage regulations and resources for how to interpret contractions used in braille signage.

BLV 5101 - Introduction to Independent Living Skills (1.0)

Learners will be provided with online and hands-on instruction and rehabilitation training practice (using low vision simulators and blindfolds) in the methods and adaptive techniques used by vision professionals in the following independent living skill areas: (a) cleaning skills and household safety, (b) labeling, (c) money identification, (d) time identification, (e) basic food preparation, (f) telephone skills, and (g) signature and handwriting guides. Classes emphasize the utilization of adaptive techniques and resource gathering, and address skills that are appropriate for children, adolescents, adults, and older adults.

BLV 5102 - Introduction to Orientation and Mobility (1.0)

Students will learn about the role and impact of Orientation and Mobility (O&M) instruction on the development and quality of life of students/clients with vision impairments at different life stages. They will become aware of their role as vision professionals in the identification of O&M needs and goals, as well as the provision of instruction/reinforcement of basic mobility skills for their students/clients. Through practice under blindfold/low vision simulation and role-play situations, students will become proficient in basic indoor orientation and mobility techniques.

BLV 5103 - Introduction to Assistive Technology (3.0)

Learners are introduced to a wide variety of technology that assists children and adults with visual impairments and multiple disabilities to access information, support learning and activities of daily living. The course provides hands-on experience with a variety of technologies and affords learners the opportunity to observe and teach these technologies. Issues related to legislation, financing, assessment and instructional strategies for teaching access technology are discussed.

BLV 5104 - Neurological Visual Impairment in Adults (1.0)

This course addresses evaluation and intervention for people of all ages experiencing difficulties secondary to visual processing impairment from acquired brain injury.

When working with the brain injured population, intervention focuses on the remediation of deficits through neuro-rehabilitative methods and developing task and environmental adaptations. Topics include: evaluation and intervention for patients with acquired brain injuries related to visual acuity, visual field, oculomotor function, and visual attention and cognitive processing. Utilizing this information, students will understand the foundations of visual signs and symptoms following a brain injury, as well as the best method of rehabilitating and addressing these issues.

BLV 5105 - Literary Braille Code (3.0)

This course is designed to teach students to read (visually and/or tactually) and write the Literary Braille Code, based upon the rules in the most recent rule book, English Braille American Edition. Students will learn to write in both uncontracted braille and contracted braille. Students will learn to read single-sided braille material, as well as inter-point braille (braille which is embossed on both sides of the page). Students will learn to write braille using a slate and stylus (the braille user's pencil) and the computer keyboard using Perky Duck braille emulation software.

BLV 5106 - Braille Literacy (0.5)

This is a hands-on course that provides learners with experience in designing a braille literacy program for individuals who are blind or visually impaired. Learners select from a variety of activities related to their program of studies (TVI or VRT), such as analysis of curriculum materials for teaching reading to children or adults, performance of a learning media assessment, teaching the use of a braille notetaker, teaching the use of a labeling code such as Fishburne or Moon.

BLV 5107 - Visual Impairments and Multiple Disabilities (2.0)

This course will provide you with information, links, video clips, resources, and weekly discussions that address the impact that additional disabilities and chronic medical conditions have on the delivery of VRT and LVT services to individuals who are blind and/or visually impaired

BLV 5130 - Low Vision Assessment & Intervention 1 (3.0)

This course focuses on two areas: 1) strategies for assessing the visual functioning of children and adults with low vision, and 2) strategies for stimulating and enhancing visual functioning and efficient use of vision without low vision optical devices. Initial areas of emphasis include techniques for the functional assessment of visual acuity and visual fields, and assessment of the functional

performance of vision in day-to-day activities across different school, home, recreation and work environments. The second part of this course focuses on assessing and enhancing the functional visual developmental levels and visual efficiency of infants and children, including those with multiple impairments. Course content involves a combination of theory and practice assignments, low vision simulations, and in-class and online discussions centered on the assessment and enhancement of functional vision.

BLV 5131 - Low Vision Assessment & Intervention 2 (2.0)

This course focuses on intervention strategies for enhancing visual functioning of children and adults with low vision. Areas of emphasis include: detailed assessment and instructional strategies for the utilization of near, intermediate and distance optical devices; visual efficiency instruction without optical devices; interpretation of environmental cues for distance, depth and orientation; reading with low vision, and specialized topics such as low vision driving, visual field enhancement systems, and overview of vision rehabilitation for individuals with head injuries. Course content involves a combination of theory and practice assignments, low vision simulations, and in-class and online discussions centered on the assessment and enhancement of functional vision.

BLV 5132 - Low Vision Assessment & Intervention 3 (2.0)

This course offers participants the opportunity to apply the concepts addressed in the two pre-requisite courses (Low Vision Assessment & Intervention 1 and Low Vision Assessment & Intervention 2) and extend practical knowledge in the area of low vision rehabilitation. Course topics include but are not limited to literacy and low vision, video magnification evaluations, documentation procedures and implications for reimbursement, artificial vision, and the future of medical and technological advancements.

BLV 5200 - Principles of Low Vision Rehabilitation (3.0)

This course provides an overview of the field of low vision rehabilitation and helps define best practices for the type of low vision clinic/practice setting where students may envision themselves working. Explored are components of low vision rehabilitation services, various models of service delivery, the identification of needs for low vision rehabilitation services, and the management, funding and evaluation of low vision rehabilitation services. Principles of Low Vision Rehabilitation prepares students to develop

and finance low vision services, and to assume greater responsibilities in current and future work settings in the field of low vision rehabilitation.

BLV 5290 - LVR Independent Study (2.0)

LVR Independent Study provides master's degree students with the opportunity to select and research an area of interest in low vision rehabilitation. Collaborating with an assigned faculty advisor, students select a topic of choice and prepare a professional document about this selected area of interest (e.g., article for publication, compendium, booklet or other professional product), and develop and enhance the permanent product for a particular audience.

BLV 5300 - O&M Techniques (5.0)

This course will provide instruction and practice in skills and techniques used in independent travel by individuals with visual impairments. Students will experience traveling in a variety of indoor and outdoor settings under blindfold and a variety of simulated vision losses. The course will also address instructional strategies, including lesson planning, proper sequencing, and pacing, as well as specific teaching tools. Students will apply these skills by planning and conducting lessons for each other, while receiving feedback from course instructors.

BLV 5330 - Principles of O&M 1 (2.0)

In this course learners are introduced to the philosophies, definitions, history of O&M, professional organizations, national certification and current issues in the field. The course also prepares students to understand, plan and conduct individualized O&M assessments and share the results with students, families and other professionals within a framework of cultural sensitivity. Fieldwork observations, through which students explore and learn about various service delivery settings and models, are also required as part of this course.

BLV 5331 - Principles of O&M 2 (3.0)

This course provides opportunities to gain knowledge and practical experiences regarding Orientation and Mobility. It includes required readings, materials and assignments that will increase the learner's knowledge and capabilities in the following areas: transitioning from assessments to instruction; writing O&M goals and objectives; analyzing environments, planning appropriate and well sequenced mobility lessons; learning about mobility systems other than the long cane (e.g., guide dogs); modifying traditional O&M techniques for individuals from different age groups; and a thorough understanding of the impact of additional disabilities and chronic medical conditions in the O&M instructional process.

BLV 5332 - Principles of O&M 3 (3.0)

This course will provide a forum for learners to explore specific areas related to teaching O&M. Topics will include: O&M for individuals with low vision; driver behavior, and implications of quiet and autonomous cars; assessment and instruction of complex intersections; traffic and pedestrian signalization; O&M in the virtual environment; accessibility standards; transportation options including driver services, air and over-the-road bus service; the role of O&M specialists in advocating for improved accessibility; and current issues in O&M including professionalism, ethics and liability.

BLV 5390 - O&M Independent Study (1.0 or 2.0)

This course provides an opportunity for students to complete an independent project/course of study that will enhance their knowledge of a specific aspect or area in the field of Orientation and Mobility. The course is designed to address the student's individual needs, interests and aptitudes. A supervising faculty member approves and/or helps design the project and its expected outcomes. The project is typically completed within one semester.

BLV 5400 - Expanding the Core Curriculum (3.0)

This course explores all areas of the expanded core curriculum, with special emphasis on assessment and instruction of social skills, recreation and leisure, career education, and self-advocacy skills needed by children and adults who are visually impaired. Instruction addresses appropriate materials and assistive technology to be used by children who are visually impaired in each of these expanded core curriculum areas.

BLV 5401 - Teaching Students with Multiple Disabilities (2.0)

Teaching Students with Multiple Disabilities addresses assessment and instruction of children with visual impairments who also have developmental delays (including PDD, or Autism Spectrum disorders), behavior disorders, medical conditions (including seizures, feeding difficulties, or severe health issues), hearing impairment, speech or communication disorders, and those with common syndromes or eye disorders related to multiple disabilities (such as CVI, TBI, ROP, Septo-Optic Dysplasia).

BLV 5402 - Numeracy & Science (2.0)

Nemeth and Other Specialized Codes is a hands-on course that provides learners with the ability to transcribe Nemeth Code using the Perkins braille and braille production software. Learners become proficient in teaching the

abacus. Other materials and aids for instruction in mathematics and science are introduced. Students will also receive instruction and create assignments in the music braille code and foreign language braille code at the entry level.

BLV 5403 - Literacy for Students with Visual Impairment (3.0)

In Literacy for Students with Visual Impairments, students develop a deep impairments. This course focuses on assessment of learning media, print and braille instruction, and the integration of technology in a literacy program. Students learn how to teach reading and writing with braille as the literacy medium to children and adults, including those with additional disabilities. This course covers various approaches of literacy instruction for this population.

BLV 5404 - Educating Emergent Bilinguals (1.5)

This course provides an introduction to the basic theoretical concepts and principles underlying major approaches to second language (L2) teaching. Students will gain knowledge and understanding the roles of the teacher and learner in L2 teaching, and the methods and techniques of L2 teaching. Students will also learn about the impact of sensory impairments or multiple disabilities on second language acquisition.

BLV 5430 - Principles of Teaching Students with Visual Impairment 1 (1.0)

Principles 1 covers the history of education for children with visual impairments, special education legislation, the IEP and IFSP, how to write IEP/IFSP goals and objectives, and how to write a lesson plan.

BLV 5431 - Principles of Teaching Students with Visual Impairment 2 (2.0)

Principles of Teaching Students with Visual Impairment 2 provides the methods by which teachers of the visually impaired assess and instruct the wide variety of children with visual impairments. Issues related to assessment and instruction of children with visual impairment include, but are not limited to, special and environmental modifications, strategies for teaching concept development, and ethics related to decision-making and the role of the teacher of the visually impaired in relation to the other professionals who will be working with children with visual impairments.

BLV 5490 - TVI Independent Study (1.0 or 2.0)

This course provides an opportunity for students to

complete an independent project/course of study that will enhance their knowledge of a specific aspect or area in the field of education of students who are visually impaired. The course is designed to address the student's individual needs, interests and aptitudes. A supervising faculty member approves and/or helps design the project and its expected outcomes. The project is typically completed within one semester.

BLV 5500 - Principles of Vision Rehabilitation Therapy (3.0)

This course provides students with information, links, video clips, resources and periodic discussions that address the history and development of the Vision Rehabilitation Therapy (VRT) profession, and provide an in-depth examination of the techniques and skills involved in VRT-specific assessment, lesson planning and instruction. As the course progresses, make note of the emphasis upon United States-based assessment and instructional strategies that utilize the principles of adult learning theory.

BLV 5502 - Independent Living Skills for Vision Rehabilitation Therapists (4.0)

This course is designed to provide the learner with hands-on instruction, web-based learning and rehabilitation training practice in the methodologies and adaptive techniques utilized by the professional rehabilitation teacher/vision rehabilitation therapist (VRT) in the following adaptive independent living skill areas: (a) eating skills, (b) stove top, oven, and microwave safety techniques, (c) basic meal preparation, (d) cleaning skills, (e) basic home mechanics, (f) diabetic management, (g) labeling techniques, including medication management and identification, (h) money identification and management, (i) grooming and hygiene, (j) time identification, (k) clothing care, (l) needle threading, (m) hand and machine sewing, (n) crafts, handicrafts and games.

BLV 5503 - Literacy for Adults with Visual Impairment (2.0)

In Principles of Literacy for Adults with Visual Impairment, students develop a deep understanding of teaching and learning of literacy skills for adults with visual impairment. This course focuses on assessment of learning media, print and braille instruction, and the integration of technology in a literacy program. Students learn how to teach reading and writing with braille as the literacy medium to adults with adventitious visual impairments.

BLV 5504 - Communication Skills for Vision Rehabilitation Therapists (1.0)

This course is designed to provide the learner with hands-on instruction, Web-based learning and rehabilitation training practice in the methodologies and adaptive techniques utilized by the professional rehabilitation teacher/vision rehabilitation therapist (VRT) in the following adaptive communication skill areas: (a) telephone skills and directory assistance, (b) writing skills, including signature, letter, list and check writing, (c) National Library Service/Library of Congress eligibility and certification requirements, (d) Talking Book/Cassette Playback Machine skills and Digital Talking Book skills, (e) recording skills, including maintenance and repair of recording devices, and tape indexing, (f) listening skills, (g) acquisition and use of readers, (h) radio reading services, and (i) postal regulations.

BLV 5590 - VRT Independent Study (1.0 or 2.0)

This course provides an opportunity for students to complete an independent project/course of study that will enhance their knowledge of a specific aspect or area in the field of Vision Rehabilitation Therapy. The course is designed to address the student's individual needs, interests and aptitudes. A supervising faculty member approves and/or helps design the project and its expected outcomes. The project is typically completed within one semester.

BLV 6200 - LVR Fieldwork (2.0)

LVR Fieldwork assures that alumni of the Drexel Low Vision Rehabilitation program have the basic skills necessary to provide quality low vision assessment and intervention services in their specific disciplines to individuals with low vision of all ages and abilities. Students observe the clinical low vision rehabilitation examination process under joint agency and Drexel supervision and/or participate in related community-based activities. All students must have at least one Certified Low Vision Therapist (CLVT) as a supervisor (either on- or off-site). All internship sites and supervisors will meet Academy of Certification of Vision Rehabilitation and Education Professionals (ACVREP) certification criteria.

BLV 6201 - LVR Internship (6.0)

LVR Fieldwork assures that alumni of the Low Vision Rehabilitation program have the skills necessary to provide quality low vision assessment and intervention services in their specific disciplines to individuals with low vision of all ages and abilities. Interns assess patient needs, formulate plans in cooperation with them, according to the

policies and procedures of their respective service settings, and instruct under joint agency and Drexel supervision.

BLV 6290 - LVR Comprehensive Examination (0)

The Comprehensive Examination is a cumulative exam or project that students undertake after all didactic courses have been successfully completed. It is a prerequisite for earning a master's degree, but carries no credit value.

BLV 6300 - O&M Fieldwork (3.0)

This course is a field practicum course. Learners will be mentored by an ACVREP Certified O&M Specialist to apply newly acquired knowledge and skills into serving individuals with visual impairments. The emphasis will be placed on techniques and strategies for providing quality assessment and instruction to a variety of individuals with visual impairments, including those with multiple disabilities. It is expected that the learners will conduct themselves in a professional manner at all times and keep all appointments. Learners will also be assigned a Drexel University faculty supervisor to monitor performance and progress. In addition, this course will provide an online forum (Blackboard) for students to discuss their experience, exchange ideas and strategies with one another and the course coordinator, and learn about new products, resources, or journal articles. Students are expected to log into the course's Blackboard component at least twice a week for the duration of the semester.

BLV 6301 - O&M Internship (6.0)

This course is a field practicum course. Learners will be mentored by an ACVREP Certified O&M Specialist to apply newly acquired knowledge and skills into serving individuals with visual impairments. The emphasis will be placed on techniques and strategies for providing quality assessment and instruction to a variety of individuals with visual impairments, including those with multiple disabilities. It is expected that the learners will conduct themselves in a professional manner at all times and keep all appointments. Learners will also be assigned a Drexel University faculty supervisor to monitor performance and progress.

In addition, this course will provide an online forum (Blackboard) for students to discuss their experience, exchange ideas and strategies with one another and the course coordinator, and learn about new products, resources, or journal articles. Students are expected to log into the course's Blackboard component at least twice a week for the duration of the semester.

BLV 6390 - O&M Comprehensive Examination (0)

The Comprehensive Examination is a cumulative exam or project that students undertake after all didactic courses have been successfully completed. It is a prerequisite for earning a master's degree, but carries no credit value.

BLV 6400 - TVI Fieldwork (1.0)

Fieldwork is an independent study experience designed to enrich the breadth of first-hand knowledge of the professional roles and service delivery systems likely to impact the education of children who are blind or visually impaired, including those with multiple disabilities. The specific course requirements are determined based on the student's experience in the field of general and special education and specifically education of infants, children and youth who are blind and visually impaired, including those with multiple disabilities.

BLV 6401 - TVI Internship (6.0)

This course is a student teaching course. Learners will be mentored by a certified Teacher of Students with Visual Impairments (TVI) to apply newly acquired knowledge and skills into serving individuals with visual impairments and additional disabilities. The emphasis will be placed on techniques and strategies for providing quality assessment and instruction to a variety of individuals with visual impairments, including those with multiple disabilities. It is expected that the learners will conduct themselves in a professional manner at all times. Learners will be assigned a Drexel University faculty supervisor to monitor performance and progress.

BLV 6490 - TVI Comprehensive Examination (0)

The Comprehensive Examination is a cumulative exam or project that students undertake after all didactic courses have been successfully completed. It is a prerequisite for earning a master's degree, but carries no credit value.

BLV 6500 - VRT Fieldwork (2.0)

This course provides students with an initial exposure to agencies, professionals, and practice methods in the field of Vision Rehabilitation Therapy. Learners begin to apply the competencies they have acquired in didactic and laboratory experiences to individuals in a variety of service delivery systems. Learners work at fieldwork sites under joint on-site and University supervision. On-site supervisors are expected to provide direct, consistent observation and feedback, as well as meet regularly with learners to discuss their activities, responsibilities, and the supervisor's ongoing assessment of learner performance.

BLV 6501 - VRT Internship (6.0)

This course provides learners with the opportunity to engage directly with clients and consumers who are blind or visually impaired during 400 contact hours and 14 weeks of learning experience. Learners apply the competencies they have acquired in didactic and laboratory experiences to individuals in a variety of service delivery systems. Learners participate in observation, direct client/consumer contact, meetings with staff, and other special projects during the assigned internship days. Learners will also have opportunities to identify and work cooperatively with selected community resources to ensure the application of a full range of holistic Vision Rehabilitation Therapy interventions. All internship sites and supervisors meet the certification criteria of the Academy for Certification of Vision Rehabilitation and Education Professionals (ACVREP).

BLV 6590 - VRT Comprehensive Examination (0)

The Comprehensive Examination is a cumulative exam or project that students undertake after all didactic courses have been successfully completed. It is a prerequisite for earning a master's degree, but carries no credit value.

CIM - Cochlear Implants**CIM 5000 - Biomedical Aspects of Cochlear Implantation (1.5)**

Cochlear implants lie at the intersection of hearing science, medicine, engineering, health policy and patient care. This course provides a biomedical perspective on the evolution of this therapy from its invention to the modern day, with a particular focus on current ideas.

CIM 5001 - Behavioral Measures in Cochlear Implants (1.5)

Auditory perception is a complex experience influenced by the acoustic environment, auditory system and individual preferences; it is further complicated when using cochlear implants. This course examines the use of behavioral measures – to assess candidacy, evaluate performance (including progress over time) and observe the effects of psychosocial factors – with the goal of optimizing the benefits of cochlear implantation.

CIM 5002 - Electrical Stimulation of the Cochlea (1.5)

While cochlear implants have opened up a world of possibility for persons with hearing loss, bypassing the finely-tuned peripheral auditory system presents some challenges. From hardware and software that power cochlear implants to sound processing and stimulation

strategies that shape auditory perception, this course explores how the systems work together to restore hearing. The role of advanced configurations, including bilateral, hybrid and bimodal stimulation, will also be examined.

CIM 5003 - Objective Measures in Cochlear Implants (1.5)

From baseline assessment and device optimization to clinical decision making and patient education, objective measures are crucial for cochlear implants. This course will explore a range of techniques to assess auditory (and non-auditory) responses to cochlear implant stimulation, as well as the necessary equipment and the application of the measures in clinical and research settings.

CIM 5004 - Aural (Re)habilitation for Cochlear Implant Recipients (1.5)

To maximize the life-altering benefits of cochlear implants and the probability of successful outcomes, the devices must be paired with comprehensive and personalized program of rehabilitation. This course addresses the multifaceted needs of cochlear implant recipients and their families, equipping clinicians with the knowledge and skills necessary to guide them through the often-challenging process of achieving their highest communication potential.

CIM 5005 - Current Trends in Cochlear Implants (1.5)

This course synthesizes current knowledge and practices in cochlear implants to examine the journey from patient and professional points of view. It also explores unique populations, applications of technology and emerging research.

CLA - Clinical Audiology**CLA 500A - Auditory Physiology & Perception (1.5)**

Human hearing is supported by a complex and finely-tuned auditory system. Comprehensive understanding of auditory physiology and its relationship to sound perception is an essential pre-requisite for identifying, assessing and treating hearing disorders. This course explores the intricate process of auditory perception, bridging biological mechanisms of hearing with the psychological experience of sound.

CLA 500B - Auditory System Disorders (1.5)

Understanding how diseases and conditions affect the auditory system is essential for accurate diagnosis and effective intervention in audiology practice. This course explores the pathophysiological processes affecting the

auditory system, and explores the relationships between auditory dysfunction, systemic conditions and lifestyle factors; it also highlights the roles of medical specialists and introduces pharmacological concepts. By integrating clinical, anatomical and interdisciplinary perspectives, students will gain a comprehensive foundation for identifying and managing auditory system disorders across diverse patient populations.

CLA 501A - Diagnostic Clinical Procedures (1.5)

Accurate hearing assessment is fundamental to effective audiologic care. This course is designed to provide a systematic, critical and practical review of current principles, procedures and protocols for behavioral hearing assessment of children and adults. Through lectures, simulation and discussion, students will build technical proficiency and clinical confidence to perform, interpret and document hearing assessments in alignment with professional standards.

CLA 501B - Electroacoustic Measurements (1.5)

Electroacoustic measurements are essential tools in audiologic diagnosis, offering objective insight into middle and inner ear function across the lifespan. This course covers the principles and clinical applications of aural immittance and otoacoustic emissions (OAEs). Students will explore the evidence base supporting these measures, along with key terminology and relevant anatomy. Topics include tympanometry, Eustachian tube function testing, acoustic reflexes, and wideband absorbance/reflectance, with emphasis on pediatric assessment. The course also examines OAE generation mechanisms, measurement protocols, and interpretation guidelines. By course end, students will be prepared to apply these techniques effectively in diverse clinical settings.

CLA 502A - Fundamentals of Electrophysiology (1.5)

Electrophysiologic measures are essential tools in Audiology, offering objective insights into auditory system function when behavioral responses are unavailable or unreliable. This course introduces the fundamentals of auditory evoked potentials, with an emphasis on Auditory Brainstem Response (ABR) and Auditory Steady-State Response (ASSR). Students will learn to select appropriate stimulus and acquisition parameters, implement suitable testing protocols and interpret results for screening, identification and differential diagnosis of hearing disorders.

CLA 502B - Introduction to Vestibular Function (1.5)

A thorough understanding of the vestibular system is essential for audiologists involved in diagnosing and

managing balance disorders. This course introduces the structure and function of the peripheral and central vestibular systems, following an anatomical sequence. Students will explore common vestibular disorders, examining their prevalence, risk factors, mechanisms, pathophysiology, symptom patterns, and medical management. The course concludes with an introduction to clinical evaluation techniques, including bedside assessments of the Vestibulo-Ocular Reflex (VOR) and Vestibulo-Spinal Reflex (VSR), as well as an overview of Videonystagmography (VNG). This foundational knowledge supports accurate assessment and interdisciplinary care in clinical audiology.

CLA 503A - Pediatric Audiology (1.5)

Hearing assessment and management for infants, young children and people with developmental delays is crucial for minimize the developmental effects of hearing loss in these populations. This course will provide students with an understanding of the development of auditory behavior, overview of Early Hearing Detection and Intervention programs, developmentally-appropriate physiological and behavioral test techniques, and provision of amplification. Case studies and video examples will be used to reinforce key concepts.

CLA 503B - Auditory Processing Disorders (1.5)

Auditory Processing Disorders (APD) present complex diagnostic and management challenges that require specialized knowledge in audiology practice. This course provides a comprehensive understanding of the neurobiological foundations of APD, with emphasis on differential diagnosis and evidence-based intervention strategies. Students will learn to assess and manage APD across the lifespan, with focused attention on pediatric populations and special considerations for older children and adults. Topics include risk factors, diagnostic procedures, and clinical decision-making. Upon completion, students will be equipped to develop and implement effective APD services tailored to both children and adults in diverse clinical settings.

CLA 504A - Overview of Hearing Technologies (1.5)

CLA 505A - Aural Rehabilitation (1.5)

Aural rehabilitation is a vital component of audiology practice, aiming to minimize the impact of hearing loss on communication, social engagement, and quality of life. This course provides a comprehensive overview of evidence-based principles and practices in audiologic rehabilitation for children and adults. Students will explore assessment and intervention strategies, outcome measures,

and advances in hearing assistance technology. Emphasis is placed on the holistic management of hearing loss, including psychosocial and cultural considerations. Through critical engagement with current literature and case-based learning, students will gain the knowledge and skills needed to deliver effective, person-centered rehabilitation services.

CLA 505B - Counseling for Behavior Change (1.5)

Long-term success in audiologic care depends on building positive and supportive client relationships. This course will focus on person- and family-centered care, factors that influence care, and evidence-based counseling strategies that facilitate client behavior change.

CLA 506A - Research Methods (1.5)

A strong foundation in research methods is essential for clinical audiologists to deliver evidence-based care and contribute to the advancement of the field. This graduate-level course explores both qualitative and quantitative research approaches, emphasizing their application to audiology practice. Students will learn the principles of study design, data analysis, and interpretation, with a focus on critically evaluating scientific literature and integrating research into clinical decision-making. Through hands-on assignments and discussion, students will develop the skills needed to design, assess, and apply research that informs patient care and supports professional growth in the dynamic field of audiology.

CLA 506B - Professional Practice (1.5)

Success in audiology requires more than technical expertise—it demands professionalism, ethical judgment, and effective communication. This course prepares students to navigate the professional landscape by examining standards and guidelines for clinical practice, ethical decision-making, and interprofessional collaboration. Students will explore real-world scenarios to develop skills in professional communication, cultural competence, and ethical reasoning. Emphasis is placed on understanding the responsibilities of audiologists within diverse clinical settings and maintaining the highest standards of care. This course provides the foundation for responsible, ethical, and collaborative practice throughout a professional audiology career.

CLA 507A - Diagnostics (Basic)

Accurate diagnosis is the cornerstone of effective audiologic care. This workshop equips students with essential skills in basic diagnostic assessment across the auditory and vestibular systems. Students will gain practical experience in patient-intake, ear examination, and

basic audiometric, electroacoustic and electrophysiologic testing. The workshop also introduces bedside balance evaluations and emphasizes clear, concise report writing. Through interactive learning and clinical application, students will build the competence and confidence needed to perform comprehensive audiologic evaluations in a variety of clinical settings.

CLA 613A - Cochlear Implants (Basic)

Cochlear implants are life-changing devices that require skilled clinical management for optimal outcomes. This workshop provides foundational training in cochlear implant care, preparing students to support patients across the implantation journey. Students will learn how to prepare for appointments, conduct objective and behavioral measures, and perform basic device programming. Emphasis is placed on clinical decision-making and integrating all components of the CI process. The workshop culminates in practical experience with standardized patients, allowing students to apply skills in realistic scenarios and build confidence for future cochlear implant clinical practice.

CLA 613B - Cochlear Implants (Intermediate)

Cochlear implants transform lives, but only when supported by skilled professionals using evidence-based practices. This workshop equips clinicians with essential knowledge of protocols for pediatric and adult populations, hands-on experience with programming software, and practical skills for effective written communication.

CLA 632A - Hearing Aids (Basic)

Effective hearing aid fitting and verification are critical to successful patient outcomes. This workshop provides training in the core skills needed for hearing aid management. Students will learn basic cerumen management, take ear impressions, and prepare for patient appointments. The course covers coupler- and real ear-based approaches to quality control, adequate amplification and evaluation of advanced hearing aid features. Emphasis is placed on clinical accuracy, evidence-based practice, and patient-centered care. Through guided practice with standardized patients, students will gain the confidence and competence to deliver high-quality hearing aid services in diverse clinical settings.

CLA 632B - Hearing Aids (Intermediate)

In today's rapidly evolving landscape staying current with hearing aid technology and fitting protocols is essential for effective patient care. This workshop equips clinicians with essential knowledge of protocols for pediatric and adult populations, hands-on experience with fitting

software, and practical skills for effective written communication.

CLA 6404 - Clinical Training (7.5)

Clinical Training is a cornerstone of Audiology education, providing essential hands-on experience that bridges theory and practice. Students will work in diverse clinical settings with patients across the lifespan, gaining supervised experience in basic and advanced diagnostic procedures, hearing aid selection and verification, cochlear implant programming and management, and other areas. Emphasis is placed not only on technical proficiency, but also on the development of professional communication skills with patients, families, and interdisciplinary teams. This course prepares students to deliver comprehensive, patient-centered care and build the clinical competence required for successful independent audiology practice.

CLO - Clinical Optometry

CLO 5000 - Molecular and Cellular Processes (0.5)

The first half of this course examines the cell and its organelles. Each organelle or cellular component will be discussed in terms of structure and function. The second half of this course explores cells come together to form tissues. In addition to overall tissue structure, different tissue types are compared.

CLO 5001 - Microbiology and Immunology (0.5)

This course provides a comprehensive introduction to systemic immunology and microbiology. The immunology aspect of the course will focus on basic concepts of immunology, innate immunity, complement system, adaptive immunity, ocular immune privilege, and disorder of the immune system. A brief overview of clinical immunological disorders such as hypersensitivity immune reactions is provided. The microbiology aspect of the course focuses on the four core areas of introduction to microbiology such as bacteriology, virology, mycology, and parasitology with particular emphasis on microbial structure, classification of microbes, transmission of microbes, diagnostic/laboratory studies, and major antimicrobial agents.

CLO 5002 - Ocular Anatomy and Physiology (0.5)

This course prepares students in anterior segment pathology. Emphasis is placed upon diseases, disorders, and normal variations of ocular findings. This course builds on knowledge of ocular biology and focuses on conditions observed in the clinical environment. Diagnosis, treatment, and management of conditions affecting the

adnexa, conjunctiva, and cornea are explored.

CLO 5003 - Human Anatomy and Neuroscience (1)

The Human Anatomy and Neuroscience course covers the anatomy and neuroscience of both the afferent and efferent visual systems. In addition, this course provides an overview of general anatomy of the brain and cranial contents, as well as neuroimaging basics as they apply to the assessment of neurologic pathways of the afferent and efferent visual systems. The first half of the course focuses on basics of optic disc assessment and associated tests of optic nerve function, the light and near pupillary pathways and their clinical assessment, and the visual pathway and anatomically associated visual field defects. This portion of the course prepares students for the Optic Nerve Disorders course, which will occur midway through this course. The second half of this course focuses on the efferent visual system evaluation, including assessment of pupil sizes, palpebral apertures and ocular motilities. Abnormalities of the efferent visual system are explored from an anatomical perspective with focus on extraocular muscles, neuro-muscular junction, cranial nerves and brainstem anatomy.

CLO 5004 - General Physiology, Pathology and Pathophysiology 1 (1)

This course begins by describing the foundational principles of physiology, followed by the function of the nervous and muscular systems under normal and pathological conditions.

CLO 5006 - Principles and Applications of Pharmacology (1)

This course provides a survey of the general principles of pharmacology and the application of these principles to patient care situations. Evidence-based medicine is weaved through content areas where available and appropriate. This course includes an introduction to pharmacology and therapeutic terminology, routes of administration, pharmacokinetic and pharmacodynamic principles, processes of drug development, antimicrobials, medications that affect the autonomic nervous system, medications that affect platelets and inflammation, drugs used for pain management, and a general survey of ocular medications and medications used for ocular indications.

CLO 5009 - General Physiology, Pathology and Pathophysiology 2 (0.5)

This course focuses on the normal physiology and pathophysiology of the cardiovascular systems under normal and pathological conditions.

CLO 5100 - Ocular Biology and Anterior Segment Disease (1)

This course prepares students in anterior segment pathology. Emphasis is placed upon diseases, disorders, and normal variations of ocular findings. It builds upon knowledge of ocular biology and will focus on conditions observed in the clinical environment. Content focuses upon diagnosis, treatment, and management of conditions affecting the adnexa, conjunctiva, and cornea.

CLO 5101 - Clinical Medicine and Disease Manifestations (1)

This course provides a body systems conceptual approach to the diagnosis and co-management of the more commonly encountered ocular manifestations of systemic disease.

CLO 5102 - The Study of Glaucoma (0.5)

This course presents the clinical study of the glaucomas as it relates to optometric care. The course begins with a presentation of the relevant anatomy and physiology as it relates to glaucoma. The disease of glaucoma and its sub-categories are to be defined and an overview of the epidemiology and risk factors are presented. The specific types of glaucoma are further discussed including primary, childhood, and secondary glaucomas. Diagnosis of glaucoma is discussed with an emphasis on proper use and interpretation of ancillary testing along with pertinent patient history taking.- Finally, the decision to treat, medical treatment and surgical management of the glaucomas are discussed in detail.

CLO 5103 - Posterior Segment Disease (0.5)

This course examines the ocular findings of posterior segment pathological disease processes and its possible correlation to systemic disease. It also explores how systemic findings and blood work can alter the course of ocular disease.

CLO 5104 - Concepts of Cataracts, Low Vision and Geriatric Care (0.5)

This course details congenital and aging changes of crystalline lens including diagnosis and treatment. It discusses the aging eye and its physical and mental effects on the geriatric population. Additionally, an overview of congenital and acquired diseases/disorders associated with visual impairment is provided. The categories and incidence of vision impairment are discussed. Low vision rehabilitation evaluation and management strategies, including the low vision evaluation, low vision optical and non-optical devices and the interdisciplinary team

approach to low vision rehabilitative care are explored.

CLO 5105 - Pediatrics and the Study of Normal & Abnormal Binocular Function (1)

This course provides the knowledge base and cognitive skills required to examine, diagnose, and manage normal and abnormal vision in the pediatric population.- Students meeting competency in this course are expected to be able to incorporate pediatric ophthalmic exams into the practice of primary care optometry. Concepts learned can also serve as a foundation of further learning for those students who choose to specialize in this area.-This course provides an opportunity to develop a basic working knowledge for the detection, assessment, and intervention of vision problems for children of all ages.

CLO 5106 - Contact Lens Applications (0.5)

This course enhances the understanding of the application of contact lenses. The course reviews common diagnoses that require the use of contact lenses, such as refractive errors and corneal irregularities. New technological advances and overall treatment methods are reviewed during the course. The course enhances the knowledge of applying these uses in a clinical setting with patients and review practice management pearls.

CLO 5107 - Refraction and Pre & Post Refractive Surgery (1)

This course reviews the history and evolution of modern refractive surgery. The foundation of refraction and its role in determining candidates for various refractive surgery is discussed. Types of refractive surgery, post-surgical care, and surgically related complications are presented and evaluated.

CLO 5108 - Environmental Optometry (0.5)

This course familiarizes the graduate student with ways in which our visual system and ocular health are related to and affected by the environment in which we live and work.

CLO 5109 - Case Presentations and Panel Discussion (0.5)

This discussion-based, interactive course solidifies the clinical reasoning and decision-making processes in a group setting. Through cases, students are presented physical examination, refractive and history data that are discussed and dissected to prioritize differential diagnosis and determine the treatment and management strategies. The interactive setting fosters sharing perspectives on the analysis of clinical data and will support class discussions.

CLO 5110 - Optic Nerve Disorders (0.5)

This course covers a variety of conditions which may affect the optic nerve. The assessment of disorders of the optic nerve is covered and anatomic basis for the various conditions is explored. The pathophysiology, clinical presentation, prognosis and treatment of each condition is discussed.

CLO 5300 - Epidemiology, Biostatistics, Research & Design (1)

This course is a series of lectures designed to teach basic principles of epidemiology and biostatistics used in public health practice and research; (including the definition of measures of disease frequency; measures of effect and association; epidemiologic study designs, both experimental and non-experimental; data collection methods; and an overview of analysis of epidemiologic studies), This course also introduces other research types and experimental designs.

CLO 6001 - Practice Management and Professional Development (0.5)

This course explores commonly encountered practice management issues for optometrists, foundational concepts related to ethics and professionalism and an introduction to healthcare disparities and cross-cultural communication.

CLO 6200 - Clinical Procedures Laboratory (1.5)

This course provides students with the clinical skills required to complete a comprehensive eye examination. Lecture and laboratory sessions provide students with opportunities to learn background content, observe skill demonstrations by their instructor, perform skills on one another and ultimately demonstrate proficiency of those clinical skills in preparation for the Controlled Patient Care courses.

CLO 6203 - Clinical Case Studies (5.0)

This course facilitates the process whereby the student identifies two patient cases, writes two case reports, and presents one case report orally based on their clinical experience. Students complete written reports by identifying two clinical cases and providing evidence-based support for their diagnosis and management approaches. Each student creates presentation slides for both case reports in preparation for an oral presentation of one clinical case report for an audience of their student peers and course instructor. The course instructor selects one case for the oral presentation at least one week before the presentation.

CLO 6230 - Controlled Patient Care 1 (2)

Under the guidance of an instructor, students examine patients in a controlled environment utilizing the clinical skills assessed during the clinical procedures laboratory course. Students present cases to their instructor sharing their thought processes on differential diagnosis, management options and patient education.

CLO 6231 - Controlled Patient Care 2 (2.5)

This course builds on the clinical experiences from the Controlled Patient Care 1 course. Under the guidance of an instructor, students will examine patients in a controlled environment utilizing the clinical skills and knowledge expanded during the Controlled Patient Care 1 course. Students present cases to their instructor sharing their thought processes on differential diagnosis, management options and patient education. This course also includes advanced lectures and labs on the topics of ophthalmic lasers and traumatic brain injury.

CLO 6301 - Evidence-Based Practice (1.0)

This course introduces the fundamental tools necessary to translate the information contained in scientific literature into actionable insights for guiding patient-centered clinical decision-making. This course offers students the opportunity to apply concepts in an interactive, instructor-guided format.

CLO 6330 - Scholarly Project - Part 1 (3)

The scholarly project course series spans across all terms and includes a literature review on an approved topic and focused clinical question. The project culminates with the submission of a written paper and the presentation for an audience of faculty advisors and classmates where students provide feedback to their peers. This scholarly component of the degree requirement is facilitated by faculty advisors who work with the students throughout the project.

CLO 6332 - Scholarly Project - Part 2 (2.5)

The scholarly project course series spans across all terms and includes a literature review on an approved topic and focused clinical question. The project culminates with the submission of a written paper and the presentation for an audience of faculty advisors and classmates where students provide feedback to their peers. This scholarly component of the degree requirement is facilitated by faculty advisors who work with the students throughout the project.

CLO 6333 - Scholarly Project - Part 3 (1.5)

The scholarly project course series spans across all terms

and includes a literature review on an approved topic and focused clinical question. The project culminates with the submission of a written paper and the presentation for an audience of faculty advisors and classmates where students provide feedback to their peers. This scholarly component of the degree requirement is facilitated by faculty advisors who work with the students throughout the project.

CLO 9031 - Advanced Studies in Contact Lens Part 1 (1)

This course facilitates the clinical application of various contact lens designs available for regular cornea patients and their respective candidacy selection criteria. Instructors discuss clinical tools and tests required in the decision-making process for prescribing these contact lenses. Medical uses of contact lenses are explored. Additional lens fitting requirements and troubleshooting tips is reviewed to enhance students' knowledge base in the applications of these contact lenses.

CLO 9032 - Advanced Studies in Contact Lens Part 2 (1)

This course emphasizes the clinical application of various contact lens designs available for irregular cornea patients and their respective candidacy selection criteria. Instructor(s) discuss clinical tools and tests required in the decision-making process for prescribing these specialty designs. Additional lens fitting requirements and troubleshooting tips are reviewed to enhance students' knowledge base in the applications of these custom devices in the irregular cornea population.

CLO 9033 - Advanced Studies in Contact Lens Part 3 (1.5)

This course covers the evaluation and treatment of contact lens complications. Soft contact lens, gas permeable contact lens, hybrid and scleral lens complications will be covered. For each condition, signs, symptomatology, etiology, pathophysiology and management will be discussed including pharmacology. Contact lens design and solutions are reviewed. General myopia, causes, prognosis, prevalence, prevention, and management are discussed with an emphasis on orthokeratology. Furthermore, case-based examples and review of the current literature are utilized during group discussion and research assignments.

CLO 9034 - Advanced Studies in Contact Lens Part 4 (1.5)

This course refines their critical appraisal of the scientific literature skills as well as the application of results of scientific studies to a specific patient. Moreover, the

students develop scholarly writing skills through mentor-guided, case-centered assignments. Students experience hands on training and interactive case-based discussion through workshops. Finally, case analysis and presentation skills are enhanced through grand rounds lecture presentations.

CLO 9041 - Advanced Studies in Vision Impairment & Rehabilitation Part 1 (1)

This course covers key aspects of the clinical application of various examination procedures and devices in the evaluation and rehabilitation of patients with functional vision loss. Utilizing an interdisciplinary approach, instructors discuss assessment tools and tests required in the decision-making process for prescribing devices/systems, as well as the need for vision rehabilitation therapy (instruction in utilizing these devices). The need for appropriate referrals (i.e. psychologists, therapists, physicians, agencies, etc.) is explored. Additional hands-on evaluation, fitting requirements, and troubleshooting tips for devices will be presented in workshops, along with the examination of patients who are visually impaired.

CLO 9042 - Advanced Studies in Vision Impairment & Rehabilitation Part 2 (1)

This course presents adaptive strategies that facilitate the evaluation and rehabilitation of patients with visual impairments. Utilizing an interdisciplinary approach, the instructor(s) discuss clinical assessment tools and tests required in the decision-making process for prescribing low vision devices/systems, the implementation of low vision rehabilitation therapy (instruction in utilizing these devices) and the options for appropriate referrals (i.e. psychologists, therapists, physicians, agencies, etc.). In addition, information regarding the latest optical and electronic technology and the most current medical procedures to enhance visual functioning is presented.

CLO 9043 - Advanced Studies in Vision Impairment & Rehabilitation Part 3 (1.5)

This course emphasizes the evaluation and management of patients with visual impairment ranging from infancy to the older population. Population specific techniques will be presented. Content is tailored to meet the unique needs of each population discussed.

CLO 9044 - Advanced Studies in Vision Impairment & Rehabilitation Part 4 (1.5)

This course provides students the opportunity to further enhance their low vision rehabilitation knowledge and have hands on clinical experience under the guidance and

supervision of a clinician specializing in vision impairment and rehabilitation. Three controlled patient care cases are selected for the students that include patients with central vision loss, peripheral field loss and congenital visual impairment. Along with the completion of these low vision examinations, the students develop scholarly writing skills through a mentor-guided, case-centered writing assignment based on these controlled care patients' experiences. Finally, the students develop presentation skills through grand-rounds lecture presentations.

CLO 9051 - Advanced Studies in Binocular Vision and Vision Therapy Part 1 (1)

This course provides the student with exposure to advanced topics in binocular vision and vision therapy. This course reviews the underlying concepts of vision therapy and office-based and home-based vision therapy procedures and activities, reviews evaluation and therapy for athletes and sports vision, discusses the impact of computers on visual health and appropriate interventions, reviews the evaluation and rehabilitation of those who suffer from concussion, and discusses best practices for prescribing prism to correct for motor or sensory imbalances in the visual system.

CLO 9052 - Advanced Studies in Binocular Vision and Vision Therapy Part 2 (1)

This course provides an in-depth review of the clinical assessment and management of patients with strabismus and amblyopia.- Instructors deliver the course by utilizing a case-based approach in a traditional lecture setting. In addition, hands-on workshops provide students with the opportunity to apply the knowledge and skills they have acquired.

CLO 9053 - Advanced Studies in Binocular Vision and Vision Therapy Part 3 (1.5)

This course will review different aspects of behavioral optometry, a branch of optometry that emphasizes visual development and performance through the unconventional use of lenses, prism, and therapy. The history, theory, and practical applications of behavioral techniques will be presented. Topics covered include myopia control, dynamic retinoscopy, and the alternate use of lenses in everyday practice. Case-based examples and review of the literature is utilized through group discussion and assignments.

CLO 9054 - Advanced Studies in Binocular Vision and Vision Therapy Part 4 (1.5)

This course provides students the opportunity to further enhance their knowledge in the areas of binocular vision,

vision therapy and pediatric optometry through clinical application and hands on workshops. This course provides an overview of the reading process as it relates to visual efficiency and information processing skills, along with an in-depth exploration of topics relevant to pediatric optometry. Evidence based decision-making is emphasized in the written article review assignment.

HAT - Hearing Technologies

HAT 5000 - Perceptual Consequences of Hearing Loss (1.5)

According to the World Health Organization (WHO), over 5% of the world's population – or 430 million people – are affected by disabling hearing loss. Starting with an overview of the burden of hearing loss on the individual and society, this course will examine the impact of hearing loss, signals and environments on auditory perception along with implications for hearing technologies.

HAT 5001 - Principles of Amplification (1.5)

Amplification is the most common treatment for permanent hearing loss. This course introduces to the essential aspects of providing effective amplification – from selecting candidates to prescribing compensation for hearing loss to problem-solving to ensure the best possible outcomes – while emphasizing evidence-based approaches to addressing the needs of the person with hearing loss.

HAT 5002 - Signal Processing in Hearing Aids (1.5)

The advent of digital hearing aids in the 1990s signaled a seismic shift in patients' experience with amplification. This course explores the digital signal processing (DSP) algorithms commonly used in modern hearing aids. In addition to covering the scientific principles underlying the technologies, students will learn their practical applications and limitations with a view to maximizing clinical outcomes.

HAT 5003 - Alternatives to Traditional Hearing Aids (1.5)

While amplification is the most common treatment for hearing loss, traditional hearing aids are not the only or the best solution. This course provides an in-depth exploration of alternatives, from simple to sophisticated, that are available to persons with hearing loss.

HAT 5004 - Pediatric Amplification (1.5)

Amplification is a crucial intervention for most children with permanent hearing loss. Hearing loss that occurs during development is inherently complex because

solutions must be adapted as children grow, develop and learn. This course covers topics in pediatric amplification, including evidence-based protocols for verifying and validating amplification. Case studies will illustrate important concepts and the observed variability in pediatric amplification outcomes.

HAT 5005 - Current Trends in Amplification (1.5)

Advancements in technology, health economics and clinical practices continue to reshape the hearing healthcare landscape. This course explores the trends that influence clinical decisions and patient experience, with the goal of equipping students to navigate the challenges and opportunities presented by these trends while maintaining the highest quality of care.

IPE - Interprofessional Education

IPE 7701 - Evidence Based Practice (1)

This course provides foundational skills in applying evidence-based practice tools in clinical practice. It is taught in an interprofessional, team-based environment and utilizes a combination of synchronous and asynchronous online instruction. Students enrolled in this course will participate in an interprofessional team project culminating in an oral presentation.

OCT - Occupational Therapy

OCT 5000 - Foundations of Occupational Therapy (4)

This course provides students with foundational knowledge in occupation-based practice through reflection on curricular themes and participation in lecture and lab experiences. Course content emphasizes occupation-centered factors as students learn activity analysis and occupation-based concepts that are central to doing and define our scope of practice.

OCT 5001 - Physiology (3)

Provides occupational therapy students with an understanding of the body functions that support health or can underlie disease processes, including inflammatory aspects, infectious conditions and genetic mechanisms in health and disease. There is an emphasis on neurological functions and the structures that support these functions. Lectures proceed through organized systems with presentations emphasizing normal physiology of that system, followed by a brief introduction to pathophysiology of diseases important to that system.

OCT 5002 - Biopsychosocial Development Across the Lifespan (2)

Focuses on individual development from the pre-natal period through older adulthood. Interaction of physical, psychological, cultural and social systems on the individual's adaptation will be examined. The interface of normative developmental issues and impairment will be explored. Changes in occupational engagement and impact of lifestyle choice, disability and chronic illness over the life-span will be included. The course uses lecture and small group format to develop the knowledge, skills, and attitudes necessary for the understanding of, communication with clients and their families.

OCT 5003 - Functional Anatomy and Kinesiology (4)

Provides occupational therapy students with intensive instruction in gross human anatomy and functional kinesiology. Through lecture and guided experiential learning, this course has an emphasis on body structures supporting neuromusculoskeletal and movement-related structures. Laboratory instruction provides small group, instructor-guided experiences, including human cadaver dissection, manual muscle testing and goniometry.

OCT 5030 - Applied Tenets 1 (2)

Introduces the first rotation of supervised Fieldwork Level I where students demonstrate beginning competency in application of critical analysis within the context of scholarship, humanism, and occupation-based practice. In all three Level I fieldwork rotations students build on their understandings of the curricular theme of occupation. In addition, the focus of this fieldwork experience will be to reinforce understandings of interdisciplinary teams. Students will be able to clearly define the scope of practice for OT's while learning more about how to work with other professionals in clinical settings.

OCT 5031 - Applied Tenets 2 (2)

Applied Tenets 2 continues to develop competency in application of critical analysis within the context of scholarship, humanism, and occupation-based practice. In all three Level I fieldwork rotations students build on their understandings of the curricular theme of occupation. In addition, the focus of this fieldwork experience will be to reinforce critical reasoning as it relates to practice. Clinical reasoning skills will be challenged this semester by increasing complexity of cases used in didactic teaching, as well as application within the clinic setting.

OCT 5032 - Applied Tenets 3 (2)

Applied Tenets 3 is the third and final level I fieldwork experience. It continues to develop competency in application of critical analysis within the context of scholarship, humanism, and occupation-based practice. In all three Level I fieldwork rotations students build on their understandings of the curricular theme of occupation. In addition, the focus of this fieldwork experience will center on professional development and leadership in the field. Students will learn to identify ways to advocate for clients and understand how to take on professional development and leadership roles in a clinical setting.

OCT 5100 - Research Methods (3)

This course introduces the student to foundational components of occupational therapy research, including both qualitative and quantitative methodologies. The quantitative research part of this course will include searching, evaluating and synthesizing relevant research literature, identifying and developing a research question, exposure to the range of outcomes and measurements utilized in occupational therapy, sampling methods, research designs, and basic statistical analyses and interpretation. The course will provide skills and experience with systematically developing a quantitative research design proposal. The qualitative research part of this course will introduce the student to the major approaches used in conducting qualitative research and the application of these methods to problems and phenomena in occupational therapy. Students will have an opportunity to participate in a qualitative research experience, culminating in a final project.

OCT 5101 - Ethics in Occupational Therapy (1)

This course provides students with an understanding of ethical dimensions related to practice in occupational therapy. Key official and legal documents that affect professional practice will be examined. Students will consider the interrelation between personal (moral), legal (public) and ethical decision-making and learn several conceptual approaches to understanding and resolving ethical dilemmas. Ethical dimensions of patient-caregiver-professional relationships, social contexts of healthcare, professional roles, professional documentation and communication, clinical research involving human subjects, and other ethical issues in scholarly inquiry.

OCT 5102 - Occupational Therapy Orthotics and Modalities (1)

This course will provide basic knowledge and skills in assessment and intervention techniques as they apply to

orthotics and other modalities used in OT treatment. The student will have the opportunity to develop hands-on skills in an interactive laboratory with learning based in case study experiences.

OCT 5103 - Leadership and Management (2)

This course prepares students for varied roles within the healthcare delivery system including manager/program director, supervisor, advocate and entrepreneur. It includes an exploration of healthcare delivery systems and the regulatory and reimbursement mechanisms that affect delivery of OT services throughout the continuum of care. Through development of a professional portfolio, students demonstrate knowledge and personal awareness of resources that support leadership in practice, education, and health policy.

OCT 5200 - Emerging & Innovative Practice in Occupational Therapy (2)

Emerging and Innovative Practice in OT provides students with an overview of assistive technology devices and services, including but not limited to evaluation and assessment, selection, procurement, and training. Legislation and funding related to assistive technology will be discussed. Students will also explore emerging practice areas with a focus on health and wellness.

OCT 5202 - OT Theory and Practice in Mental Health and Community (3)

This course presents the theory and practice of community-based practice and prevention/transition services for the well population and populations at risk for specific mental, social, and/or environmental problems. Course material includes community context, multicultural competence, and principles of prevention, use of evidence to plan and evaluate services, and consultation and collaboration. Utilizing a life-span developmental perspective, information is presented on the needs of each target group and settings to access the population. The program development process is described in depth, with special emphasis on needs assessment and outcome evaluation.

OCT 5300 - Occupational Therapy Theoretical Perspectives (2)

This course provides students with professional knowledge in historical and current occupational theories, models of practice, and frames of reference. Comparing, contrasting and integrating a variety of occupation-based models and frames of reference is emphasized, as well as the development of therapeutic reasoning. Group theory and process are introduced and group leadership skills developed.

OCT 5301 - OT Theory and Practice for Children and Youth (4)

A lecture and lab format focuses on occupational performance in infancy, childhood, and adolescence. This course is a part of the professional and service delivery components of the curriculum and introduces occupational therapy theory, evaluation and intervention specifically relating to the pediatric population. Students will apply relevant theoretical constructs in problem based learning across a wide range of performance skill deficits and stages of pediatric development, emphasizing client and family centered care.

OCT 5302 - OT Theory and Practice for Adults (4)

This course presents an overview of the planning and implementation of occupational therapy services for adults while providing a continuation of the exploration and study of selected theories and frames of reference as applied to adults. Students will gain experiences in the practice of integrating occupational therapy frames of reference, activity analysis, theories of human development and human occupation and the process of clinical reasoning with the observation, evaluation, delivery and documentation of occupational therapy services for adults. Emphasis will be given to theoretical constructs as applied through occupation-based practice in adults.

OCT 5303 - OT Theory & Practice in Geriatrics (3)

A lecture and lab format requires students to demonstrate synthesis of key curricular elements applied to a traditional or emerging area of occupational therapy practice with older adults. Lectures proceed through the AOTA Practice Framework in an organized fashion with presentations emphasizing the dynamic intersection of the client, the context, and the client's occupations. Special attention is paid to the issues and concerns of older adults, especially those at risk for health decline and loss of independence.

OCT 5400 - Pediatric Clinical Conditions (2)

This course provides students with an introduction to the most common health problems affecting the pediatric patient, from the newborn period through adolescence. Lectures focus on health promotion, disease prevention and screening, pathology identification and management, and patient education and counseling for the pediatric patient and his/her family.

OCT 5401 - Adult Clinical Conditions (2)

Students will study selected diseases throughout the life span, including adult and older adult stages. Areas of focus include the fundamental facts, medical and surgical

interventions in developmental, orthopedic, neurological and metabolic disorders. Disorders and medical and surgical interventions/treatments are discussed in addition to how they impact the client and their occupational roles and performances.

OCT 5402 - Behavioral Health Conditions (2)

This course addresses the etiology and symptoms of behavioral health conditions throughout the adult life span, commonly referred for occupational therapy services. The effects of trauma and disease on the biological, psychological, and social domains of occupational behavior are introduced. The influence of culture and diversity, environmental context and psychological issues, as well as the impact of occupation and health promotion in practice are examined. Disorders, medical, pharmacological, and therapeutic interventions are discussed including procedures and precautions necessary to ensure client and caregiver safety.

OCT 6000 - Capstone Project (1)

This course serves as a culminating experience in the occupational therapy program. Students are required to demonstrate critical thinking, leadership skills, and the ability to synthesize information gained through didactic and fieldwork components of the curriculum. This is accomplished through reflection papers and the development and presentation of a professional poster highlighting contributions of occupational therapy in addressing the health needs of individuals, families and communities. This course includes both didactic classroom time and a distance learning format.

OCT 6001 - Capstone Synthesis (1)

This course completes a culminating experience in the occupational therapy program. Students are required to demonstrate critical thinking, leadership skills, and the ability to synthesize information gained throughout the curriculum. This course takes place in a distance learning format).

OCT 6030 - Fieldwork 2A (6)

This course entails twelve weeks of full-time, supervised clinical experience with the opportunity to treat individuals with a variety of diagnoses across the life span. Fieldwork 2A is an in-depth experiential field experience that is critical to occupational therapy education. In supervised settings, students apply their academically acquired body of knowledge. This occurs in varied settings where occupational therapy services are provided. This includes institutions, outpatient clinics, community-based services and/or schools. These fieldwork sites deliver acute, sub-

acute or chronic care. This course addresses the contextual application component of the curriculum; reflecting the educational themes of occupation, professional development and leadership, interdisciplinary collaboration, and critical reasoning.

OCT 6031 - Fieldwork 2B (2)

This course entails six weeks of full time supervised clinical experience with the opportunity to treat individuals with a variety of diagnoses across the life span. Fieldwork 2B is an in-depth experiential field experience that is critical to occupational therapy education. In supervised settings, students apply their academically acquired body of knowledge. This occurs in varied settings where occupational therapy services are provided. This includes institutions, outpatient clinics, community-based services and or schools. These fieldwork sites deliver acute, sub-acute or chronic care. This course advances the contextual application component of the curriculum; reflecting the educational themes of occupation, professional development and leadership, interdisciplinary collaboration, and critical reasoning.

OCT 6032 - Fieldwork 2C (4)

This course entails six weeks of full-time, supervised clinical experience with the opportunity to treat individuals with a variety of diagnoses across the life span. Fieldwork 2C is an in-depth experiential field experience that is critical to occupational therapy education. In supervised settings, students apply their academically acquired body of knowledge. This occurs in varied settings where occupational therapy services are provided. This includes institutions, outpatient clinics, community-based services and or schools. These fieldwork sites deliver acute, sub-acute or chronic care. This course further advances and solidifies the contextual application component of the curriculum; reflecting the educational themes of occupation, professional development and leadership, interdisciplinary collaboration, and critical reasoning.

ODS - Optometry Accelerated Scholars

ODS 7612 - Ophthalmic Lasers & Minor Surgical Procedures (1.0)

The Minor Surgical Procedures course explains surgical evaluation and management including pre-operative candidate selection, pre-surgical testing, and patient counseling and preparation. Post-operative management and complications are also presented. Periocular surgical procedures topics include informed consent, OSHA

guidelines, aseptic and sterile techniques, types of lesion removal, and post-operative care. Head and neck anatomy and evidence-based practice are applied in surgical planning, procedures, and anesthesia. Injection topics including indications, contraindications, side effects, complications, and techniques are reviewed. Specific injection types include periocular injections, intravenous, subcutaneous, intramuscular, intradermal, subconjunctival, and intralesional injections. The associated laboratory provides a hands-on experience in performing various injections, simulated removal of lesions using multiple techniques, and suturing procedures.

ODS 7002 - Healthcare, Professionalism, and Diversity (2)

This course is designed to develop a foundational understanding of the U.S. health care system and the role of optometry within this changing system. This course provides insight into the impact of technology, economics, population trends, managed care, and the emerging value-based health care on clinical practice. It introduces the concept of primary care, the interprofessional coordinated care models, the evolving scope of practice and its financial, political, and professional implications. Additionally, this course will prepare students to understand and respect the values, beliefs, and expectations of their patients, and then apply the requisite attitudes, knowledge, and skills to each patient encounter to achieve improved clinical outcomes. This course will examine ways in which culture intersects with health, and how public health efforts can be most productive by understanding cultural processes. The national challenge of improving our health care system provides a public health platform for understanding the continuing evolution of the profession of optometry.

ODS 7020 - Systemic Medicine and Disease 1 (1.5)

This course is the first part of a two-term sequence to advance the student's knowledge of systemic diseases that they are likely to encounter in the primary and specialty eye care setting. For each organ system presented epidemiology of disease, risk factor analysis, pertinent history and physical examination findings, differential diagnosis, treatment and management, pertinent laboratory evaluations, and ocular manifestations will be stressed. The Systemic Medicine laboratory provides training in Cardiopulmonary Resuscitation (CPR)-Basic Life Support (BLS) as approved by the American Heart Association. Successful completion leads to a two-year certification in "Basic Life Support for Healthcare Providers". The laboratory also consists of a basic physiology lab where students will collect and interpret clinical data from

diagnostic testing.

ODS 7021 - Systemic Medicine and Disease 2 (2)

This course is the second part of a two-term sequence to advance the student's knowledge of systemic diseases that they are likely to encounter in the primary and specialty eye care setting. For each organ system presented epidemiology of disease, risk factor analysis, pertinent history and physical examination findings, differential diagnosis, treatment and management, pertinent laboratory evaluations, and ocular manifestations will be stressed. The Systemic Medicine laboratory provides training in Cardiopulmonary Resuscitation (CPR)-Basic Life Support (BLS) as approved by the American Heart Association. Successful completion leads to a two-year certification in "Basic Life Support for Healthcare Providers". The laboratory also consists of a basic physiology lab where students will collect and interpret clinical data from diagnostic testing.

ODS 7030 - Anterior Segment Disease 1 (2)

This course will prepare students in the area of anterior segment pathology. Emphasis will be placed upon diseases, disorders, and normal variations of anterior segment ocular findings. It will build upon the knowledge gained in Ocular Biology 1 and 2, and will focus on conditions observed in the clinical environment. Content will focus upon diagnosis, treatment, and management of conditions affecting the adnexa, uvea, and sclera.

ODS 7031 - Anterior Segment Disease 2 (2)

This course will prepare students in the area of anterior segment pathology and immunology. Emphasis will be placed upon diseases, disorders, and normal variations of ocular findings. It will build upon the knowledge gained in Ocular Biology 1 and 2, and will focus on conditions observed in the clinical environment. Content will focus upon diagnosis, treatment, and management of conditions affecting the adnexa, conjunctiva, cornea, and lens.

ODS 7040 - Pharmacology 1 (1)

This course will provide a survey of the general principles of pharmacology and the application of these principles to patient care situations. Evidence-based medicine practice is weaved through the above areas where available and appropriate. This course will cover an introduction to pharmacology vocabulary, routes of administration, receptors, pharmacokinetic and pharmacodynamic review, processes of drug development, and antibiotics. At the conclusion of this course, students will understand the basic principles of pharmacokinetics and pharmacodynamics, mechanisms of actions of drugs in

different therapeutic classes, drug side effects and toxicities, contraindications, and drug interactions.

ODS 7041 - Pharmacology 2 (1)

This course will provide a survey of the general principles of pharmacology and the application of these principles to patient care situations. Evidence-based medicine practice is weaved through the above areas where available and appropriate. This course will cover Medications That Alter the Autonomic Nervous System, NSAIDs, Anti-platelets, Anti-Coagulants, and Medications that Alter the Cardiovascular System. At the conclusion of this course, students will understand the basic principles of pharmacokinetics and pharmacodynamics, mechanisms of actions of drugs in different therapeutic classes, drug side effects and toxicities, contraindications, and drug interactions.

ODS 7042 - Pharmacology 3 (2)

This course will provide a survey of the general principles of pharmacology and the application of these principles to patient care situations. Evidence-based medicine practice is weaved through the above areas where available and appropriate. This course will cover Respiratory Medications, Biologics, Allergy Medications, Integrative Medicine topics, Endocrine Medications, GI Medications), Neuropharmacology Medications, and prescription writing. At the conclusion of this course, students will understand the basic principles of pharmacokinetics and pharmacodynamics, mechanisms of actions of drugs in different therapeutic classes, drug side effects and toxicities, contraindications, and drug interactions.

ODS 7100 - Environmental Optometry and Sports Vision (1)

The online portion of this Environmental Optometry course concentrates on the study, management, and control of natural and human factors in the environment that can affect the health and visual status of patients. The second portion of the course will concentrate on the study, management and treatment of Sports Vision issues. Because of specific risk factors in the occupational, recreational, sports and home environments, optometric practitioners should be well versed concerning visual demands and potential sources of hazard in their patients' environments and avocations. This course will briefly introduce environmental optometry and sports vision concepts that apply to optometric practice.

ODS 7242 - Systemic Physiology & Pathology 1 (1.5)

Systemic Physiology & Pathology 1 promotes an understanding of the structure and function of the

cardiovascular system through the integration of anatomy, histology, physiology and pathology.

ODS 7243 - Systemic Physiology & Pathology 2 (2)

Systemic Physiology & Pathology 2 promotes an understanding of the structure and function of select organ systems through the integration of anatomy, histology, physiology and pathology. Emphasis is placed on the respiratory, renal, AND endocrine systems. In addition, an overview of the gastrointestinal system and integument/dermatopathology will be presented. The course is designed to facilitate the larger integration of structure, function and pathologic changes in specific organ systems of the human body.

ODS 7244 - Public Health Optometry and Research Methods (1.5)

Public health professionals care for populations while individual health care providers, including primary care optometrists, care for individual patients. Primary care optometrists also practice within the population based public health community. This course introduces the student to the core principles in public health: epidemiology, epidemics, screening, public health organizational structure, and public health law. The student will also learn skills to evaluate the validity and application of observational and experimental studies

ODS 7301 - Ocular Emergencies and Differential Diagnoses (1)

This course provides the student with an overview of the epidemiology, presentation, diagnosis, and management of selected ocular emergencies. There is an emphasis on conditions requiring the most emergent and/or urgent care. Students will have combined lecture and recitation instruction which will highlight determining a list of differential diagnoses. Furthermore, students will be guided through selection of appropriate diagnostic test selection and clinical findings for each condition.

ODS 7330 - Scholars Ocular Anatomy and Histology (2.5)

The ocular anatomy and histology, covered in Ocular Biology I, form the framework for many of the biomedical aspects of primary vision care by presenting the gross and microanatomy of ocular tissues and fluids. The course provides the knowledge base in ocular tissue structure which enables the student to understand pathophysiological processes present in primary and secondary ocular diseases and congenital anomalies. Clinical correlates are an integral part of the course presentation. The course includes a laboratory component,

which is designed to give the student an opportunity to reinforce classroom material through the utilization of anatomic specimens.

ODS 7331 - Scholars Physiology and Biochemistry (2.5)

Ocular physiology forms the framework for many of the biomedical aspects of primary vision care by presenting the development and physiology/biochemistry of ocular tissues and fluids. The course provides the knowledge base in ocular tissue structure and function, as well as normal and abnormal development concepts, which enable the student to understand patho-physiological processes present in primary and secondary ocular diseases and congenital anomalies. Clinical correlates and case-based materials are an integral part of the course presentation. The course includes a laboratory component, which is designed to give the student an opportunity to reinforce classroom material through the utilization of anatomic and embryologic specimens, as well as clinical images, which reinforce the clinical application of the course. The laboratory setting, the smaller lab student numbers, along with the assistance of the laboratory instructors will enhance the students' understanding of the course lecture content.

ODS 7350 - Posterior Segment Disease 1 (1.5)

Understanding the basic concepts in vitreo-retinal disease is pivotal in creating competent, well-versed, and successful optometric health care practitioners. This course will emphasize the major areas of cellular structure and function of the vitreous, retina and choroid along with disease pathology and treatments. Major themes and topics of clinical retina will be applied and highlighted through clinical case analyses systemically and ocular-related.

ODS 7351 - Posterior Segment Disease 2 (1.5)

Understanding the basic concepts in vitreo-retinal disease is pivotal in creating competent, well-versed, and successful optometric health care practitioners. This course will emphasize the major areas of cellular structure and function of the vitreous, retina and choroid along with disease pathology and treatments. Major themes and topics of clinical retina will be applied and highlighted through clinical case analyses systemically and ocular-related.

ODS 7360 - Head and Neck Anatomy 1 (0.5)

Head and Neck Anatomy1 is an introductory course, and serves as a prerequisite to Head and Neck Anatomy 2, Neuroscience 1, Neuroscience 2, Neurological Examination and Neuroophthalmic Disease 1 and Neuroophthalmic Disease 2 courses in the curriculum. The course emphasizes anatomical relationships which support

clinical application including imaging and the relationship of the head and neck to organ systems. The course provides foundational anatomic information to facilitate the understanding and integration of normal function and pathological changes in the eye and the nervous system. The course introduces the student to basic head and neck anatomy. This course will provide the foundational knowledge for Head 2 EPCC 8.20 and Neck Anatomy 2 which introduces more detailed anatomy for pertinent systems and structures and explores the anatomical relationship with clinical correlates.

ODS 7400 - Head and Neck Anatomy 2 (1.5)

Head and Neck Anatomy 2 is a continuation of Head and Neck Anatomy 1, and serves as a prerequisite to Neuroscience 1, Neuroscience 2, Neurological Examination and Neuro- ophthalmic Disease 1 and Neuro- ophthalmic Disease 2 courses in the curriculum. The course emphasizes anatomical relationships which support clinical application including imaging and the relationship of the head and neck to organ systems. The course builds upon the foundational anatomic information covered in Head and Neck Anatomy 1 to facilitate the understanding and integration of normal function and pathological changes in the eye and the nervous system. This course introduces more detailed anatomy for pertinent systems and structures and explores the anatomical relationship with clinical correlates.

ODS 7402 - Ocular Motility (2)

This course emphasizes the basic mechanisms of the 5 major classes of eye movements (saccades, pursuits, optokinetic reflex, vergence eye movements and the vestibulo-ocular reflex). In addition, it covers ocular fixation and accommodative eye movements. While the student will mainly learn the functional and neurophysiological aspects of ocular motility, it is expected that the student will also be able to integrate this information with previously learned anatomical sites and structures. This will provide continuity in the student's learning experience and serves as a basis for acquiring new and future knowledge about ocular motility in disease and dysfunction. Key clinical examples of eye movement disorders will be discussed along with their neural substrates and mechanisms.

ODS 7410 - Vision Science and Perception 1 with Laboratory (1)

The purpose of Vision Science and Perception I (VS&P I) is to guide student study of the functional aspects of the visual, vestibular and auditory systems and to introduce methods and techniques of research in visual physiology

and general psychophysics. VS & P 1 includes introductory concepts of monocular visual perception, its physiological basis and application to clinical practice. Concepts will be applied to understanding dark and light adaptation and increment thresholds. VS & P 1 serves as a foundation for continuation of these concepts on a more expanded basis in VS & P 2 through VS & P 4. Students will also study the basics of sensory perception in the modalities of auditory and vestibular sensitivity. Psychophysical measurements will be an important emphasis of this course and this begins with specification of the stimulus and techniques of eliciting data from human observers through the auditory and visual systems. Laboratory exercises will demonstrate how to clinically measure psychophysical functions and how dark adaptation is measured in a clinical setting.

ODS 7411 - Vision Science and Perception 2 with Laboratory (1.5)

The purpose of Vision Science and Perception 2 (VS & P 2) is to further guide student study of the anatomical, physiological and functional aspects of the visual system and to continue to introduce clinical and research methods and techniques in visual physiology and general psychophysics in order to elicit data from human observers. VS & P 2 reviews and delves further into concepts in retinal physiology that relate directly to both objective and psychophysical testing of retinal and visual pathway functions and their application to clinical practice. VS & P 2 serves as a foundation for continuation of these concepts on a more expanded basis in VS & P 3 and VS & P 4. Laboratory exercises will demonstrate how to clinically measure and interpret retinal and visual pathway function through objective electrophysiological testing and how contrast sensitivity a psychophysical function is measured and applied in a clinical setting.

ODS 7412 - Vision Science and Perception 3 with Laboratory (1.5)

The purpose of Vision Science and Perception III (VS & P 3) is to guide student study of the anatomical, physiological and functional aspects of the visual system and to continue to introduce clinical and research methods and techniques in visual physiology and general psychophysics to elicit data from human observers. VS & P 3 builds upon concepts covered in VS&P 1 and 2 to introduce measurement of light and how we perceive light and color and their application to clinical practice. A summary of psychophysical measures applicable to optometry as well as an overview of the development and changes in visual skills covered in VS & P 1-3 will conclude this course. VS & P 3 also serves as a foundation

for the vision science of amblyopia and binocular vision in VS & P 4.

ODS 7413 - Vision Science and Perception 4 with Laboratory (1.5)

This course will cover vision science and perception concepts related to binocular vision. This is the fourth course in the vision science and perception (VSP) course sequence. The course will include the physiological basis for binocular vision, monocular and binocular depth cues, horopters and binocular illusions, visual direction, summation, binocular rivalry, aniseikonia and the neurophysiology of amblyopia.

ODS 7440 - Binocular Vision 1 with Laboratory (2.50)

This course will cover the diagnosis and management of accommodative, eye movement and non-strabismic binocular vision disorders. The course will include theoretical models of binocular vision, diagnostic testing and common management options for visual efficiency disorder. This course will also introduce students to the concepts of management of visual disorders with vision therapy.

ODS 7441 - Binocular Vision 2 with Laboratory (2)

This course covers the treatment of non strabismic binocular vision disorders and amblyopia and strabismus.

ODS 7450 - Neuro-Ophthalmic Disease 1 with Laboratory (1.50)

The Neuro-Ophthalmic Disease Course Series builds on the foundation laid in the Head and Neck Anatomy, Neuroanatomy, and Neurologic Examination Courses. This course series consists of 2 courses which take place in the Fall and Winter terms of the second year (NeuroOphthalmic Disease 1 and 2, respectively) of the scholars OD program. This course series covers the clinical application of the neuroscience, anatomy and neuroanatomy principles learned in previous courses. This course offers students the opportunity not only to apply those important basic science concepts clinically, but to learn how to properly examine, diagnose, and treat patients with neuro-ophthalmic manifestations. Specifically, this course, Neuro-Ophthalmic Disease 2, covers evaluation and management of disorders of the efferent visual system.

ODS 7452 - Neuro-Ophthalmic Disease 2 with Laboratory (1.5)

The Neuro-Ophthalmic Disease Course Series builds on the foundation laid in the Head and Neck Anatomy, Neuroanatomy, and Neurologic Examination Courses. This

course series consists of 2 courses which take place in the Fall and Winter terms of the second year (NeuroOphthalmic Disease 1 and 2, respectively) of the scholars OD program. This course series covers the clinical application of the neuroscience, anatomy and neuroanatomy principles learned in previous courses. This course offers students the opportunity not only to apply those important basic science concepts clinically, but to learn how to properly examine, diagnose, and treat patients with neuro-ophthalmic manifestations. Specifically, this course, Neuro-Ophthalmic Disease 2, covers evaluation and management of disorders of the efferent visual system.

ODS 7605 - Glaucoma Management (1)

The purpose of this course is to present the clinical study of the glaucomas to the third-year intern. The course begins with a presentation of the relevant anatomy and physiology as it relates to glaucoma. Glaucoma is defined and an overview of the epidemiology and risk factors are presented. The specific types of glaucoma are discussed including primary, childhood, and secondary glaucomas. Diagnosis of glaucoma is approached with an emphasis on proper technique used with a well-defined concept of the disease. Finally, the medical and surgical management of the glaucomas are discussed in detail and cases are presented

ODS 7608 - Systemic Microbiology and Immunology (2)

This course provides a comprehensive introduction to systemic immunology and microbiology. The immunology aspect of the course will focus on basic and clinical immunology. The basic immunology content will focus on basic concepts of immunology, innate and adaptive immunity, the complement system, and immunogenetics. Clinical immunology will cover clinical immunological disorders such as autoimmune disease, transplant rejection, tumor immunology, immunodeficiency, and hypersensitivity. The microbiology aspect of the course will focus on microbial structure, microbial replication, pathogenic mechanisms of microbes, diagnostic/laboratory studies, and major antimicrobial targets. This course will emphasize major themes in the four core areas of microbiology (bacteriology, virology, mycology, and parasitology). Major themes will be applied and highlighted through reading of the required textbooks, lectures, and case-based lectures on ocular infections.

ODS 7609 - Cellular Physiology (1)

The focus of this course will be the Physiology of the cell, peripheral nervous system and muscle. Discussions will center on cellular physiology, with an emphasis on

membrane physiology, ion movements, action potentials, synapses & receptors, the somatic and autonomic nervous systems, muscle types and muscle structure/function.

ODS 7610 - Genetics and Biochemistry (2.5)

The course is separated into two components. The first component is genetics and we will look at the basics of DNA, RNA, and proteins examining their structures and how they are synthesized. We will discuss mutations and how they are repaired. We will examine the different inheritance patterns and be able to predict the likely phenotypic and genotypic outcomes from indicated alleles. During the biochemistry portion of this course we will examine cells and some of their biochemical functions. We will examine the structure, function, and metabolism of the three major macromolecules; carbohydrates, proteins and lipids. In addition, we will see how vitamins and minerals play an important role in these processes. And finally, we will learn the basics of enzymology.

ODS 7611 - Histology and Pathology (1)

The course is separated into two components. The Histology course will introduce the microscopic structure of cells and tissues. It begins with a discussion of stem cells, followed by an overview of the differentiation of cells and their organization into tissues. The structure and function of the basic tissue types will be presented, including epithelium, connective tissue, muscle and nerve tissue. Emphasis is placed on normal structure (histology of cells, extracellular components and tissues) as a basis for understanding normal physiological and biochemical functions. Examples of the structure-function relationship will be applied in discussions of anatomical components of the eye. Histology will be integrated with cell biology, biochemistry, anatomy and physiology which are presented elsewhere in the curriculum. It follows that knowledge of normal structure and function provides a framework for understanding abnormal findings and the pathogenesis of disease processes, that is, the clinical consequences of cellular disorders and tissue-related diseases. Pathology encompasses the study of disease – its causes (etiology) and the underlying mechanisms (pathogenesis) that result in the presenting signs and symptoms of the patient. The General Pathology course introduces basic pathologic processes. It integrates principles from histology, biochemistry, genetics and physiology to promote an understanding of the structural and functional changes in cells, tissues and organs. The response of cells and tissues to pathologic stimuli will be explored in presentations on cell injury, cell adaptation, inflammation and healing. The course concludes with a discussion of neoplasia, the result of extreme growth dysregulation. Knowledge of pathologic

processes promotes an understanding of the clinical manifestations of disease and forms the basis for utilizing treatment modalities to intervene in the disease process.

ODS 7612 - Ophthalmic Lasers & Minor Surgical Procedures (2.5)

The Ophthalmic Laser course explains surgical evaluation and management including pre-operative candidate selection, pre-surgical testing, and patient counseling and preparation. Post-operative management and complications are also presented. Ophthalmic laser topics include basic laser physics and tissue interactions, laser safety and hazards, indications and contraindications for specific laser procedures, laser procedure protocols, and post-operative management. Students will perform simulated ophthalmic laser surgery in the Ophthalmic Laser laboratory.

ODS 7613 - Minor Surgical Procedures (1.5)

The Minor Surgical Procedures course explains surgical evaluation and management including pre-operative candidate selection, pre-surgical testing, and patient counseling and preparation. Post-operative management and complications are also presented. Periocular surgical procedures topics include informed consent, OSHA guidelines, aseptic and sterile techniques, types of lesion removal, and post-operative care. Head and neck anatomy and evidence-based practice are applied in surgical planning, procedures, and anesthesia. Injection topics including indications, contraindications, side effects, complications, and techniques are reviewed. Specific injection types include periocular injections, intravenous, subcutaneous, intramuscular, intradermal, subconjunctival, and intralesional injections. The associated laboratory provides a hands-on experience in performing various injections, simulated removal of lesions using multiple techniques, and suturing procedures.

ODS 7615 - Ocular Pharmacology 1 (2)

Ocular Pharmacology includes two parts. The course provides the student with a thorough understanding of ocular drug classifications and mechanisms of action employed by ophthalmic drugs. The student learns indications, off-label indications, contraindications, appropriate dosing, and adverse effects of pharmaceutical agents employed in an eye care setting. Drug interactions and diagnostic uses are also examined in addition to basic pharmacology concepts and terminology. Emphasis is placed on the clinical utilization of drugs in optometric practice.

ODS 7616 - Ocular Pharmacology 2 (1.00)

Ocular Pharmacology includes two parts. The course

provides the student with a thorough understand of ocular drug classifications and mechanisms of action employed by ophthalmic drugs. The student learns indications, off-label indications, contraindications, appropriate dosing, and adverse effects of pharmaceutical agents employed in an eye care setting. Drug interactions and diagnostic uses are also examined in addition to basic pharmacology concepts and terminology. Emphasis is placed on the clinical utilization of drugs in optometric practice.

ODS 7630 - Integrated Decision Making 1 (1)

Integrated Decision Making 1-8 will tie together the concepts being taught across the curriculum during each term. Clinical concepts and cases will be introduced to emphasize and highlight selected material being taught in other courses in a given quarter as a supplement to student learning. Students will work through concepts and cases with a facilitator each week, and new material will be introduced through brief lectures as needed. The IDM sequence will begin by emphasizing skills in evidence based practice, public health, case history taking, entrance testing, and the integration of basic science into clinical care and later focus on disease detection, treatment, and management. The course sequence will also incorporate concepts from research methods such as basic study design and evaluation, developing a research question, writing an abstract, and basic epidemiology and statistics.

ODS 7631 - Integrated Decision Making 2 (1)

Integrated Decision Making 1-8 will tie together the concepts being taught across the curriculum during each term. Clinical concepts and cases will be introduced to emphasize and highlight selected material being taught in other courses in a given quarter as a supplement to student learning. Students will work through concepts and cases with a facilitator each week, and new material will be introduced through brief lectures as needed. The IDM sequence will begin by emphasizing skills in evidence based practice, public health, case history taking, entrance testing, and the integration of basic science into clinical care and later focus on disease detection, treatment, and management. The course sequence will also incorporate concepts from research methods such as basic study design and evaluation, developing a research question, writing an abstract, and basic epidemiology and statistics.

ODS 7632 - Integrated Decision Making 3 (1.5)

Integrated Decision Making 1-8 will tie together the concepts being taught across the curriculum during each term. Clinical concepts and cases will be introduced to emphasize and highlight selected material being taught in other courses in a given quarter as a supplement to student

learning. Students will work through concepts and cases with a facilitator each week, and new material will be introduced through brief lectures as needed. The IDM sequence will begin by emphasizing skills in evidence based practice, public health, case history taking, entrance testing, and the integration of basic science into clinical care and later focus on disease detection, treatment, and management. The course sequence will also incorporate concepts from research methods such as basic study design and evaluation, developing a research question, writing an abstract, and basic epidemiology and statistics.

ODS 7633 - Integrated Decision Making 4 (1)

Integrated Decision Making 1-8 will tie together the concepts being taught across the curriculum during each term. Clinical concepts and cases will be introduced to emphasize and highlight selected material being taught in other courses in a given quarter as a supplement to student learning. Students will work through concepts and cases with a facilitator each week, and new material will be introduced through brief lectures as needed. The IDM sequence will begin by emphasizing skills in evidence based practice, public health, case history taking, entrance testing, and the integration of basic science into clinical care and later focus on disease detection, treatment, and management. The course sequence will also incorporate concepts from research methods such as basic study design and evaluation, developing a research question, writing an abstract, and basic epidemiology and statistics.

ODS 7634 - Integrated Decision Making 5 (1)

Integrated Decision Making 1-8 will tie together the concepts being taught across the curriculum during each term. Clinical concepts and cases will be introduced to emphasize and highlight selected material being taught in other courses in a given quarter as a supplement to student learning. Students will work through concepts and cases with a facilitator each week, and new material will be introduced through brief lectures as needed. The IDM sequence will begin by emphasizing skills in evidence based practice, public health, case history taking, entrance testing, and the integration of basic science into clinical care and later focus on disease detection, treatment, and management. The course sequence will also incorporate concepts from research methods such as basic study design and evaluation, developing a research question, writing an abstract, and basic epidemiology and statistics.

ODS 7635 - Integrated Decision Making 6 (1.5)

Integrated Decision Making 1-8 will tie together the concepts being taught across the curriculum during each term. Clinical concepts and cases will be introduced to

emphasize and highlight selected material being taught in other courses in a given quarter as a supplement to student learning. Students will work through concepts and cases with a facilitator each week, and new material will be introduced through brief lectures as needed. The IDM sequence will begin by emphasizing skills in evidence based practice, public health, case history taking, entrance testing, and the integration of basic science into clinical care and later focus on disease detection, treatment, and management. The course sequence will also incorporate concepts from research methods such as basic study design and evaluation, developing a research question, writing an abstract, and basic epidemiology and statistics.

ODS 7636 - Integrated Decision Making 7 (1.5)

Integrated Decision Making 1-8 will tie together the concepts being taught across the curriculum during each term. Clinical concepts and cases will be introduced to emphasize and highlight selected material being taught in other courses in a given quarter as a supplement to student learning. Students will work through concepts and cases with a facilitator each week, and new material will be introduced through brief lectures as needed. The IDM sequence will begin by emphasizing skills in evidence based practice, public health, case history taking, entrance testing, and the integration of basic science into clinical care and later focus on disease detection, treatment, and management. The course sequence will also incorporate concepts from research methods such as basic study design and evaluation, developing a research question, writing an abstract, and basic epidemiology and statistics.

ODS 7637 - Integrated Decision Making 8 (1)

Integrated Decision Making 1-8 will tie together the concepts being taught across the curriculum during each term. Clinical concepts and cases will be introduced to emphasize and highlight selected material being taught in other courses in a given quarter as a supplement to student learning. Students will work through concepts and cases with a facilitator each week, and new material will be introduced through brief lectures as needed. The IDM sequence will begin by emphasizing skills in evidence based practice, public health, case history taking, entrance testing, and the integration of basic science into clinical care and later focus on disease detection, treatment, and management. The course sequence will also incorporate concepts from research methods such as basic study design and evaluation, developing a research question, writing an abstract, and basic epidemiology and statistics.

ODS 7640 - Neuroanatomy 1 (1)

Upon completion of this course students should be able to

understand and describe the origins of the Nervous System (NS) (Histogenesis) and the microscopic anatomy of the NS. Students will also be able to define the origins, course and important aspects of the sensory and motor pathways in the CNS. Additionally, students will begin to understand the clinical manifestations of damage to these pathways. The course will begin to explore the detailed neuroanatomy of medulla and relationship with the auditory and vestibular systems. The course continues into Neuroscience 2 which will continue to study the anatomy of the brainstem, thalamus, cerebellum, basal ganglia, cerebrum and their connections.

ODS 7641 - Neuroanatomy 2 (1.5)

Upon completion of this course students should be able to understand and describe the microscopic anatomy of the Central Nervous System (CNS). This course is a continuum of Neuroanatomy 1. It focuses on structures, pathways and functions of the brainstem, thalamus, basal ganglia, cerebellum and cerebrum. It continues to focus on understanding the anatomy involved in the clinical presentations of patients. The material covered in this course serves as foundational information for upcoming courses including, Neuro-ophthalmic Disease, Ocular Motility, Neuropharmacology, Neuropathology, among others. Each part of this course draws on and expands on what was taught previously so that you can continuously integrate your knowledge. Neuroanatomy 1 covered Histogenesis, microscopic structures of the Nervous System, Cord and cord pathways. Neuroscience 2 continues with the brainstem, thalamus, cerebellum, basal ganglia, cerebrum and their connections. It is heavily dependent on understanding Neuroanatomy 1.

ODS 7642 - Neurologic Examination and Imaging with Laboratory (1)

In this course students will learn the basics of how to perform a neurologic examination and the clinical implications that these tests have in optometric care. As the neurologic examination focuses on the function and dysfunction of the central nervous system, this course will review and apply concepts from the Head and Neck Anatomy and Neuroanatomy courses that students have completed in the first-year semesters. We will focus on five components of neurologic assessment including mental status, cranial nerve examination, sensory assessment, motor function, and cerebellar function.

ODS 7650 - Optics 1: Foundations of Light and Lenses (1.5)

This course introduces the student to the fundamentals of geometric and ophthalmic optics. The course begins with

an introduction to the properties and behavior of light and lenses. We examine spherical and astigmatic refractive errors, and the components of the spectacle Rx. Students will learn about how light travels across space and changes as it interacts with different media. We focus on how optical systems produce images of objects through the use of single spherical refractive surfaces and thin lenses, both from a mathematical perspective, as well as visually through laboratory activities. Students will have an opportunity to neutralize lenses both by hand, and using a manual lensometer. These optical theories form the basis for skills and examination procedures used in clinical practice.

ODS 7651 - Optics 2: Applications of Optical Principles (2.5)

This course, which is the second part of a four-term sequence, continues our study of geometric and ophthalmic optics. The course begins with an introduction to the properties and behavior of light. We will look at how light bends across different surfaces and the resulting images that are produced. In particular, we will discuss the imagery of single spherical refractive surface, thin lenses, mirrors, and cylindrical surfaces both from a mathematical perspective, as well as visually through the use of ray diagrams. We will apply all of these concepts to a study of thick lenses within the context of spectacle and relative spectacle magnification. We will also discuss the properties of the prism, and imagery of light through the prism. These optical theories also form the basis for skills and examination techniques and procedures used in clinical practice. Students will gain confidence with the course material as they work through concepts and calculations in a series of problem sets. We will also work with the material more closely during 2 laboratory sessions. In these labs, we will explore the optics of prism, bifocal, trifocal, and multifocal lenses.

ODS 7652 - Optics 3: Physical Optics (3)

This course is web-based and builds on knowledge from prior courses in Optics. We will explore the topic of physical optics with an in-depth discussion on interference, diffraction, and polarization. We will also look at the various higher order aberrations that influence the quality of a patient's vision as well as the optical wavefront technology that exists to improve symptoms. We will then focus on the optics of optical instruments (magnifiers and telescopes), as well as clinical instruments (direct ophthalmoscopy, binocular indirect ophthalmoscopy). Within the context of telescopes, the topics of stops, field of view, and depth of field will be addressed.

ODS 7653 - Optics 4: Physiological Optics (2.5)

This course completes the optics sequence. It continues to present the student with concepts regarding the eye as an optical instrument and the optical characteristics of vision. Students will learn how to apply optical principles to the ocular structures and to visual function. Ocular biometry, the measurement of the eye, is discussed in reference to intraocular lenses (IOL) calculations and refractive surgery. Emmetropization science is presented.

ODS 8500 - Pediatric and Infant Vision with Laboratory (2.5)

This course provides a model to incorporate the evaluation and management of children into the practice of primary care optometry. The prevalence of vision disorders in this population is significant and many organizations now recommend early screening/exams of children. The special needs of both preschool and school age children will be addressed during this course. This course provides an opportunity to develop a working knowledge for the detection, assessment and intervention of vision problems for children of all ages. There will be lecture and laboratory component. The purpose of the laboratory will be to reinforce important concepts from lecture and practice techniques in the examination of children.

ODS 8501 - Low Vision and Vision Rehabilitation with Laboratory (2.5)

This course is designed to provide each student with a basic understanding of low vision rehabilitation. It will provide the knowledge, skills, and attitudes needed to properly care for patients whose visual capabilities utilizing conventional therapy are inadequate for the performance of vision-directed or vision-related tasks in their vocation, avocation, social-interaction, or daily living.

ODS 8530 - Contact Lens 1 with Laboratory (1.5)

This course, which is the first part of a three-term sequence, introduces the student to the fundamentals of soft contact lenses. Historical development of contact lenses will be reviewed and placed in context of modern developments. This course will develop the principles of contact lens physiology and optics, and integrate them with the student's understanding of the cornea, tear film, and adnexal anatomy. Ocular measurements necessary for contact lens design will be correlated with on-eye evaluation of soft contact lenses. Students will learn how to design, fit, and manage standard daily wear soft lenses, silicone hydrogel lenses worn for extended and/or continuous wear, and toric soft lenses for the correction of astigmatism. Students will also learn about contact lens

cleaning and disinfection solutions that are used in order to maintain healthy contact lens wear. Students will have the opportunity to work through calculations and fitting procedures during laboratory sessions. During these labs, students will work with a variety of different lens types and materials in order to gain confidence with fitting principles and problem solving prior to entering patient care.

ODS 8531 - Contact Lens 2 with Laboratory (2)

This course, which is the second part of a three-term sequence, completes the study of soft contact lenses by beginning with a discussion of extended wear and soft contact lens complications. We then explore the fundamentals of gas-permeable (GP) contact lenses where students will learn how to handle, care for, design, fit, and manage standard gas-permeable rigid contact lenses. We will also discuss the nuances of aspheric, lenticular, bitoric, and ultrathin lens modifications to fit a larger segment of the GP lens wearing population. This also includes learning about presbyopic fitting for both rigid and soft lenses. Students will have the opportunity to work through calculations and fitting procedures during weekly laboratory sessions. During these labs, students will work with a variety of different lens types and materials in order to gain confidence with fitting principles and problem solving for their patient care.

ODS 8532 - Contact Lens 3 with Laboratory (1)

This course will focus on specialty contact lens fitting. Due to a variety of ocular conditions, there are many patients that would not be successful in glasses, soft contact lenses, or rigid contact lenses. These patients require specialized contact lens fits that can tremendously improve their vision and enhance their quality of life. This course will address these underlying conditions, as well as the specialty contact lenses that are most commonly used in practice today including orthokeratology, hybrid lenses, and scleral lenses. We will cover the lens types as well as fitting procedures and follow up care. Students will have the opportunity to work through calculations and fitting procedures during laboratory sessions. During these labs, students will work with a variety of different lens types and materials in order to gain confidence with fitting principles and problem solving prior to entering patient care.

ODS 8630 - Clinical Skills 1 (1)

Competent and successful optometric health care practitioners require a large number of clinical skills to be able to provide appropriate patient care to the public. The specific skills identified to allow patient interaction in

clinical settings on and off campus are taught in Clinical Skills. This course will focus on the theory and clinical application of Clinical Skills in optometric medicine. The skills presented in this portion of the course are automated testing, visual acuity, color vision, stereopsis, keratometry, extraocular muscles testing, cover test, ocular dominance, retinoscopy, subjective refraction and 6 Rev 6/2/2022 simulation of direct ophthalmoscopy. These will be presented via readings, lectures, recitations and in the laboratory.

ODS 8631 - Clinical Skills 2 (2)

Competent and successful optometric health care practitioners require a large number of clinical skills to be able to provide appropriate patient care to the public. The specific skills identified to allow patient interaction in clinical settings on and off campus are taught in Clinical Skills. This course will focus on the theory and clinical application of clinical skills in optometric medicine. The skills presented in this portion of the course are pupils, confrontation fields, additional subjective refractive techniques, von Graefe phorias, vergences, Maddox rod testing, illumination techniques, biomicroscopy, tonometry and an introduction to gonioscopy and dilated fundoscopic examination. These will be presented via readings, videos, lectures, and in the laboratory setting.

ODS 8632 - Clinical Skills 3 (2)

Competent and successful optometric health care practitioners require a large number of clinical skills to be able to provide appropriate patient care to the public. The specific skills identified to allow patient interaction in clinical settings on and off campus are taught in Clinical Skills. This course will focus on the theory and clinical application of Clinical Skills in optometric medicine and will prepare the student for the Laser and Minor Surgical Procedures Course. The skills presented in this portion of the course are gonioscopy, dilated fundus examination including 90D auxiliary lens, binocular indirect ophthalmoscopy, 3-mirror retinal evaluation. Advanced techniques will also be covered. These include foreign body removal, pressure patching, amniotic membranes, carotid auscultation, ocular cultures, punctual plug insertion, epilation, meibomian gland expression, scleral depression, extended ophthalmoscopy, off axis 90D fundus viewing, rotational and indentation gonioscopy and rotational 3-mirror retinal evaluation. Gonioscopy review will allow viewing of the anterior chamber angle for gonioscopic laser surgery. Dry eye diagnosis and management will be covered including tear break up time, Schirmer testing, dilation and irrigation. Corneal crosslinking, corneal chelation, anterior stromal puncture,

epithelial debridement, paracentesis and conjunctival cystremoval and meibomian gland therapeutic management will also be introduced. These topics will be presented in a laboratory setting, readings with supplemental electronic material and lecture. Introduction to diagnostic imaging will be discussed with a concentration on indication and interpretation of the tests. We will continue to review previously taught procedures and theory. These will be presented via readings, lectures, simulators, in the laboratory and in the clinical setting.

ODS 8633 - Advanced Procedures and Technology with Laboratory (2.5)

Advanced Procedures and Technology is an advanced clinical procedures course meant to augment the clinical skills sequence within the Accelerated Scholars Program. Competent and successful optometric health care practitioners require numerous clinical skills and diagnostic tests to provide appropriate care to their patients. The course will cover imaging techniques, imaging procedures, imaging interpretation, diagnostic testing and clinical skills. The imaging procedures and diagnostic testing presented in this portion of the course include A-scan, B-scan and ultrasound biomicroscopy (UBM), optical coherence tomography with and without angiography (OCT, OCT-A), ocular photography with and without the use of contrast dye, auto-fluorescence (FAF) and visual field testing. Additional content will be delivered in the areas of posterior segment disease, advanced clinical cases, and refractive content. Advanced clinical techniques reviewed in this course include punctal plug insertion, epilation, tonometry with lid holding, non-dilated fundus examination, 4-mirror gonioscopy, off-axis fundus examination, and binocular indirect with and without scleral depression. The skills presented in this course are considered advanced in that their mastery is expected after more time practicing fundamental techniques and with an expanded knowledgebase. This material will be presented in lecture, laboratory, workshop, recitation, and group discussion settings

ODS 8635 - Optical Clerkship (1)

The Winter Optical Clerkship is a 45 hour clinical rotation in an institutionally approved clinical setting. It is designed to reinforce skills acquired during first two quarters of coursework in ophthalmic materials management. The student is expected to practice, under the instruction and guidance of the preceptor, according to the highest standards of clinical, moral, and ethical conduct. To supplement this clerkship, an educational unit will be offered to students online to integrate all concepts and highlight the similarities and differences in experiences.

ODS 8640 - Patient Care 1 (1)

The Traineeship stage of the Patient Care program of the Pennsylvania College of Optometry at Drexel University is a series of clinical sessions for patient care in the Drexel University clinical settings which include the Patient Care 1 through 3 courses. The intent of the Traineeship Program is to provide the optometric student the opportunity to observe and begin training by upperclassmen and faculty/resident practitioners in primary eye care. The Traineeship Program is an integral part of the curriculum and is designed to develop the novice optometric student into a student intern who will begin to examine patients. Drexel University is committed to providing students with the highest quality clinical education. Entrance into the clinical facilities of Drexel University adds a special dimension of personal and professional responsibility for the student of optometry, who must be in good clinical and academic standing in order to participate in the program. The student-clinician assumes responsibility for the care and welfare of patients assigned for care and to the College in the service component of its mission as a provider of eye care. The student is expected to practice, under the instruction and guidance of the attending faculty, according to the highest standards of clinical, moral, professional, and ethical conduct.

ODS 8641 - Patient Care 2 (2)

The Traineeship stage of the Patient Care program of the Pennsylvania College of Optometry at Drexel University is a series of clinical sessions for patient care in the Drexel University clinical settings which include the Patient Care 1 through 3 courses. The intent of the Traineeship Program is to provide the optometric student the opportunity to observe and begin training by upperclassmen and faculty/resident practitioners in primary eye care. The Traineeship Program is an integral part of the curriculum and is designed to develop the novice optometric student into a student intern who will begin to examine patients. Drexel University is committed to providing students with the highest quality clinical education. Entrance into the clinical facilities of Drexel University adds a special dimension of personal and professional responsibility for the student of optometry, who must be in good clinical and academic standing in order to participate in the program. The student-clinician assumes responsibility for the care and welfare of patients assigned for care and to the College in the service component of its mission as a provider of eye care. The student is expected to practice, under the instruction and guidance of the attending faculty, according to the highest standards of clinical, moral, professional, and ethical conduct.

ODS 8642 - Patient Care 3 (1)

The Traineeship stage of the Patient Care program of the Pennsylvania College of Optometry at Drexel University is a series of clinical sessions for patient care in the Drexel University clinical settings which include the Patient Care 1 through 3 courses. The intent of the Traineeship Program is to provide the optometric student the opportunity to observe and begin training by upperclassmen and faculty/resident practitioners in primary eye care. The Traineeship Program is an integral part of the curriculum and is designed to develop the novice optometric student into a student intern who will begin to examine patients. Drexel University is committed to providing students with the highest quality clinical education. Entrance into the clinical facilities of Drexel University adds a special dimension of personal and professional responsibility for the student of optometry, who must be in good clinical and academic standing in order to participate in the program. The student-clinician assumes responsibility for the care and welfare of patients assigned for care and to the College in the service component of its mission as a provider of eye care. The student is expected to practice, under the instruction and guidance of the attending faculty, according to the highest standards of clinical, moral, professional, and ethical conduct.

ODS 8643 - Patient Care 4 with Grand Rounds (3.5)

This course includes two parts: Patient Care and Grand Rounds. The Patient Care course sequence includes Patient Care 4 through Patient Care 8 as part of the internship phase of the clinical training. The course sequence is designed to develop intern knowledge and skill to an expected level of clinical competency which gradually increases to include autonomus patient care under the supervision of a clinical preceptor. Interns will routinely perform supervised complete eye examinations throughout the sequence at TEI while co-managing with TEI clinical faculty. Students must successfully complete each Patient Care course to advance to the next course in the sequence. As the course series continues, students are expected to function with increasing autonomy in medical decision making for each patient they co-manage care for. Feedback will be provided via Meditrek rubrics after each patient case and at the end of each patient care course in order to help facilitate student learning and growth. The Grand Rounds sequence includes Grand Rounds 1 through Grand Rounds 5 as part of a series of clinically based presentation by students. The course combines elements of patient care, professional presentation skills, individual research, and evidence based practice. Students will present cases, in a specifically defined format, to their colleagues during class meeting times. Presentations begin focusing on the basic

elements of patient care: case history, entrance testing, refractive testing, spectacle prescribing, health evaluation, and/or patient education with subsequent courses increasing focus towards more advanced ocular disease treatment and management. Students are expected to incorporate their highest degree of knowledge based on their level of experience and training on each case. All cases must be approved of the instructor prior to presentation and students will present 8 grand rounds presentations total throughout the course sequence starting from a 10 minute presentation and culminating to a final 30 minute presentation. Students must pass the Grand Rounds course (P/F) in order to have their Patient Care (F/P-/P/P+/H) grade recorded for the combined course.

ODS 8644 - Patient Care 5 with Grand Rounds (4.5)

This course includes two parts: Patient Care and Grand Rounds. The Patient Care course sequence includes Patient Care 5 through Patient Care 8 as part of the internship phase of the clinical training. The course sequence is designed to develop intern knowledge and skill to an expected level of clinical competency which gradually increases to include autonomus patient care under the supervision of a clinical preceptor. Interns will routinely perform supervised complete eye examinations throughout the sequence at TEI while co-managing with TEI clinical faculty. Students must successfully complete each Patient Care course to advance to the next course in the sequence. As the course series continues, students are expected to function with increasing autonomy in medical decision making for each patient they co-manage care for. Feedback will be provided via Meditrek rubrics after each patient case and at the end of each patient care course in order to help facilitate student learning and growth. The Grand Rounds sequence includes Grand Rounds 1 through Grand Rounds 5 as part of a series of clinically based presentation by students. The course combines elements of patient care, professional presentation skills, individual research, and evidence based practice. Students will present cases, in a specifically defined format, to their colleagues during class meeting times. Presentations begin focusing on the basic elements of patient care: case history, entrance testing, refractive testing, spectacle prescribing, health evaluation, and/or patient education with subsequent courses increasing focus towards more advanced ocular disease treatment and management. Students are expected to incorporate their highest degree of knowledge based on their level of experience and training on each case. All cases must be approved of the instructor prior to presentation and students will present 8 grand rounds presentations total throughout the course sequence starting from a 10 minute presentation and culminating to a final

30 minute presentation. Students must pass the Grand Rounds course (P/F) in order to have their Patient Care (F/P-/P/P+/H) grade recorded for the combined course.

ODS 8645 - Patient Care 6 with Grand Rounds (4)

This course includes two parts: Patient Care and Grand Rounds. The Patient Care course sequence includes Patient Care 5 through Patient Care 8 as part of the internship phase of the clinical training. The course sequence is designed to develop intern knowledge and skill to an expected level of clinical competency which gradually increases to include autonomus patient care under the supervision of a clinical preceptor. Interns will routinely perform supervised complete eye examinations throughout the sequence at TEI while co-managing with TEI clinical faculty. Students must successfully complete each Patient Care course to advance to the next course in the sequence. As the course series continues, students are expected to function with increasing autonomy in medical decision making for each patient they co-manage care for. Feedback will be provided via Meditrek rubrics after each patient case and at the end of each patient care course in order to help facilitate student learning and growth. The Grand Rounds sequence includes Grand Rounds 1 through Grand Rounds 5 as part of a series of clinically based presentation by students. The course combines elements of patient care, professional presentation skills, individual research, and evidence based practice. Students will present cases, in a specifically defined format, to their colleagues during class meeting times. Presentations begin focusing on the basic elements of patient care: case history, entrance testing, refractive testing, spectacle prescribing, health evaluation, and/or patient education with subsequent courses increasing focus towards more advanced ocular disease treatment and management. Students are expected to incorporate their highest degree of knowledge based on their level of experience and training on each case. All cases must be approved of the instructor prior to presentation and students will present 8 grand rounds presentations total throughout the course sequence starting from a 10 minute presentation and culminating to a final 30 minute presentation. Students must pass the Grand Rounds course (P/F) in order to have their Patient Care (F/P-/P/P+/H) grade recorded for the combined course.

ODS 8646 - Patient Care 7 with Grand Rounds (4)

This course includes two parts: Patient Care and Grand Rounds. The Patient Care course sequence includes Patient Care 5 through Patient Care 8 as part of the internship phase of the clinical training. The course sequence is designed to develop intern knowledge and skill to an expected level of clinical competency which gradually

increases to include autonomus patient care under the supervision of a clinical preceptor. Interns will routinely perform supervised complete eye examinations throughout the sequence at TEI while co-managing with TEI clinical faculty. Students must successfully complete each Patient Care course to advance to the next course in the sequence. As the course series continues, students are expected to function with increasing autonomy in medical decision making for each patient they co-manage care for. Feedback will be provided via Meditrek rubrics after each patient case and at the end of each patient care course in order to help facilitate student learning and growth. The Grand Rounds sequence includes Grand Rounds 1 through Grand Rounds 5 as part of a series of clinically based presentation by students. The course combines elements of patient care, professional presentation skills, individual research, and evidence based practice. Students will present cases, in a specifically defined format, to their colleagues during class meeting times. Presentations begin focusing on the basic elements of patient care: case history, entrance testing, refractive testing, spectacle prescribing, health evaluation, and/or patient education with subsequent courses increasing focus towards more advanced ocular disease treatment and management. Students are expected to incorporate their highest degree of knowledge based on their level of experience and training on each case. All cases must be approved of the instructor prior to presentation and students will present 8 grand rounds presentations total throughout the course sequence starting from a 10 minute presentation and culminating to a final 30 minute presentation. Students must pass the Grand Rounds course (P/F) in order to have their Patient Care (F/P-/P/P+/H) grade recorded for the combined course.

ODS 8647 - Patient Care 8 with Grand Rounds (4)

This course includes two parts: Patient Care and Grand Rounds. The Patient Care course sequence includes Patient Care 5 through Patient Care 8 as part of the internship phase of the clinical training. The course sequence is designed to develop intern knowledge and skill to an expected level of clinical competency which gradually increases to include autonomus patient care under the supervision of a clinical preceptor. Interns will routinely perform supervised complete eye examinations throughout the sequence at TEI while co-managing with TEI clinical faculty. Students must successfully complete each Patient Care course to advance to the next course in the sequence. As the course series continues, students are expected to function with increasing autonomy in medical decision making for each patient they co-manage care for. Feedback will be provided via Meditrek rubrics after each patient case and at the end of each patient care course in order to

help facilitate student learning and growth. The Grand Rounds sequence includes Grand Rounds 1 through Grand Rounds 5 as part of a series of clinically based presentation by students. The course combines elements of patient care, professional presentation skills, individual research, and evidence based practice. Students will present cases, in a specifically defined format, to their colleagues during class meeting times. Presentations begin focusing on the basic elements of patient care: case history, entrance testing, refractive testing, spectacle prescribing, health evaluation, and/or patient education with subsequent courses increasing focus towards more advanced ocular disease treatment and management. Students are expected to incorporate their highest degree of knowledge based on their level of experience and training on each case. All cases must be approved of the instructor prior to presentation and students will present 8 grand rounds presentations total throughout the course sequence starting from a 10 minute presentation and culminating to a final 30 minute presentation. Students must pass the Grand Rounds course (P/F) in order to have their Patient Care (F/P-/P/P+/H) grade recorded for the combined course.

ODS 8830 - Externship 1 (10)

Clinical externships of the Drexel University Pennsylvania College of Optometry (PCO) are a series of clinical rotations to various sites for patient care. The intent of the externships is to provide the optometric student the opportunity to be trained by outstanding practitioners in primary and/or secondary eye care. Externships are an integral part of the curriculum and are designed to transform the optometric student into a complete health care professional who can apply scientific knowledge in concert with clinical insight and overall concern for the patient. The University is committed to providing students with the highest quality education.

Clinical externships begin in March of the third year and proceed through the entire final year of study. Clinical externships are the culmination of the patient care preparation programs of Drexel University. The on- and off-campus clinical experiences at the University (Professional Practice 1-8) during the first 2 years of the core program prepare the student in the basic clinical skills so that the student can assume the more intensive clinical demands of externships. The final year of study includes four (4) rotations of three or six month duration. Three of the rotations are predominantly in off- campus private practice, group practice and/or hospital settings. Externships are classified into four categories, each with specific associated educational objectives: The Eye Institute, interprofessional/collaborative care hospital-based site, ocular disease and private practice contact

lens/specialty/primary care.

ODS 8831 - Externship 2 (10)

Clinical externships of the Drexel University Pennsylvania College of Optometry (PCO) are a series of clinical rotations to various sites for patient care. The intent of the externships is to provide the optometric student the opportunity to be trained by outstanding practitioners in primary and/or secondary eye care. Externships are an integral part of the curriculum and are designed to transform the optometric student into a complete health care professional who can apply scientific knowledge in concert with clinical insight and overall concern for the patient. The University is committed to providing students with the highest quality education.

Clinical externships begin in March of the third year and proceed through the entire final year of study. Clinical externships are the culmination of the patient care preparation programs of Drexel University. The on- and off-campus clinical experiences at the University (Professional Practice 1-8) during the first 2 years of the core program prepare the student in the basic clinical skills so that the student can assume the more intensive clinical demands of externships. The final year of study includes four (4) rotations of three or six month duration. Three of the rotations are predominantly in off- campus private practice, group practice and/or hospital settings. Externships are classified into four categories, each with specific associated educational objectives: The Eye Institute, interprofessional/collaborative care hospital-based site, ocular disease and private practice contact lens/specialty/primary care.

ODS 8832 - Externship 3 (10)

Clinical externships of the Drexel University Pennsylvania College of Optometry (PCO) are a series of clinical rotations to various sites for patient care. The intent of the externships is to provide the optometric student the opportunity to be trained by outstanding practitioners in primary and/or secondary eye care. Externships are an integral part of the curriculum and are designed to transform the optometric student into a complete health care professional who can apply scientific knowledge in concert with clinical insight and overall concern for the patient. The University is committed to providing students with the highest quality education.

Clinical externships begin in March of the third year and proceed through the entire final year of study. Clinical externships are the culmination of the patient care preparation programs of Drexel University. The on- and off-campus clinical experiences at the University (Professional Practice 1-8) during the first 2 years of the

core program prepare the student in the basic clinical skills so that the student can assume the more intensive clinical demands of externships. The final year of study includes four (4) rotations of three or six month duration. Three of the rotations are predominantly in off- campus private practice, group practice and/or hospital settings. Externships are classified into four categories, each with specific associated educational objectives: The Eye Institute, interprofessional/collaborative care hospital-based site, ocular disease and private practice contact lens/specialty/primary care.

ODS 8833 - Externship 4 (10)

Clinical externships of the Drexel University Pennsylvania College of Optometry (PCO) are a series of clinical rotations to various sites for patient care. The intent of the externships is to provide the optometric student the opportunity to be trained by outstanding practitioners in primary and/or secondary eye care. Externships are an integral part of the curriculum and are designed to transform the optometric student into a complete health care professional who can apply scientific knowledge in concert with clinical insight and overall concern for the patient. The University is committed to providing students with the highest quality education.

Clinical externships begin in March of the third year and proceed through the entire final year of study. Clinical externships are the culmination of the patient care preparation programs of Drexel University. The on- and off-campus clinical experiences at the University (Professional Practice 1-8) during the first 2 years of the core program prepare the student in the basic clinical skills so that the student can assume the more intensive clinical demands of externships. The final year of study includes four (4) rotations of three or six month duration. Three of the rotations are predominantly in off- campus private practice, group practice and/or hospital settings. Externships are classified into four categories, each with specific associated educational objectives: The Eye Institute, interprofessional/collaborative care hospital-based site, ocular disease and private practice contact lens/specialty/primary care.

ODS 8834 - Practice Management (1.5)

The Practice Management Course prepares students at the Pennsylvania College of Optometry to run their own Independent Practice. This course covers content in curriculum vitae writing, social media and marketing, billing and coding, operating an optical and building a business model.

ODS 9002 - Elective Research Project (1.5)

This research elective course will tie together clinical concepts and cases with publication worthy objectives. Cases will be selected by the student, with mentor approval, to complete a case report, scientific poster, and grand rounds presentation. All three components must be publishable quality and meet the criteria set forth by the American Academy of Optometry. Students will work through their cases with an assigned faculty mentor via email and/or in person. Students will be notified via email of faculty mentor assignment. Students are expected to make first contact with their mentors by March 18, 2022 to allow adequate time to meet all requirement deadlines. Research elective will emphasize skills in case report writing, production of scientific poster and professional presentation. The topics of the project material will be selected by the student and approved by the assigned faculty mentor. Case report and poster are expected to be sourced from one clinical case. A separate clinical case should be selected as the basis of the grand rounds presentation. If a student has an accepted poster at a national conference, the student may utilize the poster as part of their Capstone. The student may choose a different topic for the case report or use the same case presented in the poster abstract. This course will also incorporate concepts from research methods such as basic study design and evaluation along with writing an abstract.

OPM - Orthotics and Prosthetics

OPM 5000 - Medical Humanities (2)

This seminar-style course is based on the principles of cultural humility. Highlighting the history of medicine, orthotic & prosthetics, ethics, and health disparities. This course environment is structured to allow the learner to be introspective and self-reflective through creative thinking and personal exploration of strengths and personality traits. The tenants of compassion, respect, and dignity will be explored in how we approach patient management, patient outcomes, and working with others.

OPM 5001 - Introduction to O&P Principles & Techniques (3)

This course provides exposure to fundamental concepts of orthotics and prosthetics. The purpose of the course is to provide foundation in history, scope of practice, exposure, methods of assessment and delivery, and basic knowledge to O&P. The course outlines the scope of the profession of orthotics and prosthetics. The course allows students to familiarize themselves with commonly used terminology, materials, fabrication processes, component identification,

orthotic and prosthetic classifications, and custom-fit orthoses and prostheses. Parts of this course will reflect on social structures that have helped shape reality as our patients experience it when we are providing care.

OPM 5003 - Introduction to Independent Study (2)

This seminar-style course will focus on introducing students to independent study topic areas (e.g., Digital Workspace, Clinical Leadership & Practice Management, Cultural Humility & Health Disparities). The course will highlight key aspects of each topic presented. The course environment is structured to allow the learner to determine which area they will select and take throughout the program in an independent study format.

OPM 5004 - Functional Anatomy & Kinesiology (3)

This course provides intensive instruction in gross human anatomy and functional kinesiology. Through lecture and guided experiential learning, this course has an emphasis on lower limb body structures supporting neuromusculoskeletal and movement-related structures. Laboratory instruction provides small group, instructor guided experiences including human cadaver dissection, manual muscle testing and goniometry. Course content includes, but is not limited to anatomy, kinesiology and biomechanics. Issues related to human diversity are examined during instruction in functional outcome measures related to body function and body structures including such measurements as joint range of motion, postural alignment, and measures of strength.

OPM 5007 - Introduction to Pathology (2)

This course provides an overview of pathologies commonly seen within orthotics and prosthetics practice.

OPM 5020 - Upper Limb Orthotics Practice (4)

This course provides an overview of orthotic management of the upper limb. The upper limb orthotic course will explore the orthotic management of pathologies that impact the shoulder, elbow, wrist, hand, and fingers. Students will learn the connection and criteria selection of custom fabricated and fit upper limb orthoses in regards to understanding of foundational knowledge in the prescription recommendation, orthotic design, material selection, biomechanical principles, fitting, evaluation, adjustment, and patient-specific outcomes.

OPM 5100 - Biomechanics & Gait (3)

The focus of this course is to provide basic principles of biomechanics and gait. Emphasis will be placed on the importance of the fundamental analysis of the body at rest

and in motion with both normal and selected pathological gait.

OPM 5110 - Orthotics Management of Head & Spine (5)

This course provides an overview of orthotic management of the head and spine. The topics covered in this course are; pathologies common to spinal orthotic management, cervical orthoses (CO), thoracic lumbosacral orthoses (TLSO), lumbosacral orthoses (LSO), sacral orthoses (SO), scoliosis management, post-operative management of the spine, cranial helmets, thermal injuries of the face. Students use each other as pseudo-patient models to fabricate and fit an array of custom orthoses. Parts of this course will reflect on social structures that have helped shape reality as our patients experience it when we are providing care. An interprofessional approach will be covered.

OPM 5130 - Upper Limb Prosthetic Practice (5)

This course examines the principles, foundational knowledge, and practices of prosthetics as it relates to potential upper limb (UL) prosthetic management. Prosthetic designs for all levels including partial hand, wrist disarticulation (WD), transradial (TR), elbow disarticulation (ED), transhumeral (TH), shoulder disarticulation (SD), and interscapular thoracic (IST) will be reviewed, along with specialty cases such as bilateral and congenital limb differences. The course covers the following topics: patient assessment, outcome assessment, post-operative management, negative impression and measurement procedures, fit and function assessments, fabrication procedures, and component and material selection. Parts of this course will reflect on social structures that have helped shape reality as our patients experience it when we provide care. The importance of an interprofessional approach will be highlighted.

OPM 5140 - Case Reports I (1)

This course focuses on developing writing skills, evidence-based research skills, and clinical decision-making skills within a case report format from the role of orthotist and prosthetist. This course will provide the foundational structure to describe the clinical encounter with a patient and development of a case study.

OPM 5200 - Medical Humanities II (2)

This seminar style course is based on the principles of cultural humility and self-care. This course is structured to allow the learner to be introspective and self-reflective through creative thinking and personal exploration of how their strengths and personality traits play a role in

interaction with others. The tenants of compassion, respect, and dignity will be further explored in how we approach patient management, patient outcomes, and working with others.

OPM 5203 - Clinical Leadership & Practice Management (2)

Students independently explore and learn varied roles within O&P healthcare delivery system, specifically focused on management and leadership. Areas of exploration may include regulatory and reimbursement mechanisms that affect delivery of O&P services throughout the continuum of care. Students may explore how individuals became leaders and managers with their respective areas in O&P.

OPM 5204 - Digital Workspace (2)

Students independently explore and learn how technology has advanced within O&P healthcare delivery system, specifically focused on areas of limb capture, software, printing, and digital applications (management to application). Students may explore how individuals became interested, navigated, and implemented the advancement of technology with their respective areas in O&P.

OPM 5205 - Cultural Humility & Health Disparities (2)

Students independently explore areas of societal attitudes, individual perspectives, cultural perspectives, adaptation, and implications of health disparities and cultural humility within the context of the health care delivery system and broader society. Students may explore how individuals became interested, navigated, and got involved in outreach. Students may engage with organizations whose mission is to assist others (locally, regionally, nationally, or internationally).

OPM 5220 - Seminar Billing in P&O (2)

Seminar course will provide in-depth and most up-to-date information on billing, coding, and reimbursement within O&P. Course will cover medical policy basics, Medicare Local Coverage Determination (LCD), Letters of Medical Necessity, Coding Principles, and Compliance.

OPM 5230 - Pediatric Populations (2)

This course will provide pediatric-focused content within orthotic and prosthetic practice. The course focuses on the areas of early human development and pathologies commonly seen in the pediatric population. The learner will be introduced to orthotic interventions specific to pediatric population. Parts of this course will reflect on

social structures that have helped shape reality as our patients and family supports experience it when we are providing care. Emphasis on the importance of interprofessional collaboration and communication will be covered.

OPM 5240 - Professional Development (2)

This course provides students with an opportunity to investigate possible future career paths within their chosen profession of O&P. The student will gather information which serves as the basis for introspection and self-reflection for future decision making.

OPM 5303 - Clinical Leadership & Practice Management (2)

Students independently explore and learn varied roles within O&P healthcare delivery system, specifically focused on management and leadership. Areas of exploration may include regulatory and reimbursement mechanisms that affect delivery of O&P services throughout the continuum of care. Students may explore how individuals became leaders and managers with their respective areas in O&P.

OPM 5304 - Digital Workspace (2)

Students independently explore and learn how technology has advanced within O&P healthcare delivery system, specifically focused on areas of limb capture, software, printing, and digital applications (management to application). Students may explore how individuals became interested, navigated, and implemented the advancement of technology with their respective areas in O&P.

OPM 5305 - Cultural Humility & Health Disparities (2)

Students independently explore areas of societal attitudes, individual perspectives, cultural perspectives, adaptation, and implications of health disparities and cultural humility within the context of the health care delivery system and broader society. Students may explore how individuals became interested, navigated, and got involved in outreach. Students may engage with organizations whose mission is to assist others (locally, regionally, nationally, or internationally).

OPM 5310 - Writing Case Reports II (1)

This seminar course is part two of a two-part course which spans across two semesters studying the role of orthotist and prosthetist in the development of case reports and the role of evidence-based practice. This course will provide the foundational structure to describe the clinical encounter

with a patient and development of a case study. Students will complete a capstone/case report for this final section to meet NCOPE requirements.

OPM 5350 - Advanced O&P Practices (2)

Course exposes the O&P student to advanced developments in O&P and the researchers and practitioners who are advancing the profession. Topics will range from but not limited to impression techniques, modification techniques, advanced componentry, microprocessor-controlled systems, suspension systems to pattern recognition in O&P.

OPM 5360 - Clinical Residency Seminar (2)

Course designed to prepare the O&P student to transition into their NCOPE residency phase of the program. Will evaluate NCOPE requirements and review ABC code of professional practice as it relates to residency and professional interactions.

OPM 6000 - Lower Limb Prosthetics Practice (7)

This course examines the principles, practices, and management of lower limb orthotics. Will examine all elements of orthotic intervention of the lower limb that are concerned with the lower leg and foot distal (i.e., below) to the knee and proximal (i.e., above knee) limb regions that include the knee, hip, pelvis and trunk. The major areas addressed in this course are: foot orthoses (FO), ankle foot orthoses (AFO), examination of the foot and ankle and knee, knee ankle foot orthoses (KAFO's), knee orthoses (KO), hip knee ankle foot orthoses (HKAFO's) pediatric and adult orthotic management, technical fabrication methods, digital workflow, computer-aided-design/computer-aided-manufacture in orthotics (CAD/CAM), orthotic management of fractures, fit and function assessment. Parts of this course will reflect on social structures that have helped shape reality as our patients experience it when we are providing care.

OPM 6010 - Lower Limb Orthotics Practice (7)

This comprehensive course examines the principles and practices of lower limb prosthetics as they relate to amputations distal to the knee and proximal to the knee. The course covers a diversity of topics which include: patient assessment, post-operative management, negative impression and measurement procedures, modification techniques, fabrication procedures, prosthetic alignment, gait analysis, fit and function assessments, computer-aided-design/computer-aided-manufacture in prosthetics (CAD/CAM), feet, component and material selection and principles of gait training. Professional patient/subject models are used to demonstrate the clinical fit and function

of a prosthesis. Parts of this course will reflect on social structures that have helped shape reality as our patients experience it when we are providing care.

OPM 6160 - Rotation 1A (16)

The clinical residency phase of the program consists of three 6-month or two 9-month local, regional, and national rotations equaling 18-months in totality as required by National Commission on Orthotic and Prosthetic Education (NCOPE). This critical phase involves students gaining exposure in a broad and in-depth experiential learning and clinical environments within both disciplines (O&P) within a variety of clinical settings. Preparation for the integrated clinical residency occurs during the 16-month didactic portion of the program. Upon completion of both the didactic and clinical portions of the program, graduates are eligible to sit for the ABC Board Exam in both disciplines (Orthotics and Prosthetics).

OPM 6161 - Rotation 1B (6)

The clinical residency phase of the program consists of three 6-month or two 9-month local, regional, and national rotations equaling 18-months in totality as required by National Commission on Orthotic and Prosthetic Education (NCOPE). This critical phase involves students gaining exposure in a broad and in-depth experiential learning and clinical environments within both disciplines (O&P) within a variety of clinical settings. Preparation for the integrated clinical residency occurs during the 16-month didactic portion of the program. Upon completion of both the didactic and clinical portions of the program, graduates are eligible to sit for the ABC Board Exam in both disciplines (Orthotics and Prosthetics).

OPM 6260 - Rotation 2A (6)

The clinical residency phase of the program consists of three 6-month or two 9-month local, regional, and national rotations equaling 18-months in totality as required by National Commission on Orthotic and Prosthetic Education (NCOPE). This critical phase involves students gaining exposure in a broad and in-depth experiential learning and clinical environments within both disciplines (O&P) within a variety of clinical settings. Preparation for the integrated clinical residency occurs during the 16-month didactic portion of the program. Upon completion of both the didactic and clinical portions of the program, graduates are eligible to sit for the ABC Board Exam in both disciplines (Orthotics and Prosthetics).

OPM 6261 - Rotation 2B (16)

The clinical residency phase of the program consists of

three 6-month or two 9-month local, regional, and national rotations equaling 18-months in totality as required by National Commission on Orthotic and Prosthetic Education (NCOPE). This critical phase involves students gaining exposure in a broad and in-depth experiential learning and clinical environments within both disciplines (O&P) within a variety of clinical settings. Preparation for the integrated clinical residency occurs during the 16-month didactic portion of the program. Upon completion of both the didactic and clinical portions of the program, graduates are eligible to sit for the ABC Board Exam in both disciplines (Orthotics and Prosthetics).

OPM 6360 - Rotation 3A (16)

The clinical residency phase of the program consists of three 6-month or two 9-month local, regional, and national rotations equaling 18-months in totality as required by National Commission on Orthotic and Prosthetic Education (NCOPE). This critical phase involves students gaining exposure in a broad and in-depth experiential learning and clinical environments within both disciplines (O&P) within a variety of clinical settings. Preparation for the integrated clinical residency occurs during the 16-month didactic portion of the program. Upon completion of both the didactic and clinical portions of the program, graduates are eligible to sit for the ABC Board Exam in both disciplines (Orthotics and Prosthetics).

OPM 6361 - Rotation 3B (6)

The clinical residency phase of the program consists of three 6-month or two 9-month local, regional, and national rotations equaling 18-months in totality as required by National Commission on Orthotic and Prosthetic Education (NCOPE). This critical phase involves students gaining exposure in a broad and in-depth experiential learning and clinical environments within both disciplines (O&P) within a variety of clinical settings. Preparation for the integrated clinical residency occurs during the 16-month didactic portion of the program. Upon completion of both the didactic and clinical portions of the program, graduates are eligible to sit for the ABC Board Exam in both disciplines (Orthotics and Prosthetics).

OPT - Optometry Traditional

OPT 7030 - Health Care, Professionalism, and Diversity (2)

This course is designed to develop a foundational understanding of the U.S. health care system and the role of optometry within this changing system. This course

provides insight into the impact of technology, economics, population trends, managed care, and the emerging value-based health care on clinical practice. It introduces the concept of primary care, the interprofessional coordinated care models, the evolving scope of practice and its financial, political, and professional implications. Additionally, this course will prepare students to understand and respect the values, beliefs, and expectations of their patients, and then apply the requisite attitudes, knowledge, and skills to each patient encounter to achieve improved clinical outcomes. This course will examine ways in which culture intersects with health, and how public health efforts can be most productive by understanding cultural processes. The national challenge of improving our health care system provides a public health platform for understanding the continuing evolution of the profession of optometry.

OPT 7101 - Biochemistry and Genetics (1.5)

The course is separated into two components. The first component is genetics and we will look at the basics of DNA, RNA, and proteins examining their structures and how they are synthesized. We will discuss mutations and how they are repaired. We will examine the different inheritance patterns and be able to predict the likely phenotypic and genotypic outcomes from indicated alleles. During the biochemistry portion of this course we will examine cells and some of their biochemical functions. We will examine the structure, function, and metabolism of the three major macromolecules; carbohydrates, proteins and lipids. In addition, we will see how vitamins play an important role in these processes. And finally, we will learn the basics of enzymology.

OPT 7103 - Systemic Pathology and Physiology (2)

This course provides a comprehensive introduction to the systemic physiology and pathology of the human body. It describes the core principles that will allow students to develop an understanding the unique role of each organ and body system in maintaining normal body functions starting from the molecular level and proceeding to the cellular, tissue, organ, body systems and finally the organism level. The course will integrate anatomy, histology and physiology to form the basis for the understanding of normal and pathological function whether caused by pathogens or non-infectious physiological disorders. The body systems covered in this course include nervous, muscular, circulatory, respiratory, renal, endocrine and gastrointestinal.

OPT 7105 - General Anatomy and Histology (1)

The General Histology course will introduce the

microscopic structure of cells and tissues. It begins with an overview of the differentiation of cells and their organization into tissues. The structure and function of the basic tissue types will be presented. Emphasis is placed on normal structure (histology of cells, extracellular components and tissues) as a basis for understanding normal physiological and biochemical functions. It follows that knowledge of normal structure and function provides a framework for understanding abnormal findings and the pathogenesis of disease processes. The General Anatomy then follows with an introduction to the Organ systems. The structure and function of each organ is presented. Emphasis is placed on normal anatomy of the organs beginning with the heart, then proceeding to the lungs, the kidneys, the endocrine system, the gastrointestinal system and finally ending with the integument. Normal anatomical structures will be presented prior to abnormal and pathological in subsequent courses. Clinical consequences of cell and tissue related diseases as well as organ disease may be presented for context and understanding.

OPT 7106 - Ocular Anatomy and Histology (2.5)

Ocular anatomy and histology forms the framework for many of the biomedical aspects of primary vision care by presenting the gross and microanatomy of ocular tissues and fluids. The course provides the knowledge base in ocular tissue structure which enables the student to understand patho-physiological processes present in primary and secondary ocular diseases and congenital anomalies. Clinical correlates and case-based materials are an integral part of the course presentation. The course includes a laboratory component, which is designed to give the student an opportunity to reinforce classroom material through the utilization of anatomic specimens, as well as clinical slides, which reinforce the clinical application of the course.

OPT 7109 - Ocular Immunology and Microbiology (1)

This course builds on the knowledge attained in the Systemic Immunology and Microbiology course. Lectures on ocular immunology and microbiology provide the framework for understanding the etiology, epidemiology, pathogenesis, diagnosis and management of immune-mediated inflammatory and microbial ocular diseases. The ocular immunology aspect of the course will focus on immunopathogenesis/immunopathology of immune mediated ocular diseases, epidemiology, clinical manifestations of immune-mediated ocular diseases and ocular correlates of systemic immune-mediated diseases, and pharmacotherapy. The ocular microbiology aspect of the course will focus on microbial structure/classification,

epidemiology, microbial pathogenesis, clinical manifestations of ocular infections and ocular correlates of systemic infections, diagnostic/laboratory studies, and antimicrobial pharmacotherapy. This course will emphasize major themes in the four core areas of ocular microbiology (bacteriology, virology, mycology, and parasitology). Major themes will be applied and highlighted through reading of the required/recommended textbooks and lectures.

OPT 7130 - Systemic Pharmacology 1 (2)

This course will provide a survey of the general principles of pharmacology and the application of these principles to patient care situations. Evidence-based medicine is weaved through the above areas where available and appropriate. This course will cover an introduction to pharmacology and therapeutic terminology, routes of administration, pharmacokinetic and pharmacodynamic principles, processes of drug development, antimicrobials (anti-bacterials, antifungals, anti-virals, anti-parasitics), drugs that affect platelets and coagulation factors, cardiovascular medications, lipid medications, endocrine medications, and prescription writing principles.

OPT 7131 - Systemic Pharmacology 2 (1)

This course will provide a survey of the general principles of pharmacology and the application of these principles to patient care situations. Evidence-based medicine is weaved through the course where available and appropriate. This course will cover drugs utilized in the gastrointestinal tract, respiratory tract, select cardiovascular medications, immunomodulators, anti-seizure medications, antidepressants, anxiolytics, sleep agents, pain medications and addiction, neurodegenerative disorders, and prescription writing principles.

OPT 7140 - Ocular Pharmacology 1 (1.5)

Ocular Pharmacology I provides students with a thorough understanding of ocular drug classifications and mechanisms of action employed by ophthalmic drugs. The student learns indications, off-label indications, contraindications, appropriate dosing, and adverse effects of pharmaceutical agents employed in an eye care setting. Drug interactions and diagnostic uses are also examined in addition to basic pharmacology concepts and terminology. Emphasis is placed on the clinical utilization of drugs in optometric practice.

OPT 7141 - Ocular Pharmacology 2 (1)

Ocular Pharmacology 2 provides students with a thorough understanding of ocular drug classifications and mechanisms of action employed by ophthalmic and

systemic drugs. The student learns indications, off-label indications, contraindications, appropriate dosing, and adverse effects of pharmaceutical agents employed in an eye care setting. Ocular side effects of systemically delivered drugs are also emphasized in the course. The student will also learn considerations in prescribing topical ophthalmic and oral drugs in special population including pregnant patients, children, and elderly patients. Additionally, the use of compounding pharmaceuticals will be reviewed and their place in optometric eyecare will be discussed.

OPT 7300 - Management of the Glaucomas (1.5)

The purpose of this course is to present the clinical study of the glaucomas to the second-year intern. The course begins with a presentation of the relevant anatomy and physiology as it relates to glaucoma. Glaucoma is defined and an overview of the epidemiology and risk factors are presented. The specific types of glaucoma are discussed including primary, childhood, and secondary glaucomas. Diagnosis of glaucoma is approached with an emphasis on proper technique used with a well-defined concept of the disease. Finally, the medical and surgical management of the glaucomas are discussed in detail and cases are presented.

OPT 7301 - Ocular Emergencies and Differential Diagnoses (1)

This course provides the student with an overview of the epidemiology, presentation, diagnosis, and management of selected ocular emergencies. There is an emphasis on conditions requiring the most emergent and/or urgent care. Students will have combined lecture and recitation instruction which will highlight determining a list of differential diagnoses. Furthermore, students will be guided through selection of appropriate diagnostic test selection and clinical findings for each condition.

OPT 7320 - Binocular Vision 1 with Laboratory (2)

This course will cover diagnosis and management of accommodative, eye movement and non-strabismic binocular vision disorders. The course will include theoretical models of binocular vision, diagnostic testing and common management options for visual efficiency disorder. This course will also introduce students to the concepts of management of visual disorders with vision therapy.

OPT 7321 - Binocular Vision 2 with Laboratory (2.5)

This course will cover the diagnosis and management of amblyopia and strabismus. The course will include diagnostic techniques for amblyopia including diagnosis of

eccentric fixation and management techniques from penalization to vision therapy. This course overviews the different type of strabismus and management strategies for each type of strabismus including surgery, lenses, prism and vision therapy.

OPT 7340 - Anterior Segment Disease 1 (1.5)

The Anterior Segment Disease I course will explore the etiology, pathogenesis, clinical presentation, differential diagnosis, treatment and management of diseases of the orbits, eyelids, eyelashes, and nasolacrimal system. Anterior segment tumors and anterior uveitis will also be covered. Course material will be presented in lecture with supplemental recitation sessions to enhance diagnostic evaluation of the conditions presented.

OPT 7341 - Anterior Segment Disease 2 (2.5)

The Anterior Segment Disease 2 course will explore the etiology, pathogenesis, clinical presentation, differential diagnosis, treatment, pharmacological and surgical management of diseases of the conjunctiva, cornea, dry eye, lens, sclera, episcleral, and uvea. Course material will be presented in lecture with supplemental recitation sessions to enhance diagnostic evaluation of the conditions presented.

OPT 7342 - Systemic Medicine and Disease 1 (2)

This course is the first part of a two-term sequence to advance the student's knowledge of systemic diseases that they are likely to encounter in the primary and specialty eye care setting. For each organ system presented epidemiology of disease, risk factor analysis, pertinent history and physical examination findings, differential diagnosis, treatment and management, pertinent laboratory evaluations, and ocular manifestations will be stressed. The Systemic Medicine laboratory provides certification in both Cardiac Life Support and First Aid by the American Heart Association.

OPT 7343 - Systemic Medicine and Disease 2 (2)

This course is the second part of a two-term sequence to advance the student's knowledge of systemic diseases that they are likely to encounter in the primary and specialty eye care setting. For each organ system presented epidemiology of disease, risk factor analysis, pertinent history and physical examination findings, differential diagnosis, treatment and management, pertinent laboratory evaluations, and ocular manifestations will be stressed.

OPT 7350 - Posterior Segment Disease 1 (2.5)

Posterior Segment I sets the stage for the evaluation and

management of retinal disorders with an introduction to special testing of the posterior segment (fluorescein angiography and optical coherence tomography) and examination of the peripheral retina, as well as management of retinal breaks and retinal detachments. In addition, commonly encountered developmental abnormalities and their embryologic basis are reviewed. Various retinal vascular diseases and disorders, as well as macular pathologies, are discussed with emphasis on treatment and management.

OPT 7351 - Posterior Segment Disease 2 (1.5)

Posterior Segment Disease 2 continues to build on the concepts introduced in the Posterior Segment Disease 1 course, regarding special testing of the posterior segment (fluorescein angiography, optical coherence tomography, and fundus photography) in the various conditions presented throughout this course. Specifically, there will be a comprehensive analysis on macular disorders, including age-related macular degeneration and other subretinal diseases which implicate Bruch's membrane and can be complicated by the development of choroidal neovascularization. Additionally, the infectious and inflammatory conditions of the posterior segment will be explored, including but not limited to proper diagnosis and management.

OPT 7400 - Head and Neck Anatomy with Laboratory (2.5)

Head and Neck Anatomy is an introductory course, and serves as a prerequisite to Neuroanatomy, Neurological Examination and Neuro-ophthalmic Disease courses in the curriculum. The course emphasizes anatomical relationships which support clinical application including imaging and the relationship of the head and neck to organ systems. A case-based approach is often used, especially in lab, to emphasize the anatomy that supports the understanding of visual/ocular emergencies and morbidity as well as common problems of the visual system. This course is designed to specifically facilitate the understanding and integration of normal function and pathological changes in the eye and the nervous system.

OPT 7402 - Ocular Motility with Laboratory (2)

This course emphasizes the basic mechanisms of the 5 major classes of eye movements (vestibulo-ocular reflex, optokinetic reflex, saccades, pursuits and vergence eye movements). In addition it covers ocular fixation and accommodative eye movements. While the student will mainly learn the functional and neurophysiological aspects of ocular motility, it is expected that the student will also be able to integrate this information with previously

learned anatomical sites and structures. This will provide continuity in the student's learning experience and serves as a basis for acquiring new and future knowledge about ocular motility in disease and dysfunction. Key clinical examples of eye movement disorders will be discussed along with their neural substrates and mechanisms.

OPT 7404 - Neuro-Ophthalmic Disease 1 with Laboratory (1.5)

Neuro-ophthalmic disease is an area that focuses on specific testing of the afferent and efferent visual systems, ocular health assessment, and neurologic examination to observe and correlate clinical signs and symptoms. These signs and symptoms are used to aid in anatomic localization of the problem as it relates to the visual and nervous system. Accurate information and assessment is critical in determining the necessary diagnostic work-up, which often includes neuro-imaging and laboratory testing.

OPT 7405 - Neuroanatomy with Laboratory (2.5)

The Neuroanatomy Course covers the anatomy of the nervous system in addition to neuroanatomy and neuroscience principles. This course offers students the opportunity to learn the important basic science concepts that will later be applied clinically. Specifically, this course covers pathways of the brain and spinal cord, cranial nerves, and specifics regarding the brainstem, cerebrum, and cerebellum. This course builds on the information taught in the Head and Neck Anatomy course.

OPT 7406 - Ocular Physiology and Biochemistry (2)

Ocular physiology forms the framework for many of the biomedical aspects of primary vision care by presenting the development and physiology/biochemistry of ocular tissues and fluids. The course provides the knowledge base in ocular tissue structure and function, as well as normal and abnormal development concepts, which enable the student to understand patho-physiological processes present in primary and secondary ocular diseases and congenital anomalies. Clinical correlates and case-based materials are an integral part of the course presentation. The course includes a laboratory component, which is designed to give the student an opportunity to reinforce classroom material through the utilization of anatomic and embryologic specimens, as well as clinical images, which reinforce the clinical application of the course. The laboratory setting, the smaller lab student numbers, along with the assistance of the laboratory instructors will enhance the students' understanding of the course lecture content.

OPT 7407 - Systemic Immunology and Microbiology (1)

This course provides a comprehensive introduction to systemic immunology and microbiology. The immunology aspect of the course will focus on basic and clinical immunology. The basic immunology content will focus on basic concepts of immunology, innate and adaptive immunity, the complement system, and lymphocyte development and effector function. Clinical immunology will provide a brief overview of clinical immunological disorders such as autoimmune disease, transplant rejection, tumor immunology, immunodeficiency, and hypersensitivity. The microbiology aspect of the course will focus on microbial structure, microbial replication, pathogenic mechanisms of microbes, diagnostic/laboratory studies, and major antimicrobial targets. This course will emphasize major themes in the four core areas of microbiology such as bacteriology, virology, mycology, and parasitology.

OPT 7408 - Public Health Optometry and Research Methods (1.5)

Public health professionals care for populations while individual health care providers, including primary care optometrists, care for individual patients. Primary care optometrists also practice within the population based public health community. This course introduces the student to the core principles in public health: epidemiology, epidemics, screening, public health organizational structure, and public health law. The student will also learn skills to evaluate observational and experimental studies by study design and biostatistics.

OPT 7409 - Neurologic Examination and Imaging with Laboratory (1)

In this course students will learn the basics of a neurologic examination and the clinical implications that these tests have in optometric care. This course will review and apply concepts from neuroanatomy through a case-based approach.

OPT 7410 - Diagnostic Imaging and Technology with Laboratory (1)

The Diagnostic Imaging and Technology course provides introductory knowledge on functionality of commonly employed diagnostic imaging methods in optometric practice. The basic skills acquired in this course will be built during additional advanced disease courses in the curriculum. This course will cover imaging principles, acquisition techniques, and imaging interpretations. The imaging procedures and diagnostic testing presented will

include optical coherence tomography with and without angiography (OCT, OCT-A), visual field perimetry, ocular photography with and without the use of contrast dye, fundus auto-fluorescence (FAF), and ophthalmic ultrasound. The material will be presented in lecture (either synchronous or asynchronous sessions) while hands-on acquisition techniques will be elaborated on during laboratory and workshop sessions.

OPT 7414 - Neuro-Ophthalmic Disease 2 with Laboratory (1)

The Neuro-Ophthalmic Disease Course Series builds on the foundation laid in the Head and Neck Anatomy, Neuroanatomy, and Neurologic Examination Courses. This course series consists of 3 courses which take place in the Fall and Spring terms of the second year (Neuro Ophthalmic Disease 1 and 2, respectively) and the summer of the third year (Neuro-Ophthalmic Disease 3) of the traditional OD program. This course series covers the clinical application of the neuroscience, anatomy and neuroanatomy principles learned in previous courses. This course offers students the opportunity not only to apply those important basic science concepts clinically, but to learn how to properly examine, diagnose, and treat patients with neuro-ophthalmic manifestations. Specifically, this course, Neuro-Ophthalmic Disease 2, covers evaluation and management of disorders of the efferent visual system.

OPT 7424 - Neuro-Ophthalmic Disease 3 (1)

The Neuro-Ophthalmic Disease Course Series builds on the foundation laid in the Head and Neck Anatomy, Neuroanatomy, and Neurologic Examination Courses. This course series consists of 3 courses which take place in the Fall and Spring terms of the second year (NeuroOphthalmic Disease 1 and 2, respectively) and the summer of the third year (Neuro-Ophthalmic Disease 3) of the traditional OD program. This course series covers the clinical application of the neuroscience, anatomy and neuroanatomy principles learned in previous courses. This course offers students the opportunity not only to apply those important basic science concepts clinically, but to learn how to properly examine, diagnose, and treat patients with neuroophthalmic manifestations. Specifically, this course, Neuro-Ophthalmic Disease 3, takes concepts learned in NOD 1 and NOD 2 about the afferent and efferent visual systems, and applies them to systemic and neurologic diseases and conditions.

OPT 7500 - Optics 3: Physical Optics with Laboratory (2)

This course, which is the third part of a four-term sequence, centers around physical optics principles. The

course begins with a discussion of interference, diffraction, and polarization, which are relevant to optometry and the optical devices used in patient care. Aberrations and other limitations to good optical clarity are discussed within the context of lenses, optical equipment, and visual acuity. Students will examine the optics of telescopes and learn about the topics of 'stops', field of view, and depth of field, and emphasize these concepts within the context of the telescope, the eye, and the clinical instruments that are used as part of an eye exam.

OPT 7502 - Environmental & Sports Vision (1)

The online portion of this Environmental Optometry course concentrates on the study, management, and control of natural and human factors in the environment that can affect the health and visual status of patients. The second online portion of the course will concentrate on the study, management and treatment of Sports Vision issues. Because of specific risk factors in the occupational, recreational, sports and home environments, optometric practitioners should be well versed concerning visual demands and potential sources of hazard in their patients' environments and avocations. This course will briefly introduce environmental optometry and sports vision concepts that apply to optometric practice.

OPT 7507 - Optics 4: Physiological Optics with Laboratory (2.0)

This course, which is the fourth part of a four-term sequence, presents the eye as an optical instrument and reviews the optical characteristics of vision. Students will learn to apply optical principles to the ocular structures and to visual function. Within a study of the pupil, students will examine range of clarity and stimulus to accommodation. Students will learn about retinal image size, spectacle magnification and relative spectacle magnification within the context of axial and refractive ametropias, culminating in a discussion of aniseikonia. Students will explore the optics of commonly prescribed low vision devices. Ocular biometry is discussed in reference to intra-ocular lens (IOL) calculations and refractive surgery as well as the science of emmetropization. al principles as they relate to visual function and optical devices.

OPT 7509 - Minor Surgical Procedures (1.5)

The Minor Surgical Procedures course explains surgical evaluation and management including pre-operative candidate selection, pre-surgical testing, and patient counseling and preparation. Post-operative management and complications are also presented. Periocular surgical procedures topics include informed consent, OSHA

guidelines, aseptic and sterile techniques, types of lesion removal, and post-operative care. Head and neck anatomy and evidence-based practice are applied in surgical planning, procedures, and anesthesia. Injection topics including indications, contraindications, side effects, complications, and techniques are reviewed. Specific injection types include periocular injections, intravenous, subcutaneous, intramuscular, intradermal, subconjunctival, and intralesional injections. The associated laboratory provides a hands-on experience in performing various injections, simulated removal of lesions using multiple techniques, and suturing procedures.

OPT 7510 - Ophthalmic Lasers (1)

The Ophthalmic Laser course explains surgical evaluation and management including pre-operative candidate selection, pre-surgical testing, and patient counseling and preparation. Post-operative management and complications are also presented. Ophthalmic laser topics include basic laser physics and tissue interactions, laser safety and hazards, indications and contraindications for specific laser procedures, laser procedure protocols, and post-operative management. Students will perform simulated ophthalmic laser surgery in the Ophthalmic Laser laboratory.

OPT 7530 - Optics 1: Foundation of Light and Lenses (2.5)

This course, which is the first part of a four-term sequence focuses on the fundamentals of geometric and ophthalmic optics. The course begins with an introduction to the properties and behavior of light, particularly how light bends across different surfaces to produce an image. Students will examine the imagery of single spherical refractive surfaces, thin lenses, astigmatic lenses, and mirrors, both from a mathematical perspective, as well as visually through the use of ray diagrams. These basic properties of optical systems will support the discussion of refractive error and ophthalmic lenses and form the basis for skills and examination procedures used in clinical practice. Students will explore frames and lenses and learn a variety of optical skills critical for optometric practice including frame adjustments, repairs, and lens neutralization.

OPT 7531 - Optics 2: Applications of Optical Principles (2.5)

This course, which is the second part of a four-term sequence, continues the study of geometric and ophthalmic optics. The course includes a study of prism and the optics of multifocal lens options including bifocal, trifocal and progressive lenses. Students will learn to measure, order, and verify these lenses. Students will be introduced to lens

fabrication, digital surfacing, tints, polarization and lens coatings. The course will review refractive surfaces leading into a discussion of thick lenses. Students will learn about surface power, vertex power, and equivalent power, and examine the behavior of light through thick lenses and multiple lenses in series and learn how these optical systems are different from thin lenses.

OPT 7600 - Vision Science and Perception 1 with Laboratory (1)

The purpose of Vision Science and Perception I (VS & P I) is to guide student study of the functional aspects of the visual, vestibular and auditory systems and to introduce methods and techniques of research in visual physiology and general psychophysics. VS & P 1 includes introductory concepts of monocular visual perception, its physiological basis and application to clinical practice. Concepts will be applied to understanding dark and light adaptation and increment thresholds. VS & P 1 serves as a foundation for continuation of these concepts on a more expanded basis in VS & P 2 through VS & P 4. Students will also study the basics of sensory perception in the modalities of auditory and vestibular sensitivity. Psychophysical measurements will be an important emphasis of this course and this begins with specification of the stimulus and techniques of eliciting data from human observers through the auditory and visual systems. Laboratory exercises will demonstrate how to clinically measure psychophysical functions and how dark adaptation is measured in a clinical setting.

OPT 7601 - Vision Science and Perception 2 with Laboratory (2)

The purpose of Vision Science and Perception 2 (VS & P 2) is to further guide student study of the anatomical, physiological and functional aspects of the visual system and to continue to introduce clinical and research methods and techniques in visual physiology and general psychophysics in order to elicit data from human observers. VS & P 2 reviews and delves further into concepts in retinal physiology that relate directly to both objective and psychophysical testing of retinal and visual pathway functions and their application to clinical practice. VS & P 2 serves as a foundation for continuation of these concepts on a more expanded basis in VS & P 3 and VS & P 4. Laboratory exercises will demonstrate how to clinically measure and interpret retinal and visual pathway function through objective electrophysiological testing and how contrast sensitivity a psychophysical function is measured and applied in a clinical setting.

OPT 7602 - Vision Science and Perception 3 with Laboratory (1.5)

The purpose of Vision Science and Perception 3 (VS & P 3) is to further guide student study of the anatomical, physiological and functional aspects of the visual system and to continue to introduce clinical and research methods and techniques in visual physiology and general psychophysics in order to elicit data from human observers. VS & P 3 builds upon concepts covered in VS&P 1 and 2 to introduce measurement of light and how we perceive light and color and their application to clinical practice. A summary of psychophysical measures applicable to optometry as well as an overview of the development and changes in visual skills covered in VS & P 1-3 will conclude this course. VS & P 3 also serves as a foundation for the vision science of amblyopia and binocular vision in VS & P 4. Laboratory exercises will include a demonstration lab for Photometry and Radiometry, measurement of color and color vision beyond Ishihara testing as well as demonstrations of color anomalies.

OPT 7603 - Vision Science and Perception 4 with Laboratory (1.5)

This course will cover vision science and perception concepts related to binocular vision. The course will include the physiological basis for binocular vision, monocular and binocular depth cues, horopters and binocular illusions, visual direction, summation, binocular rivalry, aniseikonia and the neurophysiology of amblyopia.

OPT 7710 - Practice Management (1)

The Practice Management Course prepares students at the Pennsylvania College of Optometry to run their own Independent Practice. This course covers content in curriculum vitae writing, social media and marketing, preparing a business plan, medical billing and coding, business taxes, calculating chair time/cost of goods and services, and building a business model.

OPT 7730 - Clinical Problem Solving 1 (1)

Clinical Problem Solving (CPS) courses provide the opportunity for students to work together in a small group setting as the collective mind of a Doctor of Optometry to explore optical conditions and ocular health conditions that impact the optical system as presented in case-based scenarios. Students will conduct a complete optometric history on each patient as well as evaluate how the results of entrance testing, keratometry, objective and subjective refraction, common binocular and accommodative testing all combine to contribute to determine the functional status

of the visual system.

During each session, as case information is progressively disclosed, students develop critical thinking and clinical reasoning skills, applying and integrating their knowledge in support of the clinical decisions they propose. Where knowledge is lacking, students identify specific learning issues that are then researched, ideally during the session as time allows, or prior to the next scheduled session, at which time findings are discussed and applied to diagnosis and management of the patient's problems.

OPT 7732 - Clinical Problem Solving 2 (1)

Clinical Problem Solving (CPS) 2 serves as an integrative educational bridge between basic science courses and patient care experiences. As with CPS 1, the case scenario discussions provide students with opportunities to identify clinical issues, develop analytical skills, and communicate effectively. In addition, students will continue developing the knowledge, skills, and attitudes necessary to attain proficiency as clinicians. The educational emphasis in CPS 2 is on utilizing critical thinking, clinical reasoning, and related abilities inherent in appropriate and effective patient care. The ultimate goal is to develop the ability to distinguish abnormal clinical findings from normal ones, understand the mechanisms underlying clinical presentations, accurately diagnose visual and ocular pathologic conditions, identify related systemic conditions, and develop appropriate patient assessments and management plans consistent with the education and clinical training to date of students enrolled in CPS 2. The small group format of CPS 2 provides an opportunity for students to develop effective communication skills, including the verbalization of ophthalmic / medical terminology as well as personal and clinical confidence. Student research on case related topics serves to enhance the knowledge base and application of basic science principles.

OPT 7734 - Clinical Problem Solving 3 (1)

Clinical Problem Solving (CPS) 3 continues to serve as an integrative educational bridge between basic / vision science courses and patient care experiences. The case discussions provide students with opportunities to identify clinical issues, develop analytical skills, and communicate effectively. In addition, students will continue developing the knowledge, skills, and attitudes necessary to attain proficiency as clinicians. The educational emphasis in CPS 3 is on utilizing critical thinking, clinical reasoning, and related abilities inherent in appropriate and effective patient care. The ultimate goal is to develop the ability to distinguish abnormal clinical findings from normal ones, understand the mechanisms underlying clinical

presentations, accurately diagnose visual and ocular pathologic conditions, identify related systemic conditions, and develop appropriate patient assessments and management plans consistent with the education and clinical training to date of students enrolled in CPS 3. The small group format provides an opportunity for students to develop effective communication skills, including the verbalization of ophthalmic / medical terminology as well as personal and clinical confidence. Student research on case-related topics serves to enhance the knowledge base and application of basic / vision science principles.

OPT 7736 - Clinical Problem Solving 4 (1)

Clinical Problem Solving (CPS) 4 continues to serve as an integrative educational bridge between basic / vision science courses and patient care experiences. The case discussions provide students with opportunities to identify clinical issues, develop analytical skills, and communicate effectively. In addition, students will continue developing the knowledge, skills, and attitudes necessary to attain proficiency as clinicians. The educational emphasis in CPS 4 is on utilizing critical thinking, clinical reasoning, and related abilities inherent in appropriate and effective patient care. The ultimate goal is to develop the ability to distinguish abnormal clinical findings from normal ones, understand the mechanisms underlying clinical presentations, accurately diagnose visual and ocular pathologic conditions, identify related systemic conditions, and develop appropriate patient assessments and management plans consistent with the education and clinical training to date of students enrolled in CPS 4. The small group format provides an opportunity for students to develop effective communication skills, including the verbalization of ophthalmic / medical terminology as well as personal and clinical confidence. Student research on case-related topics serves to enhance the knowledge base and application of basic / vision science principles.

OPT 7737 - Clinical Problem Solving 5 (1)

Clinical Problem Solving (CPS) 5 continues to serve as an integrative educational bridge between basic / vision science courses and patient care experiences. The case discussions provide students with opportunities to identify clinical issues, develop analytical skills, and communicate effectively. In addition, students will continue developing the knowledge, skills, and attitudes necessary to attain proficiency as clinicians. The educational emphasis in CPS 5 is on utilizing critical thinking, clinical reasoning, and related abilities inherent in appropriate and effective patient care. The ultimate goal is to develop the ability to distinguish abnormal clinical findings from normal ones,

understand the mechanisms underlying clinical presentations, accurately diagnose visual and ocular pathologic conditions, identify related systemic conditions, and develop appropriate patient assessments and management plans consistent with the education and clinical training to date of students enrolled in CPS 5. The small group format provides an opportunity for students to develop effective communication skills, including the verbalization of ophthalmic / medical terminology as well as personal and clinical confidence. Student research on case-related topics serves to enhance the knowledge base and application of basic / vision science principles.

OPT 8500 - Pediatric & Infant Vision with Laboratory (2.5)

This purpose of the Pediatric and Infant Vision and Laboratory course is to provide a model for the evaluation and management of children's vision that can be incorporated into the practice of primary care optometry. Concepts learned can also serve as a foundation of further learning for those students who choose to specialize in this area of practice. General human development and developmental changes in visual skills throughout life will be reviewed. The prevalence of vision disorders in this population is significant and many organizations now recommend early screening and/or examinations of children. The unique needs of infants and preschool children as well as concepts in vision and learning for school age children will be addressed during this course. This course provides an opportunity to develop a basic working knowledge for the detection, assessment and intervention of vision problems for children of all ages. This course also serves as a foundation for the binocular vision series of courses which follow in the curriculum.

OPT 8501 - Low Vision and Vision Rehabilitation with Laboratory (2.5)

This course is designed to provide each student with a basic understanding of low vision rehabilitation. It will provide the knowledge, skills, and attitudes needed to properly care for patients whose visual capabilities utilizing conventional therapy are inadequate for the performance of vision-directed or vision-related tasks in their vocation, avocation, social interaction or daily living.

OPT 8530 - Contact Lens 1-Soft Contact Lenses (1.5)

This course, which is the first part of a three-term sequence, introduces the student to the fundamentals of soft contact lenses. Historical development of contact lenses will be reviewed and placed in context of modern developments. This course will develop the principles of contact lens physiology and optics, and integrate them with

the student's understanding of the cornea, tear film, and adnexal anatomy. Ocular measurements necessary for contact lens design will be correlated with on-eye evaluation of soft contact lenses. Oxygen requirements for safe lens wear will be contrasted for daily wear (soft and rigid lenses), extended wear hydrogel. Students will learn how to design, fit, and manage standard daily wear soft lenses, silicone hydrogel lenses worn for extended and/or continuous wear, and toric soft lenses for the correction of astigmatism. Students will also learn about contact lens cleaning and disinfection solutions that are used in order to maintain healthy contact lens wear. Students will have the opportunity to work through calculations and fitting procedures during weekly laboratory sessions. During these labs, students will work with a variety of different lens types and materials in order to gain confidence with fitting principles and problem solving prior to entering patient care at The Eye Institute.

OPT 8531 - Contact Lens 2 - Rigid Contact Lenses (3)

This course, which is the second part of a three-term sequence, introduces the student to the fundamentals of gas-permeable (GP) contact lenses. Students will learn how to handle, care for, design, fit, and manage standard gas-permeable rigid contact lenses. Students will also learn about nuances of lens design including aspheric, lenticular, and ultrathin lens modifications to fit a larger segment of the GP lens wearing population. This also includes learning about presbyopic fitting for both rigid and soft lenses, and ortho-keratology. Students will learn to interpret corneal topography imaging, as well as learn to clinically manage a wide array of potential rigid lens complications.

Students will have the opportunity to work through calculations and fitting procedures during weekly laboratory sessions. During these labs, students will work with a variety of different lens types and materials in order to gain confidence with fitting principles and problem solving for their patient care at The Eye Institute.

OPT 8540 - Integrated Decision Making/NBEO Prep (2)

The Integrated Decision Making/National Board of Examiners in Optometry (NBEO) Preparation course will provide students with a structured review of material covered during the first three years on campus. This course includes lectures on study tips and skills, making and sticking to a study schedule, faculty review lectures, quizzes, and small group collaboration projects. This course will also emphasize the integration of basic science and clinical decision making so students can apply their

didactic knowledge to clinical care.

OPT 8630 - Clinical Skills 1 (2)

This course will focus on the theory and clinical application of Clinical Skills in optometric medicine. The skills presented in this portion of the course are visual acuity, pupillary distance, ocular dominance, color vision, stereopsis, extra-ocular motility testing, confrontation fields, automated equipment use, cover test, keratometry, retinoscopy and optometric history. These will be presented in a lecture and laboratory setting.

OPT 8631 - Clinical Skills 2 (3.5)

This course will focus on the theory and clinical application of Clinical Skills for Patient Care. The topics reviewed in this portion of the course include visual acuity, pupillary distance measurement, extraocular muscle testing, automated refraction/keratometry, near point of convergence, noncontact tonometry, color vision, stereopsis, manual keratometry, cover testing, retinoscopy and direct ophthalmoscopy. The topics presented in this portion of the course are subjective refraction, external testing of pupil responses, slit lamp biomicroscopy, photometry, accommodative testing, near point testing, history taking, cycloplegic refraction techniques, and dyes/stains used in biomicroscopy. There will also be continued use of the simulation lab – direct ophthalmoscopy and an introduction to simulation lab - binocular indirect ophthalmoscopy. These topics will be presented in a lecture and laboratory setting.

OPT 8632 - Clinical Skills 3 (1.5)

This course will focus on the theory and clinical application of Clinical Skills in Patient Care. The topics and techniques covered in CS1 and CS2 will be reviewed/reemphasized in this course. The topics presented in this portion of the course are Cycloplegic refraction techniques Binocular Indirect Ophthalmoscopy, Goldmann tonometry and other forms of Tonometry, Slit lamp Biomicroscopy illumination techniques, Binocular vision testing, Gonioscopy and dilated retinal assessment with a 3 mirror Goldmann lens. These topics will be presented in asynchronous lectures and face-to-face laboratory setting.

OPT 8635 - Clinical Skills 4 (2.5)

This course will focus on the theory and clinical application of Clinical Skills in Patient Care. The topics and techniques covered in CS1, CS2 and CS3 will be reviewed/reemphasized in this course. The topics presented in this portion of the course are Electronic Medical Recording in NextGen, additional refractive techniques, additional binocularity testing techniques, and

Visual Field testing. There will also be continued use of the Simulation lab – binocular indirect ophthalmoscopy. These topics will be presented in a lecture and laboratory setting.

OPT 8636 - Advanced Clinical Skills (1)

This course will focus on the theory and clinical application of advanced diagnostic and therapeutic clinical skills in optometric medicine. The skills reviewed in this portion of the course include: Dry eye evaluation, interpretation of diagnostic imaging of OCT, VF, photography, auto-fluorescence, ultrasound and a comprehensive double vision evaluation (some components of NBEO). In preparation for the NBEO Part 3 examination, the students will review the following skills: binocular indirect ophthalmoscopy, 90 D funduscopy, 3-mirror gonioscopy. The topics presented in this portion of the course include: Foreign body removal, pressure patching, amniotic membranes, carotid auscultation, ocular cultures, punctal plug insertion (NBEO), epilation, dilation and irrigation, scleral depression, undilated and off-axis 90 D fundus evaluation, rotational 3-mirror retinal evaluation, extended ophthalmoscopy, rotational and indentation gonioscopy. Corneal crosslinking, anterior stromal puncture, epithelial debridement, paracentesis and conjunctival cyst removal will also be introduced. These topics will be presented in a laboratory setting, readings with supplemental electronic material, lecture and grand rounds presentations.

OPT 8640 - Patient Care 1 (0.5)

The Traineeship stage of the Patient Care program of the Pennsylvania College of Optometry at Drexel University is a series of clinical sessions for patient care in the Drexel University clinical settings. The intent of the Traineeship Program is to provide the optometric student the opportunity to observe and begin training by upperclassmen and faculty/resident practitioners in primary eye care. The Traineeship Program is an integral part of the curriculum and is designed to develop the novice optometric student into a student intern who will begin to examine patients. Drexel University is committed to providing students with the highest quality clinical education. Entrance into the clinical facilities of Drexel University adds a special dimension of personal and professional responsibility for the student of optometry, who must be in good clinical and academic standing in order to participate in the program. The student-clinician assumes responsibility for the care and welfare of patients assigned for care and to the College in the service component of its mission as a provider of eye care. The student is expected to practice, under the instruction and

guidance of the attending faculty, according to the highest standards of clinical, moral, professional, and ethical conduct. Competent and successful optometric health care practitioners require a large number of clinical skills to be able to provide appropriate patient care to the public. The specific skills identified to allow patient interaction in clinical settings on and off campus are taught in multiple courses, but especially in the Clinical Skills courses. The Traineeship Program represents the theory and clinical application of Clinical Skills in optometric medicine. Since no clinical skills have been verified in the Clinical Skills course setting, all patient interactions during this semester will involve active observation of the eye examination.

OPT 8641 - Patient Care 2 (0.5)

The Traineeship stage of the Patient Care program of the Pennsylvania College of Optometry at Drexel University is a series of clinical sessions for patient care in the Drexel University clinical settings. The intent of the Traineeship Program is to provide the optometric student the opportunity to observe and begin training by upperclassmen and faculty/resident practitioners in primary eye care. The Traineeship Program is an integral part of the curriculum and is designed to develop the novice optometric student into a student intern who will begin to examine patients. Drexel University is committed to providing students with the highest quality clinical education. Entrance into the clinical facilities of Drexel University adds a special dimension of personal and professional responsibility for the student of optometry, who must be in good clinical and academic standing in order to participate in the program. The student-clinician assumes responsibility for the care and welfare of patients assigned for care and to the College in the service component of its mission as a provider of eye care. The student is expected to practice, under the instruction and guidance of the attending faculty, according to the highest standards of clinical, moral, professional, and ethical conduct. Competent and successful optometric health care practitioners require a large number of clinical skills to be able to provide appropriate patient care to the public. The specific skills identified to allow patient interaction in clinical settings on and off campus are taught in multiple courses, but especially in the Clinical Skills courses. The Traineeship Program represents the theory and clinical application of Clinical Skills in optometric medicine.

OPT 8642 - Patient Care 3-Optical Clerkship (1.5)

The Summer Clerkship is a two-week (70 hours) optical rotation in a Pennsylvania College of Optometry (PCO) approved clinical setting. It is designed to reinforce skills acquired during first year coursework in ophthalmic

materials and management. The student is expected to practice, under the instruction and guidance of the preceptor (optometrist or optician) according to the highest standards of clinical, moral, and ethical conduct.

OPT 8643 - Patient Care 4 (1)

The Traineeship stage of the Patient Care program of the Pennsylvania College of Optometry at Drexel University is a series of clinical sessions for patient care in the Drexel University clinical settings. The intent of the Traineeship Program is to provide the optometric student the opportunity to observe and begin training by upperclassmen and faculty/resident practitioners in primary eye care. The Traineeship Program is an integral part of the curriculum and is designed to develop the novice optometric student into a student intern who will begin to examine patients. Drexel University is committed to providing students with the highest quality clinical education. Entrance into the clinical facilities of Drexel University adds a special dimension of personal and professional responsibility for the student of optometry, who must be in good clinical and academic standing in order to participate in the program. The student-clinician assumes responsibility for the care and welfare of patients assigned for care and to the College in the service component of its mission as a provider of eye care. The student is expected to practice, under the instruction and guidance of the attending faculty, according to the highest standards of clinical, moral, professional, and ethical conduct. Competent and successful optometric health care practitioners require a large number of clinical skills to be able to provide appropriate patient care to the public. The specific skills identified to allow patient interaction in clinical settings on and off campus are taught in multiple courses, but especially in the Clinical Skills courses. The Traineeship Program represents the theory and clinical application of Clinical Skills in optometric medicine.

OPT 8644 - Patient Care 5 (3.5)

The Patient Care 5 curriculum (PC 5) is one of four clinical courses, Patient Care 5-Patient Care 8, which occurs over a 15-month continuum. The course is designed to develop intern knowledge and skill to an expected level of clinical competency. Interns will routinely perform supervised complete eye examinations throughout the year and participate in other patient care activities as described in Section 4. Supervision is provided by TEI clinical faculty. Students must successfully complete each Patient Care course to advance to the next course in the sequence.

This Patient Care 5 syllabus for the Internship stage of the Patient Care curriculum delineates course expectations, evaluations, grading and various policies and protocols to be followed by students.

Entrance into The Eye Institute at Drexel University adds a special dimension of personal and professional responsibility for the student of optometry; the candidate must be in good clinical and academic standing in order to participate in the clinical program. The intern assumes responsibility for the care and welfare of patients to which they are assigned. The intern shall practice, under the instruction and guidance of the attending faculty, according to the highest standards of clinical, moral, professional, and ethical conduct.

OPT 8645 - Patient Care 6 (5)

The Patient Care 6 curriculum (PC 6) is one of four clinical courses, Patient Care 5 through Patient Care 8, which occurs over a 15-month continuum. The course is designed to develop intern knowledge and skill to an expected level of clinical competency. Interns will routinely perform supervised complete eye examinations throughout the year and participate in other patient care activities as described in Section 4. Supervision is provided by TEI clinical faculty. Students must successfully complete each Patient Care course to advance to the next course in the sequence. This Patient Care 6 syllabus for the Internship stage of the Patient Care curriculum delineates course expectations, evaluations, grading and various policies and protocols to be followed by students. Entrance into The Eye Institute at Drexel University adds a special dimension of personal and professional responsibility for the student of optometry; the candidate must be in good clinical and academic standing in order to participate in the clinical program. The intern assumes responsibility for the care and welfare of patients to which they are assigned. The intern shall practice, under the instruction and guidance of the attending faculty, according to the highest standards of clinical, moral, professional, and ethical conduct.

OPT 8646 - Patient Care 7 (6)

The Patient Care 7 curriculum (PC 7) is one of four clinical courses, Patient Care 5 through Patient Care 8, which occurs over a 15-month continuum. The course is designed to develop intern knowledge and skill to an expected level of clinical competency. Interns will routinely perform supervised complete eye examinations throughout the year and participate in other patient care activities as described in Section 4. Supervision is provided by TEI clinical

faculty. Students must successfully complete each Patient Care course to advance to the next course in the sequence. This Patient Care 7 syllabus for the Internship stage of the Patient Care curriculum delineates course expectations, evaluations, grading and various policies and protocols to be followed by students. Entrance into The Eye Institute at Drexel University adds a special dimension of personal and professional responsibility for the student of optometry; the candidate must be in good clinical and academic standing in order to participate in the clinical program. The intern assumes responsibility for the care and welfare of patients to which they are assigned. The intern shall practice, under the instruction and guidance of the attending faculty, according to the highest standards of clinical, moral, professional, and ethical conduct.

OPT 8647 - Patient Care 8 (2.5)

The Patient Care 8 curriculum (PC 8) is final course in the four clinical internship courses, Patient Care 5 through Patient Care 8, which occurs over a 15-month continuum. The course is designed to develop intern knowledge and skill to an expected level of clinical competency prior to transitioning to the externship phase of the curriculum. Interns will routinely perform supervised complete eye examinations throughout the year and participate in other patient care activities as described in Section 4. Supervision is provided by TEI clinical faculty. Students must successfully complete each Patient Care course to advance to the next course in the sequence. This Patient Care 8 syllabus for the Internship stage of the Patient Care curriculum delineates course expectations, evaluations, grading and various policies and protocols to be followed by students. Entrance into The Eye Institute at Drexel University adds a special dimension of personal and professional responsibility for the student of optometry; the candidate must be in good clinical and academic standing in order to participate in the clinical program. The intern assumes responsibility for the care and welfare of patients to which they are assigned. The intern shall practice, under the instruction and guidance of the attending faculty, according to the highest standards of clinical, moral, professional, and ethical conduct.

OPT 8800 - Externship 1 (5.5)

Clinical externships of the Drexel University Pennsylvania College of Optometry (PCO) are a series of clinical rotations to various sites for patient care. The intent of the externships is to provide the optometric student the opportunity to be trained by outstanding practitioners in primary and/or secondary eye care. Externships are an integral part of the curriculum and are designed to transform the optometric student into a complete health

care professional who can apply scientific knowledge in concert with clinical insight and overall concern for the patient. The University is committed to providing students with the highest quality education.

Clinical externships begin in March of the third year and proceed through the entire fourth year. Clinical externships are the culmination of the patient care preparation programs of Drexel University. The on and off-campus clinical experiences at the University (Professional Practice 1-7) during the first 2-1/2 years of the core program prepare the student in the basic clinical skills so that the student can assume the more intensive clinical demands of externships. The first externship (spring semester) of the third program year is a primary care off-campus rotation. The remaining 12-month period (fourth professional year) includes four (4) rotations of three or six month duration. Three of the rotations are predominantly in off- campus private practice, group practice and/or hospital settings. Externships are classified into four categories, each with specific associated educational objectives: The Eye Institute, interprofessional/collaborative care hospital-based site, ocular disease and private practice contact lens/specialty/primary care.

OPT 8801 - Externship 2 (10)

Clinical externships of the Drexel University Pennsylvania College of Optometry (PCO) are a series of clinical rotations to various sites for patient care. The intent of the externships is to provide the optometric student the opportunity to be trained by outstanding practitioners in primary and/or secondary eye care. Externships are an integral part of the curriculum and are designed to transform the optometric student into a complete health care professional who can apply scientific knowledge in concert with clinical insight and overall concern for the patient. The University is committed to providing students with the highest quality education.

Clinical externships begin in March of the third year and proceed through the entire fourth year. Clinical externships are the culmination of the patient care preparation programs of Drexel University. The on and off-campus clinical experiences at the University (Professional Practice 1-7) during the first 2-1/2 years of the core program prepare the student in the basic clinical skills so that the student can assume the more intensive clinical demands of externships. The first externship (spring semester) of the third program year is a primary care off-campus rotation. The remaining 12-month period (fourth professional year) includes four (4) rotations of three or six month duration. Three of the rotations are predominantly in off- campus private practice, group practice and/or hospital settings. Externships are classified into four categories, each with

specific associated educational objectives: The Eye Institute, interprofessional/collaborative care hospital-based site, ocular disease and private practice contact lens/specialty/primary care.

OPT 8802 - Externship 3 (10)

Clinical externships of the Drexel University Pennsylvania College of Optometry (PCO) are a series of clinical rotations to various sites for patient care. The intent of the externships is to provide the optometric student the opportunity to be trained by outstanding practitioners in primary and/or secondary eye care. Externships are an integral part of the curriculum and are designed to transform the optometric student into a complete health care professional who can apply scientific knowledge in concert with clinical insight and overall concern for the patient. The University is committed to providing students with the highest quality education.

Clinical externships begin in March of the third year and proceed through the entire fourth year. Clinical externships are the culmination of the patient care preparation programs of Drexel University. The on and off-campus clinical experiences at the University (Professional Practice 1-7) during the first 2-1/2 years of the core program prepare the student in the basic clinical skills so that the student can assume the more intensive clinical demands of externships. The first externship (spring semester) of the third program year is a primary care off-campus rotation. The remaining 12-month period (fourth professional year) includes four (4) rotations of three or six month duration. Three of the rotations are predominantly in off- campus private practice, group practice and/or hospital settings. Externships are classified into four categories, each with specific associated educational objectives: The Eye Institute, interprofessional/collaborative care hospital-based site, ocular disease and private practice contact lens/specialty/primary care.

OPT 8803 - Externship 4 (10)

Clinical externships of the Drexel University Pennsylvania College of Optometry (PCO) are a series of clinical rotations to various sites for patient care. The intent of the externships is to provide the optometric student the opportunity to be trained by outstanding practitioners in primary and/or secondary eye care. Externships are an integral part of the curriculum and are designed to transform the optometric student into a complete health care professional who can apply scientific knowledge in concert with clinical insight and overall concern for the patient. The University is committed to providing students with the highest quality education.

Clinical externships begin in March of the third year and

proceed through the entire fourth year. Clinical externships are the culmination of the patient care preparation programs of Drexel University. The on and off-campus clinical experiences at the University (Professional Practice 1-7) during the first 2-1/2 years of the core program prepare the student in the basic clinical skills so that the student can assume the more intensive clinical demands of externships. The first externship (spring semester) of the third program year is a primary care off-campus rotation. The remaining 12-month period (fourth professional year) includes four (4) rotations of three or six month duration. Three of the rotations are predominantly in off- campus private practice, group practice and/or hospital settings. Externships are classified into four categories, each with specific associated educational objectives: The Eye Institute, interprofessional/collaborative care hospital-based site, ocular disease and private practice contact lens/specialty/primary care.

OPT 8804 - Externship 5 (10)

Clinical externships of the Drexel University Pennsylvania College of Optometry (PCO) are a series of clinical rotations to various sites for patient care. The intent of the externships is to provide the optometric student the opportunity to be trained by outstanding practitioners in primary and/or secondary eye care. Externships are an integral part of the curriculum and are designed to transform the optometric student into a complete health care professional who can apply scientific knowledge in concert with clinical insight and overall concern for the patient. The University is committed to providing students with the highest quality education.

Clinical externships begin in March of the third year and proceed through the entire fourth year. Clinical externships are the culmination of the patient care preparation programs of Drexel University. The on and off-campus clinical experiences at the University (Professional Practice 1-7) during the first 2-1/2 years of the core program prepare the student in the basic clinical skills so that the student can assume the more intensive clinical demands of externships. The first externship (spring semester) of the third program year is a primary care off-campus rotation. The remaining 12-month period (fourth professional year) includes four (4) rotations of three or six month duration. Three of the rotations are predominantly in off- campus private practice, group practice and/or hospital settings. Externships are classified into four categories, each with specific associated educational objectives: The Eye Institute, interprofessional/collaborative care hospital-based site, ocular disease and private practice contact lens/specialty/primary care.

OTD - Occupational Therapy Doctorate

OTD 7001 - Interprofessional Approach to Health (3)

This doctoral seminar exposes students to major theories and research about the process of interprofessional collaboration and looks at the features of successful interprofessional teams and team leaders. This course will also give students the opportunity to delve into specific topics in the literature on interprofessional collaboration that will inform their chosen specialty area of study in the OTD program.

OTD 7002 - Teaching in Higher Education (2)

This course prepares students for the role of teaching in graduate programs and courses. Students will learn how to develop syllabi, course content, and course assessment. Instructional methods and strategies for enhancing student learning and teaching with technology will be introduced and applied. Students will learn how to transition and thrive in academia.

OTD 7003 - Advanced Occupation-Based Perspectives (2)

This course examines the multifaceted aspects of human occupations. It will include perspectives from Occupational Science, Ecological Models of Occupation, Model of Human Occupation, Canadian Models of Occupational Performance and Engagement, and Person, Environment, Occupation model. The course will emphasize strength-based approaches, including enablement, relevant positive psychological constructs and interpersonal influences that facilitate participation in the clients' meaningful roles and occupations.

OTD 7004 - Grant Writing and Disseminating Scholarship (3)

This course will introduce students to the process of bringing their capstone work to the scholarly community. As part of this course, students will create a conference proposal, complete a grant application, and understand the process of submitting to a peer-review journal.

OTD 7501 - Understanding Visual Deficits and Their Relationship to Occupation (3)

This course is designed to provide students with a strong understanding of the anatomy and physiology of the visual system, and an understanding of the 3 - component model

of vision, and the relationship between vision and occupation. The literature will be explored relative to the prevalence of vision problems in both the pediatric population and the acquired brain injury population. Important topical areas about vision in the pediatric and acquired brain injury populations will be explored.

OTD 7502 - Vision Testing/Screening (3)

This course is designed to provide students with an understanding of the history of vision screening and how to select appropriate screening tests. A battery of vision screening tests appropriate for both the pediatric and acquired brain injury populations will be presented. Students will be required to perform each screening test on a minimum of 3 subjects.

OTD 7530 - Remedial Vision Rehab 1: Visual Integrity and Visual Efficiency Problems (3)

This course is designed to prepare students to provide remedial vision rehabilitation (vision therapy) for visual efficiency problems while working with optometrists. The course will begin with a complete review of the various treatment modalities available to eye care professionals when treating both visual integrity and visual efficiency problems in the pediatric and acquired brain injury populations. The history of vision therapy will be explored and areas of controversy will be discussed. Students will be required to review the literature to understand the current evidence about the effectiveness of vision therapy for various visual efficiency problems. Students will have an intensive five-day, on-site workshop designed to provide them with experience performing remedial vision rehabilitation. When returning home, students will be required to perform each vision therapy technique with a minimum of two subjects.

OTD 7531 - Remedial Vision Rehab 2: Eye Movement And Visual Information Processing Problems (3)

This intensive/on-campus course is designed to prepare students to provide remedial vision rehabilitation (vision therapy) for eye movement, visual information processing, and visual field loss problems while working with optometrists. The course will begin with a complete review of the various treatment modalities available to eye care professionals when treating eye movement, visual information processing, and visual field problems in the pediatric and acquired brain injury populations. Students will be required to review the literature to understand the current evidence about the effectiveness of vision therapy visual information processing problems. Students will have an intensive 5-day, on-site workshop designed to provide

them with experience performing remedial vision rehabilitation. When returning home, students will be required to perform each vision therapy technique with a minimum of 2 subjects.

OTD 7701 - Health & Wellness Across the Life Cycle (3)

This doctoral seminar will examine major theories and research on bio-psycho-social health and wellness across the lifespan from childhood, through adulthood (relationship/family development, work years, and changing women's health needs), post-work life including new conceptualizations of healthy retirements. These holistic perspectives will be integrated with Occupational Therapy conceptual models and practice, including lifestyle redesign, chronic illness self-management, as well as relevant complementary and integrative practices, and processes that will enable positive change. Exploration of the health and wellness needs and vulnerabilities of people with disability or at risk for disability will be included.

OTD 7702 - Global and Cultural Perspectives of Health and Health Policy (3)

This course provides students with an overview of global health and health policy and focuses on the social, economic and environmental factors that impact the health of populations around the world. Health problems discussed include but are not limited to, malnutrition, injury, disasters, mental health disorders and chronic diseases. Emphasis is on the epidemiology of global health issues, and the policies and interventions that address these concerns. The role of the occupational therapist in global and population health is stressed throughout the course.

OTD 7703 - Health Promotion in Groups, Communities & Populations (3)

This intensive/on-campus course is designed to provide students with concepts of community health and health promotion, as well as population prevention strategies. Integration of epidemiological research with principles of collaboration, building partnerships, lifestyle strategies, and coalition development will be covered. Specific needs of certain groups or communities particularly those with disabilities or chronic illnesses who occupational therapists treat will be discussed.

OTD 7704 - Innovative Occupational Therapy Health and Wellness Practices (3)

This intensive/on-campus class is designed to explore contemporary health and wellness opportunities and envision future possibilities for Occupational Therapists (OT) brought about changes in the healthcare funding

landscape and society. Some of the topics will explore occupational therapy opportunities in primary care, defining the OT role in self-management of chronic conditions, ergonomics advances, innovative community accessibility initiatives for children and families, transitional service and support for people with developmental disabilities or aging in place, and technology. This course has taken students to cutting-edge accessible museums/planning playgrounds for children/families with disabilities, and progressive community services for young adults with disabilities.

OTD 8001 - Doctoral Capstone Research Methods (3)

This course is designed to prepare the student for the Occupational Therapy Doctoral Capstone project. A range of Doctoral Capstone options will be covered, including, but not limited to a systematic review, a qualitative or quantitative study, and program/manual development. Topics also will include searching, evaluating and synthesizing relevant research literature, developing a research question from the literature or from practice, introduction to systematically collecting and coding data (qualitatively or quantitatively), learning about an appropriate research or program evaluation design and data analysis method. The course will culminate in a well-developed idea for a doctoral capstone project (acceptable to the Doctoral Capstone Design instructor and doctoral capstone mentor).

OTD 8002 - Doctoral Capstone Design (4)

The content emphasis for this course will focus on a) developing a capstone proposal, and b) learning methods for data analysis or program assessment/outcomes. Students will go through the institutional review board (IRB) process as part of this course.

OTD 8031 - Doctoral Capstone Project (1)

Once the capstone mentor is assigned (and consents to the proposal), the mentor and course instructor will help the student refine and guide the project development and implementation to the final presentation.

OTD 8032 - Doctoral Capstone Project Advisement 1 (1)

This course provides individualized mentorship to students through the conclusion of the Doctoral Capstone Project process, adding personalized and specialized guidance to their experience from a knowledgeable mentor in the student's chosen specialty area and from the Doctoral Capstone Project course instructor. The course is structured to individually support each student through

data collection, analysis, and conclusion parts of the capstone research process. This course is not included in the required 30-credit course OTD program. This course is an additional course for students who desire a second attempt to complete the Doctoral Capstone Project and complete the OTD program.

OTD 8033 - Doctoral Capstone Thesis & Defense (0)

The content emphasis for this course will focus on a) developing a capstone proposal, and b) learning methods for data analysis or program assessment/outcomes. Students will go through the institutional review board (IRB) process as part of this course.

OTD 8034 - Doctoral Capstone Project Advisement 2 (1)

This course provides individualized mentorship to students through the conclusion of the Doctoral Capstone Project process, adding personalized and specialized guidance to their experience from a knowledgeable mentor in the student's chosen specialty area and from the Doctoral Capstone Project course instructor. The course is structured to individually support each student through the data collection, analysis, and conclusion parts of the capstone research process. This course is not included in the required 30-credit course OTD program. This course is an additional course for students who desire a final attempt to complete the Doctoral Capstone Project and complete the OTD program.

PAS - Physician Assistant Studies

PAS 5001 - Gross Human Anatomy 1 (3)

Gross Human Anatomy 1 provides Physician Assistant students with an extensive background in human anatomy through lecture, laboratory, and independent learning exercises. The course will have a clinical emphasis and will provide foundational support for the Clinical Medicine, Physical Diagnosis, and Acute and Invasive Medicine courses. The laboratory portion will consist of full cadaver dissection, examination of prosected cadavers, models, diagnostic imaging, as well as the Anatomage virtual dissection table addressing the following anatomical regions: back, thoracic and abdominal walls, thoracic viscera, abdominopelvic viscera, pelvis and perineum, head and neck.

Offered: Didactic Phase, Fall Semester.

PAS 5002 - Medical Microbiology and Genetics (2)

This course provides a systematic organ-based review of infectious disease agents and the principles and techniques

employed in their laboratory diagnosis. It explores the protective mechanisms and response by the immune system in mounting defenses against common pathogens encountered in clinical practice. The course also introduces the basic concepts of genetics, inheritance patterns, genetic testing and screening and will correlate the effects of genetic alterations to clinical disease.

Offered: Didactic Phase, Fall Semester.

PAS 5003 - Behavioral Science (2.5)

This course introduces the student to the normal and abnormal psychological development of pediatric, adult and geriatric patients. Through lectures, assigned readings and case study sessions, the student will develop the knowledge, skills, and attitudes necessary for the evaluation and management of patients and their families with behavioral and mental health disorders. Instruction will include but is not limited to: the psychiatric interview, mood and personality disorders, somatoform/factitious/dissociative disorders, psychotic disorders, mental health, substance abuse, domestic violence, and end of life care. The needs of vulnerable populations and management of psychiatric emergencies will also be reviewed.

Offered: Didactic Phase, Spring Semester.

PAS 5007 - PA Seminar (1)

This course is designed to introduce Physician Assistant (PA) students to pertinent issues of medical practice and the PA role in providing quality, patient-centered care. The course is designed to expose the PA student to aspects of medicine and patient care that are not contained within the clinical medicine and science curricula. As a requirement of student participation in clinical experiences, instruction will be provided regarding the Health Insurance Portability and Accountability Act (HIPAA), the Occupational Safety and Health Administration (OSHA), and safety precaution guidelines related to blood-borne pathogens.

Documentation, billing and coding, reimbursement, quality assurance, risk management, and medicolegal issues will be introduced in this course and revisited in the Transition to Practice course during the Clinical Phase of the curriculum. With quality improvement in mind, giving and receiving feedback and reflective practice will be discussed. The course will also touch on the history and evolution of the PA profession in U.S. medicine, the status, trends, and characteristics of PA health care providers, their education, regulation, practice patterns, external relations, and professional organizations. Issues related to PA health workforce policy are presented, along with aspects of PA practice economics, specialization, PA

political issues, government in health care, and the globalization of the PA concept. PA mental health and wellness and professionalism will also be addressed.

Offered: Didactic Phase, Fall Semester.

PAS 5008 - Acute and Invasive Medicine (3)

This course is designed to prepare the physician assistant student for evaluating, managing, and providing treatment to patients in the acute care setting as well as management of the operative patient. General concepts of the acute management of unexpected injuries and illnesses as well as surgical concepts such as indications for surgical referral, pre-operative patient assessment, principles of anesthesia, intra-operative management and post-operative care and complications will be presented. The course emphasizes emergent diagnosis, stabilization, medical and surgical management, and emergency and operative procedures.

Offered: Didactic Phase, Summer Semester.

PAS 5009 - Community Health (1)

This one semester course is designed to integrate aspects of health that impact individuals and the communities in which they live that fall outside the scope of physical medicine. Students will explore the roles of public health, social and behavioral sciences, social determinants of health, socioeconomics and cultural considerations that are integral to the provision of quality, patient-centered medical care. Additionally, students will address course content related to vulnerable populations, preventive health, effective and appropriate patient communication, and medical ethics. By integrating these topics with the medical knowledge learned in other coursework, students will be better prepared to interact with and provide holistic medical care to patients from a variety of backgrounds and the broader community.

Offered: Didactic Phase, Spring Semester.

PAS 5011 - Gross Human Anatomy 2 (1)

As a continuation of Gross Human Anatomy 1, this comprehensive course is designed to provide Physician Assistant students with an extensive background in gross human anatomy through lecture, laboratory, and independent learning exercises. The course will have a clinical emphasis and will provide foundational support for the Clinical Medicine, Physical Diagnosis, and Acute and Invasive Medicine courses. The laboratory portion will consist of full cadaver dissection, examination of prosected cadavers, models, diagnostic imaging, as well as the Anatomage virtual dissection table addressing the upper and lower extremities.

Offered: Didactic Phase, Spring Semester.

5012 5012 - Foundations of Clinical Problem Solving (1)

This one-semester course is designed to introduce the concepts of evidence-based medicine and critical appraisal of medical literature for PA students. Through lectures, small group work, writing assignments, and journal club, students will learn about key techniques for evaluating the literature in meaningful ways to determine what information should be used in clinical decision-making.

Offered: Didactic Phase, Fall Semester.

Offered: Didactic Phase, Fall Semester.

PAS 5030 - Physiology and Pathophysiology 1 (3)

This course is the first of three sequential courses that provides instruction in normal physiology and also pathophysiology of disease. Organ system modules are aligned with those in the Clinical Medicine 1 and Pharmacology 1 courses. Topics include basic cellular function as well as the physiology/pathophysiology of the hematologic, immunologic, integumentary, auditory, ophthalmic, respiratory, and cardiovascular systems.

Offered: Didactic Phase, Fall Semester.

PAS 5031 - Physiology and Pathophysiology 2 (2.5)

This course is the second of three sequential courses which provides instruction in the normal physiology and pathophysiology of disease. Organ system modules are aligned with those in the Clinical Medicine 2 and Pharmacology 2 courses.

Offered: Didactic Phase, Spring Semester.

PAS 5032 - Physiology and Pathophysiology 3 (2)

This course is the third of three sequential courses which provide instruction in the normal physiology and pathophysiology of disease as it pertains to the endocrine, hematologic, oncologic, and reproductive systems. The normal physiologic changes associated with pregnancy are also explored. Diagnostic modalities are introduced where applicable. Organ system modules are aligned with those in the Clinical Medicine and Pharmacology courses.

Offered: Didactic Phase, Summer Semester.

PAS 5040 - Pharmacology and Clinical Therapeutics 1 (2)

This is the first of three courses in Pharmacology and

Clinical Therapeutics. This course will introduce students to the general principles of pharmacology and the application of these principles to patient care situations. Students will learn the principles of pharmacokinetics, pharmacodynamics, and pharmacogenetics. It provides an overview of dosage formulations and dose-response relationships. Instruction related to a drug's mechanism of action, side effects, toxicity, and contraindications will be covered. Drug interactions and polypharmacy will also be reviewed. The classes of pharmaceuticals will parallel the body system being studied in Clinical Medicine 1.

Offered: Didactic Phase, Fall Semester.

PAS 5041 - Pharmacology and Clinical Therapeutics 2 (1.5)

This is the second of three courses in Pharmacology and Clinical Therapeutics. This course will introduce students to the general principles of pharmacology and the application of these principles to patient care situations. Students will learn the principles of pharmacokinetics, pharmacodynamics and pharmacogenetics. It provides an overview of dosage formulations and dose-response relationships. Instruction related to a drug's mechanism of action, side effects, toxicity, and contraindications will also be covered. Drug interactions and polypharmacy will be reviewed. The classes of pharmaceuticals will parallel the body systems studied in Clinical Medicine 2.

Offered: Didactic Phase, Spring Semester.

PAS 5042 - Pharmacology and Clinical Therapeutics 3 (1.5)

This is the third of three courses in Pharmacology and Clinical Therapeutics. This course will introduce students to the general principles of pharmacology and the application of these principles to patient care situations. Students will learn the principles of pharmacokinetics, pharmacodynamics and pharmacogenetics. It provides an overview of dosage formulations and dose-response relationships. Instruction related to a drug's mechanism of action, side effects, toxicity, contraindications will also be covered. Drug interactions and polypharmacy will also be reviewed. The classes of pharmaceuticals will parallel the body system being studied in Clinical Medicine 3.

Offered: Didactic Phase, Summer Semester.

PAS 5050 - Clinical Problem Solving 1 (2.5)

Using a problem-based learning format in a small group setting, students will learn to synthesize the medical knowledge and skills obtained throughout the curriculum and develop the critical thinking skills integral to clinical

problem-solving. Through the application of self-discovery and integration of clinical reasoning, students will engage in medical decision-making based on evidence-based practice. Patient cases will relate to the organ systems studied in the Clinical Medicine courses.

Additionally, students will be involved in preclinical experiences. These shadowing experiences will have a primary care focus, but will also expose students to specialty practice and other ancillary services of medicine. Students will have the opportunity to observe the application of the knowledge, skills, and professional attributes learned in the classroom. Students will observe the provider and patient interactions during the majority of the experiences, however, some preceptors may allow students direct interaction with patients as their knowledge and skills progress. The preclinical experiences serve as an introduction to practice-based medicine and a precursor to the clinical year of the Program.

Offered: Didactic Phase, Spring Semester.

PAS 5051 - Clinical Problem Solving 2 (1.5)

Using a case-based learning approach, students will synthesize the medical knowledge acquired throughout the curriculum and develop the critical thinking skills integral to clinical problem solving. Each week students will be assigned required readings, which will reinforce and support their learning of a variety of topics encountered throughout the curriculum. Large group sessions will utilize a chief complaint to drive a variety of systems-based differential diagnoses. Through facilitated class discussion, students will choose a 'clinical path' to explore, describing the diagnostic and therapeutic options appropriate in the management of the disease processes.

The Culture in Medical Ethics workshop will utilize small group and larger class discussions to analyze practice-based scenarios complicated by conflict, ethical, and professional concerns while considering the cultural implications that must also be recognized and valued when making medical decisions.

Students will be involved in weekly "pre-clinical" experiences. The experiences will have a primary care focus, but will also expose the students to primary and specialty practice and other ancillary services of medicine. Students will initially observe and may, according to their skills and with preceptor supervision, sequentially increase their independence, applying the knowledge, skills, and professional attributes they are learning in the classroom. This serves as the introduction to practice-based medicine and a precursor to the clinical

year of the Program.

Offered: Didactic Phase, Summer Semester.

PAS 5060 - Physical Diagnosis 1 (2.5)

This is the first of three sequential courses designed to prepare the student to elicit a complete medical history, perform a physical examination, and appropriately document their findings. Students will be trained to demonstrate sensitivity to gender, age and cultural background in their interaction with patients. In addition to lecture and laboratory instruction, students will be afforded the opportunity to practice their history taking and examination techniques during faculty-supervised hospital experiences. Online training modules, lectures and live demonstrations will be used. As each body system is reviewed, emphasis is placed on the understanding of the relationship between presenting signs and symptoms and their physiologic or pathophysiologic origins. There will also be a workshop with the Philadelphia Museum of Art included in this course that focuses on the art of observation and its correlation to clinical care.

Offered: Didactic Phase, Fall Semester.

PAS 5061 - Physical Diagnosis 2 (1.5)

This is the second of three sequential Physical Diagnosis courses designed to prepare the physician assistant student to elicit a medical history, perform a physical examination and appropriately document their findings. Students will be trained to demonstrate sensitivity to gender, age and cultural background in their interactions with patients. Lectures, video links and live demonstrations will be used. As each body system is reviewed, emphasis is placed on the understanding of the relationship between presenting signs and symptoms and their physiologic or pathophysiologic origins.

Offered: Didactic Phase, Spring Semester.

PAS 5062 - Physical Diagnosis 3 (1)

This course is the third in a series of three courses. The course will utilize the competencies acquired in Physical Diagnosis 1 and 2 as the foundation upon which the student will continue to refine their skills in performing the focused medical history and physical examination. Additionally, the course will facilitate critical thinking in the student's approach to the patient with a physical complaint. Course format will include lectures, small group practice sessions, and standardized patient encounters. Appropriate documentation of the focused history and physical as taught in Physical Diagnosis 2 will be reinforced in this course. As a part of

this course, students will participate in the second of a two-part workshop series at the Philadelphia Museum of Art. This workshop will focus on appreciating perspective, developing empathy, and identifying and reflecting on personal biases and their impact on clinical care.

Offered: Didactic Phase, Summer Semester.

PAS 5102 - Integrative Medicine and Nutrition (1)

Integrative medicine views the patient holistically and focuses on the incorporation of complementary and alternative medicine into conventional medical practice. This course is designed to objectively introduce the student to the various therapies associated with complementary and alternative medicine as well as to assess their safety and effectiveness. Clinically-tailored nutrition and dietary recommendations are reviewed. As part of this course, students participate in a service learning opportunity.

Offered: Didactic Phase, Spring Semester.

PAS 5130 - Clinical Medicine 1 (4.5)

This is the first of three sequential Clinical Medicine courses. Using an organ-based systems approach, this course provides instruction in the etiology, clinical presentation, diagnostic modalities, differential diagnoses, assessment, and management of common medical conditions. The course builds on lectures in normal physiology and pathophysiology and follows an in-depth discussion of treatment modalities in the Pharmacology and Clinical Therapeutics 1 Course. Areas of study include: Dermatology, Ocular Medicine, Otolaryngology, Pulmonology, and Cardiology.

Offered: Didactic Phase, Fall Semester.

PAS 5131 - Clinical Medicine 2 (6)

This is the second of three sequential Clinical Medicine courses. Using an organ-based systems approach, this course provides instruction in the etiology, clinical presentation, diagnostic modalities, differential diagnoses, assessment and management of common medical conditions. The course builds on lectures in Physiology and Pathophysiology 2 and correlates with an in-depth discussion of treatment modalities in Pharmacology and Clinical Therapeutics 2 course. Areas of study include: Gastroenterology, Nephrology, Urology, Neurology, Geriatrics, Orthopedics, Rheumatology, and Pediatrics.

Offered: Didactic Phase, Spring Semester.

PAS 5132 - Clinical Medicine 3 (6)

This is the third of three sequential Clinical Medicine

courses. Using an organ-based systems approach, this course provides instruction on the etiology, clinical presentation, diagnostic modalities, differential diagnoses, assessment and management of common medical conditions. The course builds on lectures in Physiology and Pathophysiology 3 and the treatment modalities in Pharmacology and Clinical Therapeutics 3. Areas of study include: Endocrinology, Gynecology, Obstetrics, Sexual and Gender Minority Health, Hematology/Oncology, and Infectious Disease.

Offered: Didactic Phase, Summer Semester.

PAS 5140 - Advanced Clinical Skills 1 (2)

As part of the integrated physician assistant curricula, Advanced Clinical Skills (ACS) is a companion course for Clinical Medicine 1, 2 and 3. Advanced Clinical Skills 1 is the first of three clinical skills courses. Students will learn to use a wide variety of diagnostic and treatment modalities through a combination of lectures and laboratory case discussions. The practice of evidence-based medicine is integrated throughout the course where applicable. At the end of this course students will have the opportunity to interpret radiographs, electrocardiograms (ECGs), and laboratory values.

Offered: Didactic Phase, Fall Semester.

PAS 5141 - Advanced Clinical Skills 2 (3)

Advanced Clinical Skills (ACS) 2 is the second of three clinical skills courses. Through a combination of lectures, demonstrations, and practice sessions, students will learn to use a wide variety of diagnostic and treatment modalities and procedures. Students will learn about the indications and limitations of described procedures, and determine when a patient should be referred to a specialist for further care. Each clinical skill lab experience will be preceded by a lecture and/or a required reading and video. The course also includes lab workshops that will focus on the application and interpretation of laboratory values for given clinical scenarios. Students will justify their lab orders and discuss the lab interpretations in small groups to effectively assess, treat and educate a patient within a given clinical scenario. Lectures on radiologic tests and the interpretation of such tests will be provided. Basic Life Support (BLS) and Advanced Cardiac Life Support (ACLS) certification sponsored by the American Heart Association (AHA) will also be provided.

Offered: Didactic Phase, Spring Semester.

PAS 5142 - Advanced Clinical Skills 3 (2.5)

As part of the integrated physician assistant curricula,

Advanced Clinical Skills (ACS) is the companion course for Clinical Medicine. ACS 3 is the third of a three-course series. Students will engage in lectures, demonstrations, and practice sessions. Areas of study will include but are not limited to: slit lamp examination, suturing, surgical gowning and gloving, venipuncture, injections, and IV placements. The course also includes three (3) lab workshops that will focus on the application and interpretation of laboratory values for given clinical scenarios. Students will justify their lab orders and discuss the lab interpretations in small groups to effectively assess, treat and educate a patient within a given clinical scenario. Lectures on radiologic tests and interpretation of such tests will be provided. Pediatric Advanced Life Support (PALS) certification sponsored by the American Heart Association (AHA) will also be provided.

Offered: Didactic Phase, Summer Semester.

PAS 5930 - Capstone Project 1 (0.5)

The “Capstone Project” is a two-part faculty-guided independent study course. Capstone Project 1 and Capstone Project 2 culminate in a graduate-level paper, suitable for submission to a peer-reviewed journal, and a related Project Presentation. Combined, these are part of a summative evaluation that will be used to measure cognitive and affective domains at a point near the completion of the program.

The graduate paper is an American Medical Association (AMA) format research paper based on a patient case or a condition seen during the clinical year, or a medically relevant topic of interest. It affords the student the opportunity to demonstrate critical thinking skills as well as the application of evidence-based medicine in health care. Project presentations are common in the scientific and medical environment and are used in a variety of ways to discuss and present specific medical topics. The paper and presentation will serve not only as a student and program evaluation tool, but as a way to bring the various university disciplines together for interdisciplinary student and faculty development.

In Capstone Project 1, under faculty guidance, a topic proposal (a research question or hypothesis) is developed, an initial outline is created, a literature review is conducted, and the initial draft of the introduction and methodology sections are completed. In Capstone Project 2, an abstract, body of the paper with discussion, and recommendations and conclusions will be completed and serve as the foundation for the Project Presentation.

Offered: Clinical Phase, Spring Semester.

PAS 5931 - Capstone Project 2 (0.5)

The “Capstone Project” is a two-part faculty-guided independent study course. Capstone Project 2 continues the process started in Capstone Project 1 culminating in a graduate-level paper, suitable for submission to a peer-reviewed journal, and a related Project Presentation. In Capstone Project 2, an abstract, the body of the paper with results, discussion, and conclusions will be completed and serve as the foundation for the Project Presentation. Combined, these are part of a summative evaluation tool used to measure cognitive and affective domains at a point near the completion of the program.

The graduate paper is an American Medical Association (AMA) format research paper based on a patient case or condition seen during the clinical year, or a medically relevant topic of interest. It affords the student the opportunity to demonstrate critical thinking skills as well as the application of evidence-based medicine in health care. Project Presentations are common in the scientific and medical environment and are used in a variety of ways to discuss and present specific medical topics.

The Project Presentation relays an in-depth presentation of the topic. The student will present their clinical question, outlining the critical thinking, decision-making, and evidence-based process that led to the research conclusions. The presentation will also include any practice-based learning and systems-based issues that were encountered by the student. The professional manner in which the student delivers the presentation will be an important aspect of this event.

Offered: Clinical Phase, Fall Part of Term.

PAS 6200 - Emergency Medicine Clinical Rotation (4.5)

The five (5) week Emergency Medicine rotation takes place in a hospital emergency department providing the student with exposure to both urgent care as well as acute medical and surgical conditions. Students will function as part of a multi-disciplinary team, working collaboratively with healthcare providers from all disciplines. Through supervised patient contact, the student will gain experience in performing directed history and physical examinations, documenting patient encounters, and assessing and managing episodic illness. The student will also be afforded opportunities to perform the clinical skills common within the Emergency Medicine setting.

Offered: Upon successful completion of the didactic year of the Program.

PAS 6201 - Surgery Clinical Rotation (4.5)

The five (5) week Surgery rotation provides the student with exposure to the surgical setting, affording the opportunity to apply the basic principles of surgery acquired through the didactic Surgery course. Through practical experience, the student will engage in the evaluation and management of patients encountering surgical problems. Students will participate in operating room procedures and techniques, and will work collaboratively with the surgical team. Students will be exposed to all aspects of the surgical process including pre-operative, intra-operative and post-operative patient care.

Offered: Upon successful completion of the didactic year of the Program.

PAS 6202 - Internal Medicine Clinical Rotation (4.5)

The five (5) week Internal Medicine rotation takes place in an outpatient or hospital setting, exposing the student to the medical management of an adult patient population. Through supervised patient contact, the student will gain experience in performing history and physical examinations, documenting patient encounters, and assessing and managing the acute and chronic illnesses commonly encountered in this medical setting. Students will develop the knowledge and attitudes necessary to provide patient-centered health education.

Offered: Upon successful completion of the didactic year of the Program.

PAS 6203 - Women's Health/Prenatal Care Clinical Rotation (4.5)

The five (5) week Women's Health & Prenatal Care clinical rotation takes place in a hospital, clinic and/or private practice setting exposing the student to gynecologic and prenatal care. Through supervised patient contact, the student will gain experience in obtaining a women's health history and performing the routine gynecologic and prenatal examinations and associated clinical skills. In addition to learning appropriate documentation of the patient encounter, the student will acquire the knowledge and skills necessary to assess and manage the range of women's health conditions throughout their lifespan.

Offered: Upon successful completion of the didactic year of the Program.

PAS 6204 - Pediatrics Clinical Rotation (4.5)

The five (5) week Pediatrics rotation takes place in an outpatient and/or inpatient setting exposing the student to the healthcare needs of the pediatric patient population.

Through supervised patient contact, the student will gain experience in performing pediatric history and physical examinations, ranging from neonate through adolescence. Students will develop the knowledge and attitudes necessary to interact with both the pediatric patient and caregiver, document patient encounters, and assess and manage both common pediatric problems, as well as acute illness. The student will be afforded the opportunity to become familiar with normal growth and development, immunization schedules, nutritional requirements, and anticipatory guidance.

Offered: Upon successful completion of the didactic year of the Program.

PAS 6206 - Behavioral/Mental Health Clinical Rotation (4.5)

The five (5) week Behavioral/Mental Health rotation takes place in an outpatient, and/or inpatient behavioral health facility. The student will work collaboratively with the mental health team to evaluate and manage a range of behavioral/mental health issues. Through supervised patient contact, the student will develop the knowledge and attitudes necessary to provide ongoing and/or emergent support for this patient population. Emphasis will be placed on recognizing the roles that socioeconomics, family health history, and social interactions play in the course of behavioral/mental health conditions. In addition, students will develop an understanding of the barriers to treatment, as well as the support resources available within the community.

Offered: Upon successful completion of the didactic year of the Program.

PAS 6230 - Elective 1 Clinical Rotation (4.5)

Elective 1 is a five (5) week rotation that affords the student an opportunity to increase their knowledge base and skill in an area of clinical interest. All electives must be approved by the Clinical Team.

Offered: Upon successful completion of the didactic year of the Program.

PAS 6231 - Elective 2 Clinical Rotation (4.5)

Elective 2 course is a five (5) week rotation that affords the student an opportunity to increase their knowledge base and skill an area of clinical interest. All electives must be approved by the Clinical Team.

Offered: Upon successful completion of the didactic year of the Program.

PAS 6240 - Family Medicine/Primary Care 1 Clinical Rotation (4.5)

Family Medicine 1 is a five (5) week rotation that takes place in an outpatient primary care setting exposing the student to the medical management of patients throughout their lifespan. Through supervised patient contact, the student will gain experience in performing history and physical examinations, documenting patient encounters, and assessing and managing the acute and chronic illnesses commonly encountered in the primary care setting. Students will develop the knowledge and attitudes necessary to provide patient-centered health education.

Offered: Upon successful completion of the didactic year of the Program.

PAS 6241 - Family Medicine/Primary Care 2 Clinical Rotation (4.5)

Family Medicine 2 is a five (5) week rotation that takes place in an outpatient primary care setting exposing the student to the medical management of patients throughout their lifespan. Through supervised patient contact, the student will gain experience in performing history and physical examinations, documenting patient encounters, and assessing and managing the acute and chronic illnesses commonly encountered in the primary care setting. Students will develop the knowledge and attitudes necessary to provide patient-centered health education.

Offered: Upon successful completion of the didactic year of the Program.

PBP - Post-Baccalaureate Program in Health Sciences

PBP 5001 - Microbiology & Immunology (3)

This is an introductory course in microbiology and immunology. It expands upon general biological concepts including inorganic, organic, biochemistry, cell structure and function, metabolism, and genetics mechanisms. These concepts are applied to the morphology, physiology, biochemistry, and genetic mechanisms of microorganisms including viruses. The course includes a survey of the representative types of microorganism and the role pathogenic microorganism in causing diseases and infections. The course will conclude with an examination of immunology and will explore such topics as innate and adaptive immunity.

PBP 5002 - Biochemistry & Genetics (3)

This course will begin by looking at the major classes of

biological molecules including carbohydrates, lipids, amino acids, proteins, and nucleic acids. Students will examine the metabolic pathways of life, including the anabolic and catabolic pathways for carbohydrates, lipids, proteins, amino acids, and nucleic acids. Enzyme structure and function will be discussed as they are important necessary components of any metabolic pathways and human diseases. The course will also provide an introduction to genetics. It will explore the basics of DNA, RNA, and proteins and will examine their structures and how they are synthesized. Students will learn about mutations and how they are repaired. Students will analyze different inheritance patterns and will be able to predict the likely phenotypic and genotypic outcome from indicated alleles.

PBP 5003 - Anatomy with Lab (4)

This is an introductory anatomy course that will examine the form and function of the major organ systems in the human body. The course involves the study of both microscopic (cells and tissues) and macroscopic structures (organs and organ systems). Lecture topics will include homeostasis, integumentary system, skeletal system, muscular system, nervous system, cardiovascular system, respiratory system, digestive system, endocrine, renal system, and reproductive system.

PBP 5004 - Health Psychology (3)

This course examines the link between psychological states and physical health. The course will look at how psychology influences the ability to promote or maintain healthy behaviors, how psychology can affect the development and prognosis of diseases and how psychology can enhance or derail treatments. Students will be able to apply this understanding to different areas of psychology such as biological, social, developmental and clinical.

PBP 5005 - Biostatistics for Health Professionals (3)

This course is designed to give students an insight into the concepts and use of statistics in the medical health sciences. Students will be able to describe data and how data can be displayed and distributed for statistical analysis and determine the validity or accuracy of the data measurement. Students will be expected to design and interpret data displays such as tables and graphs. Areas that will be covered include but not limited to the use of statistics in medical related journals, screening tests for disease, and survivor analysis. Upon completion of this course, students will be able to apply statistics to real world scenarios in health care settings.

PBP 5006 - Physiology with Lab (4)

This is an introductory physiology course of the major organ systems in the human body. This course will give students a background for understanding the relationship between structure and function from cells to tissues to organs and organ systems through an examination of general physiological mechanisms. Lecture topics will include homeostasis, integumentary system, skeletal system, muscular system, nervous system, cardiovascular system, respiratory system, digestive system, endocrine, renal system, and reproductive system.

PBP 5007 - Cell and Molecular Biology (3)

This course will examine the structure and function of cells and will look at the relationships among a cells genetics, structure, biochemistry and physiological functions. Students will be able to appreciate all aspects of a cells functions form cellular growth to differentiation to cell survival and cell death. This course will also look at the role a cell plays in the pathophysiology of diseases such as cancer.

PBP 5008 - Introduction to Research & Scientific Writing (3)

This course introduces students to foundational concepts of research including both quantitative and qualitative methodologies. This course presents the scientific method and examines the way in which one searches, evaluates and synthesizes relevant research, identifies and develops a research question, sampling design, data collection methods and data analysis and interpretation. Students will be introduced to the major approaches used in conducting qualitative research and the application of these methodologies in the health care professions. This course will provide a comprehensive study of scientific writing. Students will develop requisite skills for effective written communication in academic and scientific domains. This course will focus on skills in preliminary writing, drafting, revision, peer review, and review of scientific literature. Students will learn how to write professionally for a variety of audiences.

PBP 5030 - Introduction to Patient Care 1 (1)

In this course students will have classroom instruction on a range of topics relative to patient care, such as to how to perform an observation, effective communication with patients, medical ethics, medical terminology and being part of an interdisciplinary team. In the second part of the course, students will conduct facilitated observations at Drexel clinics and screening or service events with Drexel faculty.

PBP 5031 - Introduction to Patient Care 2 (1)

This is a continuation on Introduction to Patient Care 1. Students will expand upon topics covered in the first course and relate those topics to what they experienced during their first observational rotations. Students will also continue to observe in Drexel clinics.

PBP 5040 - Career Guidance & Academic Success (0)

This non-credit course is intended to instruct students on skills that they could adopt or modify to become a successful graduate student. Topics will include note taking strategies, study habits and skills, communication skills, time management, exam taking skills, managing personal issues during graduate school, locating and utilizing resources to answer questions, and critical thinking. Students will also have small group and one-on-one career guidance that will help them understand the full range of health care professions and will support them as they select a future career.

PBP 5041 - Career Guidance & Academic Success (0)

This non-credit course is intended to instruct students on skills that they could adopt or modify to become a successful graduate student. Topics will include note taking strategies, study habits and skills, communication skills, time management, exam taking skills, managing personal issues during graduate school, locating and utilizing resources to answer questions, and critical thinking. Students will also have small group and one-on-one career guidance that will help them understand the full range of health care professions and will support them as they select a future career.

SLP - Speech Language Pathology**SLP 3001 - General Biology (3)**

This course is a general overview of biology. Students will be introduced to basic biological principles including cell structure and function, molecular processes, genetics, and cellular growth and division. Lastly, the course will cover macro elements of biology such as evolution and natural selection.

SLP 3002 - Introduction to Biophysics (3)

This course will give a basic overview of general physical principles while incorporating these physical concepts into everyday biological processes. For example, the course will examine the relationship between levers and movement of the body, sound waves in the use of speech and hearing, and how light is perceived in vision. The course will conclude with discussions on the physics

behind some health profession diagnostic tests.

SLP 3003 - Health Psychology (3)

This course examines the link between psychological states and physical health. The course will look at how psychology influences the ability to promote or maintain healthy behaviors, how psychology can affect the development and prognosis of diseases and how psychology can enhance or derail treatments. Students will be able to apply this understanding to different areas of psychology such as biological, social, developmental and clinical.

SLP 3004 - Biostatistics for Health Professionals (3)

This course is designed to give students an insight into the concepts and use of statistics in the medical health sciences. Students will be able to describe data and how data can be displayed and distributed for statistical analysis and determine the validity or accuracy of the data measurement. Students will be expected to design and interpret data displays such as tables and graphs. Areas that will be covered include but not limited to the use of statistics in medical related journals, screening tests for disease, and survivor analysis. Upon completion of this course, students will be able to apply statistics to real world scenarios in health care settings.

SLP 3100 - Introduction to Communication Disorders (3)

This course reviews the foundations of human communication, its disorders, factors affecting life-long development, and the professions of audiology and speech-language pathology, with the inclusion of clinical observation hours relevant to course content.

SLP 3101 - Phonetics (2)

This course introduces the study of articulatory phonetics, principles of phonetic science, and principles, symbols, and transcription of the International Phonetic Alphabet, as it relates to the analysis of typical and disordered speech. Clinical observation hours relevant to course content are also included.

SLP 3102 - Speech and Hearing Science (3)

This course provides an introductory study of acoustic principles of hearing and speech, characteristics of speech and physiological correlates, and speech perception, with an introduction to communication disorders related to the respiratory, phonatory/laryngeal, articulatory/phonatory, hearing, and nervous systems. Clinical observation hours relevant to course content are also included.

SLP 3103 - Introduction to Audiology (2)

This course gives a summary of the auditory processes, anatomy and physiology of the auditory system, etiology and management of auditory disorders, physics of sound, and measurements of hearing loss as it impacts communication, with the inclusion of clinical observation hours relevant to course content.

SLP 3104 - Anatomy and Physiology of the Speech and Hearing Mechanism (3)

This course explores the anatomy, physiology, and related pathophysiology bases of human communication. The study of respiration, phonation, articulation, resonance and neurology of communication is included, with the inclusion of clinical observation hours relevant to course content.

SLP 3105 - Speech and Language Development (3)

This course presents an in-depth overview of typical speech and language acquisition. Students learn the theory and evidence of the chronological development of phonology, syntax, semantics and pragmatics, with an introduction to language disorders in the pediatric population. Clinical observation hours relevant to course content are also included.

SLP 4030 - Introduction to Patient Care I (1)

In this course students will have classroom instruction on a range of topics relative to patient care, such as how to perform an observation, medical terminology, basic practices including infection control, and HIPAA/FERPA. In the second part of the course, students will conduct facilitated observations at Drexel clinics and screening or service events with Drexel faculty.

SLP 4031 - Introduction to Patient Care II (1)

This is a continuation on Introduction to Patient Care I. Students will expand upon topics covered in the first course and relate those topics to what they experienced during their first observational rotations. In addition, students will have lectures with topics including how to communicate with patients, cultural diversity in the patient population, medical ethics and how to be part of an interdisciplinary team. Students will also continue to observe in Drexel clinics.

SLP 4040 - Career Guidance & Academic Success (0)

This non-credit course is intended to instruct students on skills that they could adopt or modify to become a successful graduate student. Topics will include note taking strategies, study habits and skills, communication

skills, time management, exam taking skills, managing personal issues during graduate school, locating and utilizing resources to answer questions, and critical thinking. Students will also have small group and one-on-one career guidance that will help them understand the full range of health care professions and will support them as they select a future career.

SLP 4041 - Career Guidance & Academic Success (0)

This non-credit course is intended to instruct students on skills that they could adopt or modify to become a successful graduate student. Topics will include note taking strategies, study habits and skills, communication skills, time management, exam taking skills, managing personal issues during graduate school, locating and utilizing resources to answer questions, and critical thinking. Students will also have small group and one-on-one career guidance that will help them understand the full range of health care professions and will support them as they select a future career.

SLP 4930 - SLPA Practicum 1 (2)

This course introduces students to the clinical practice of an SLPA, including scope of practice, supervision requirements, professional ethics, confidentiality, universal precautions, clinical documentation, and treatment strategies for a variety of communication disorders. The course will include both a classroom portion (lectures, lab, discussion), as well as client care under the supervision of a trained, certified SLP clinical educator. Clinical clock hours earned during this practicum meet requirements for certification.

SLP 4931 - SLPA Practicum 2 (2)

Students will participate in on and/or off campus clinical placement settings, such as the Speech-Language Institute, schools, intermediate units, or private practices. Students are supervised by a certified and licensed speech-language pathologist at the clinical placement site. Students will develop skills in planning, preparing, and carrying out treatment sessions, as well as completing appropriate clinical data collection and documentation. Students will also gain experience with the SLP/SLPA supervision relationship, work related policies and procedures, and other duties as assigned. Clinical clock hours earned during this practicum meet requirements for the C-SLPA certification only.

SLP 5000 - Neuroscience (3)

An overview of the anatomy and physiology (structure and function) of the central nervous system (CNS) and the peripheral nervous system (PNS). Special emphasis is

placed on how these structures support the production of speech, language, cognition, voice and swallowing. Communication and swallowing disorders associated with pathophysiology the CNS and PNS are also presented.

SLP 5001 - Counseling Foundations in CSD (2)

An introduction of counseling skills needed by speech-language pathologists in their daily interactions with clients/patients and their families. A broad overview of counseling theories and techniques will be provided, with an emphasis throughout the course on "positive psychology" and a wellness perspective. Discussion and practice of effective communication techniques, including verbal, nonverbal, and interpersonal communication. Students will understand the emotional needs of individuals with communication disorders and their families, and how communication disorders affect the family system. Counseling needs of individuals with specific disorders will be discussed, including those with fluency disorders, autism spectrum disorders, hearing loss, acquired/adult language and cognitive disorders, and congenital disorders.

SLP 5002 - Applied Integrative Anatomy for SLP (2)

Lecture and lab provide students with a background in gross human anatomy using prosected body parts of cadavers. Emphasis is on body structures supporting the speech, voice and swallowing mechanisms, including anatomical structures associated with respiration, phonation, articulation/resonance and mechanics of swallowing using upper and lower digestive systems.

SLP 5003 - Communication Disorders in Culturally and Linguistically Diverse Populations (2)

Foundational issues involved in serving culturally and linguistically diverse populations with a focus on developing and exhibiting cultural competence when conducting interviews, patient/family education and counseling. Investigates how to collect data on relevant cultural and linguistic background and incorporate this information into the therapeutic process. Consideration is given to reliability and validity of standardized assessment tools based on those culturally distinct populations that were used by authors of the examinations upon which normative data were generated. Treatment approaches that respect and incorporate the cultural-linguistic background of the patient and family members will also be discussed.

SLP 5004 - Professional Issues and Ethics in Speech-Language Pathology (2)

Issues related to employment settings, job exploration/preparation, credentialing and licensure

application and acquisition, trends in service delivery, ethics, legal considerations and professional advocacy including state, national and international politics associated with speech-language pathology. Course content parallels guidelines associated with the American Speech-Language- Hearing Association (ASHA) Scope of Practice, Code of Ethics, Preferred Practice Patterns and credentialing guidelines established by the ASHA Council for Clinical Certification. Professional leadership, volunteerism and patient/client advocacy will be discussed and encouraged.

SLP 5005 - Cleft Palate and Craniofacial Anomalies (1)

A comprehensive study of the definitions, characteristics, classifications, epidemiology, pathophysiology, etiologies, and differential diagnosis of cleft palate and other craniofacial anomalies. Formal and informal assessment tools and intervention strategies will be presented.

SLP 5030 - Special Topics Seminar 1 (2)

Topics of current interest to the profession of speech-language pathology, centered around medical aspects of practice. Guest lecturers and research literature related to speech, language, voice, swallowing and contemporary professional issues will be incorporated. The intent of this seminar is to expand upon the overall understanding of the discipline of speech- language pathology by covering topics not routinely covered in a standard speech-language pathology curriculum. Topics may vary from year to year depending on the current state-of-the art or 'hot topics' being discussed with the state and at the national and international levels.

SLP 5031 - Special Topics Seminar 2 (2)

Continuation of topics of current interest to the profession of speech-language pathology using guest lecturers and research literature to discuss speech, language, voice, swallowing and contemporary professional issues, centered around the school-based speech-language pathology practice.

SLP 5100 - Speech Sound Disorders (2.5)

Articulatory phonetics, phonological processes and backward and forward co- articulation are presented. Contemporary assessment and intervention tools for articulatory and phonological delays and disorders, including specific remediation procedures are demonstrated.

SLP 5130 - Prevention, Assessment and Treatment of Communication Disorders in Children: Zero to Five (2)

Etiologies, risk factors, inter-disciplinary assessment and analysis of language disorders in infants, toddlers, and preschool aged children using formal and informal measures. Language facilitation and intervention strategies are presented. Includes practice in the analysis of child speech and language samples.

SLP 5131 - Prevention, Assessment and Treatment of Communication Disorders in School-Aged Children: Six-21 (2)

A comprehensive study of children's phonologic, morphemic, syntactic, semantic, pragmatic and emerging literacy impairments with focus on etiologies, characteristics, and associated risk factors. Formal and informal assessment methods, service delivery models (i.e., classroom interactions between the teacher and speech-language pathologist) and intervention strategies in our culturally and linguistically diverse population are presented. The role of the speech-language pathologist in developing Individualized Education Plans (IEPs) is discussed.

SLP 5230 - Adult Language Disorders 1: Aphasia (2.5)

Definitions, characteristics, classifications, epidemiology, pathophysiology, etiologies, differential diagnosis of aphasia. Formal and informal assessment tools and intervention strategies will be presented.

SLP 5231 - Adult Language Disorders 2: Cognitive-Linguistic Communication Disorders (2.5)

Definitions, characteristics, classifications, epidemiology, pathophysiology, etiologies, differential diagnosis of cognitive-linguistic disorders associated with traumatic brain injury, dementias and right hemisphere injury. Formal and informal assessment tools and intervention strategies are presented.

SLP 5300 - Motor Speech Disorders (2)

An overview of pathophysiology and the symptomatology of the dysarthrias and apraxia of speech. Assessment, differential diagnosis and treatment of developmental and acquired apraxia of speech and the dysarthrias are discussed. Classification schemes will be presented as will the best diagnostic and intervention practices using evidence-based practice research. Both perceptual and objective measures of the dysarthric and apraxic speech and vocal mechanism will be examined.

SLP 5301 - Autism Spectrum Disorders (2)

Current research on the epidemiology, etiologies and characteristics associated with various clients along the autism continuum. Assessment and clinical management strategies for pediatric and adult populations with autism are discussed. Family education and family and community intervention approaches and supportive resources are presented.

SLP 5302 - Fluency Disorders (2)

Etiologies, epidemiology characteristics and classifications of persons with fluency disorders are presented. Diagnosis and therapeutic intervention for both pediatric and adult populations who exhibit stuttering and cluttering behaviors are discussed.

SLP 5303 - Voice Disorders (2)

Study of normal laryngeal physiology, vocal hyperfunction and vocal pathophysiology ranging from vocal nodules and polyps to vocal cord paralysis and cancer of the larynx. Includes functional/behavioral, organic and neurogenic etiologies of voice disorders. Perceptual and objective diagnostic measures and specific intervention techniques are presented. Research studies examining evidence-based practice, care of the professional voice and prevention of voice disorders will also be discussed.

SLP 5304 - Technology in Speech-Language Pathology: Augmentative and Alternative Communication and Computer Applications (2)

Assessment strategies and AAC systems ranging from simple communication picture and alpha-numeric boards to highly technical and sophisticated electronic boards that 'speak' using artificial voices, all of which are used to improve the communication skills of individuals with limited or nonfunctional speech-language production will be discussed, demonstrated and used. Students will also be introduced to computer applications in speech-language pathology that can be incorporated in the diagnostic and therapeutic process.

SLP 5400 - Research Design and Application of Evidenced Based Practice in Speech-Language Pathology (2.5)

Strategies and methodology in the design and analysis of research in communication sciences and disorders. Includes a module on how to find and identify the most efficacious and efficient evidence for clinical application in the diagnosis and treatment of communication disorders. Students will also identify a research topic that will be used throughout the remainder of their studies as their

Capstone Project topic.

SLP 5401 - Dysphagia (3)

Normal anatomy and physiology of mastication and deglutition (chewing and swallowing) as well as disrupted stages of feeding and swallowing are presented for pediatric, adult and elderly patients. Discussion of etiologies and characteristics of swallowing disorders. Interprofessional education and inter-collaborative service models are described in the diagnosis and treatment of dysphagia along with current research indicative of best practices.

SLP 5402 - Capstone Project in SLP (2)

Culmination of research, special service delivery and/or community education and service project that is student directed. Projects are mentored into fruition by faculty in the Department of Speech-Language Pathology. Student presentations (poster and oral) to the faculty, student peers within the department and fellow students and faculty across the University.

SLP 5500 - Aural Habilitation/Rehabilitation (2)

Application of methods and procedures for management of the individual with a hearing impairment and the role of the speech-language pathologist, including language, speech, auditory training, speech-reading, and subject-matter tutoring.

SLP 5556 - SLP Independent Study (3)

This course is designed to allow SLP students to pursue in depth a professional area of interest in speech-language pathology. Topics to be studied may include additional research on an area covered in another class, a new area of didactic study that adds to the current body of research literature; or advanced or state-of-the-art techniques used for clinical interventions. The student selects an area of study and, under advisement or guided direction by a sponsoring faculty member, examines relevant research, actively engages in project development and implementation, and writes a report on their findings. The course is also used to support students who require additional topic- or course-specific work.

SLP 5557 - Professionally Speaking (1)

The purpose of the course is to assist students across all academic disciplines to prepare for classroom and professional presentations (i.e., poster sessions, technical sessions, workshops, seminars and debate teams) as well as build confidence in themselves as speakers. The course will concentrate on four major public speaking formats:

informative, persuasive, impromptu and debate. The course will also assist individuals who want to improve the clarity, intelligibility and articulation of their speaking and effective writing skills.

SLP 6050 - Comprehensive Exam in Speech-Language Pathology (0)

All students will take a written comprehensive exam that assesses the student's ability to integrate theoretical and clinical knowledge and skills gained through the academic coursework and clinical training. A series of case-based questions, representative of the nine disorder areas in Speech-Language Pathology, and reflective of various practice areas and the lifespan, will be generated. Students are required to pass the comprehensive exam, and any subsequent remediation, prior to graduation.

SLP 6100 - Clinical Management and Practicum 1 (2)

An introduction to clinical policies, procedures and processes including: development and recording a case history; conducting patient and family/caregiver interviews; basic principles of assessment; differential diagnosis; report writing with long- and short-term goals; development of clinical lesson plans; generating patient progress notations (e.g., SOAP notes, computerized progress checklists, narrative notes), and use of effective communication strategies (verbal, non-verbal and interpersonal 'soft' skills) when interacting with the patient and family members. Clinical problem solving cases using SimuCase, computerized simulation, and/or actors who mimic various communication disorders are included for individual and small group analysis. Direct and engaged student observations and analysis of diagnostic and therapeutic techniques and settings (videotaped and/or real-time) by trained, certified (CCC- SLP) speech-language pathologists.

SLP 6200 - Clinical Management and Practicum 2 (2)

Development of clinical decision-making skills and applying those skills to evaluate and treat pediatric, adult and elderly clients with various communication disorders. Includes the use of appropriate interview and counseling techniques with clients and family members from various cultural and linguistic backgrounds. Student-generated long- and short-term goal setting, diagnostic and treatment lesson planning, clinical session preparation of materials and reinforcement award systems for patient motivation and active participation; establishing measurable outcome data and incorporating clinical techniques used and resulting outcome data measures for progress notation and report writing under the close supervision of on-campus clinical educators. Clinical session planning and

implementation will involve students working in pairs and individually.

SLP 6300 - Clinical Management and Practicum 3 (2)

Student-generated evaluation and treatment of children, adults and the elderly with communication disorders at the Drexel University on-campus clinic under the supervision of ASHA certified faculty and clinical educators. Real-life application of clinic foundational knowledge, skills and materials while earning clinic hours under the supervision of ASHA-certified (CCC-SLP) and Pennsylvania state-licensed speech-language pathologists. More independent student clinicians who demonstrate expected didactic knowledge and clinical competencies at this stage will be placed in their first off-campus external placement site under certified and licensed speech-language pathologists who will serve as externship clinical supervisors.

SLP 6400 - Clinical Management and Practicum 4 (3)

External clinical placement site involving hospital, rehabilitation, private and public schools, pre-schools, skilled nursing facilities, home-based and private practice clinical settings. Students are under the supervision of a certified and licensed external placement speech-language pathologist. Adaptation of time-schedule for service delivery, workload requirements as well as the particulars involving report writing, individual education plans (IEPs) progress notation, billing procedures, interprofessional team patient care management using a case manager (usually a nurse or social worker), work related policies and procedures and other duties as assigned are experienced by the student clinician.

SLP 6500 - Clinical Management and Practicum 5 (3)

Full-time evaluation and treatment of pediatric, adult and/or elderly patients with communication disorders or dysphagia in an external clinical setting under supervision of an external site, certified and licensed speech-language pathologist.

THY - Tinnitus & Hyperacusis

THY 5000 - Neuroscience of Tinnitus and Hyperacusis (1.5)

Presentation of what is known of the representation of sound intensity in the normal auditory system and discusses possible causes and mechanisms of abnormal representations which can give rise to tinnitus and/or hyperacusis. The latest experimental data and models, reviewed in these lectures, are increasing our knowledge of the characteristics of this hyperactivity, how it develops,

and where in the brain it is interpreted as phantom sound (tinnitus) or abnormally loud sound (hyperacusis).

THY 5001 - Assessment Techniques in Tinnitus and Hyperacusis (1.5)

Covers the range measurement techniques sensitive to tinnitus and hyperacusis, products used in clinical trials and appropriate tools used in measuring disability for compensation and benefits.

THY 5002 - Management of Tinnitus and Hyperacusis (1.5)

Covers the variety of approaches used to treat tinnitus and hyperacusis. The problems experienced by patients will be reviewed and include philosophical considerations related to counseling approaches. The Cognitive Behavior Therapy approach proposed by Jane Henry and Peter Wilson will be reviewed. University of Iowa Tinnitus Activities Treatment procedure (focus on the primary effects of thoughts and emotions, hearing, sleep and concentration), will be discussed. Students will learn a wide range of sound therapies, including strategies for hearing aids. There will be a review of the evidence of effectiveness.

THY 5003 - Setting Up a Tinnitus and Hyperacusis Clinic (1.5)

Reviews important steps in establishing and operating an audiology clinic for the delivery of services-specifically to patients with tinnitus and hyperacusis. Topics include critical role of the audiologist in assessment and management of children and adults with bothersome tinnitus and/or hyperacusis; guidelines for referral of patients to other healthcare professions; equipment and protocols used in diagnostic assessment of tinnitus; primary and specialized options for intervention; clinical operational topics such as scheduling, billing, and coding clinical services. Clinical case examples provided as a tool to illustrate clinical practices and procedures commonly utilized with patients with chief complaint of tinnitus and/or hyperacusis. After successful completion of this course, the student should acquire a working knowledge that will facilitate the successful operation of a tinnitus/hyperacusis clinic.

THY 5004 - Current Trends in Tinnitus & Hyperacusis (1.5)

Identifies a number of important issues and controversies in tinnitus and hyperacusis research. Students given an unbiased and critical look at: latest methodologies used in tinnitus/hyperacusis research; often competing ideas for the neural substrates of tinnitus/hyperacusis; prospects for

effective therapies and even cures.

THY 5005 - Public Health Considerations for Tinnitus & Hyperacusis (1.5)

Reviews public health issues in tinnitus and hyperacusis including cross-cultural differences in prevalence, racial and ethnic distribution of tinnitus and hyperacusis, the impact of tinnitus and hyperacusis on quality of life, preventive measures, and changing demographics over time within society. A portion of the course deals with the important topic of medical issues in the management of tinnitus, such as primary care physician awareness and knowledge of tinnitus, diagnostic procedures and management options available to otolaryngologists, evidence-based medical therapies for tinnitus and hyperacusis, drugs associated with the onset or increased perception of tinnitus, and diseases for which hyperacusis may be a symptom. The course includes guest lectures by an otolaryngologist and an audiologist with specialization in public health issues.

VSD - Vestibular Sciences and Disorders

VSD 5000 - Anatomy & Physiology Vestibular System (1.5)

This course is designed to introduce the students to the basic terminology, structure, and function of the vestibular system. Students will learn the physics of the vestibular labyrinth, the eyes and eye muscles, and how the vestibular organs interact with the visual and oculomotor systems of the brain, with the cerebellum, with the spinal cord, and with the cerebral cortex. The course will also introduce concepts of how we stabilize gaze and posture, move around in a coordinated fashion, and perceive self-motion. Vestibular disorders and clinical test procedures will be mentioned when relevant.

VSD 5001 - Pathologies of the Vestibular System (1.5)

The course will provide a brief review of the functional physiology of the vestibular system and will focus on the pathophysiology of the peripheral and central vestibular system. Various disorders will be discussed such as endolymphatic hydrops (Meniere's syndrome), benign positional vertigo and its variants; labyrinthitis; vestibular neuritis; migraine; vascular disorders; metabolic disorders; tumors of the internal auditory canal; cerebellopontine angle and brainstem and psychological manifestations of vestibular disorders. Each pathology will be discussed in terms of: 1) pathophysiology; 2) clinical features; 3) diagnosis and 4) management for each disorder or

pathology. Vestibular disorders will be classified in terms of location (e.g. peripheral vs. central vestibular disorders) or by pathophysiology (e.g. vascular, neurologic, multisensory etc). Emphasis will be on the clinical presentation of the pathology and what findings we would expect using various diagnostic procedures. Case examples will be provided as an illustrative tool. The participant who successfully completes this course will acquire a clinical knowledge of clinical symptoms or pathologies giving rise to vestibular abnormalities.

VSD 5002 - Basic Vestibular Diagnostics (1.5)

This course is designed to introduce the students to the core components in a basic evaluation of the vestibular system. Students will learn how to obtain a diagnostically-driven case history and apply when evaluating test results. Students will learn how to administer and interpret common bedside/office evaluations of the vestibular ocular reflex (VOR) and vestibular spinal reflexes (VSR). Students will understand theoretical considerations in ocular motility, positioning, positional, and caloric stimulation of the peripheral vestibular system. Students will learn to interpret results of VNG/ENG accurately and report on findings in a meaningful manner.

VSD 5003 - Advanced Vestibular Diagnostics (1.5)

This course will present the principles involved in advanced vestibular testing in adults with complaints of dizziness, vertigo, or imbalance. We will cover tests of angular head acceleration (rotary chair, vestibular autorotation - VAT, head impulse tests - HIT and Omniax Epley Chair evaluation of bilateral or multi-canal BPPV) and tests of head translation or standing postural control (cervical and ocular vestibular evoked myogenic potentials - cVEMPs & oVEMPs, and Computerized Dynamic Posturography - CDP). We will conclude with a review of the often overlooked interaction between psychological factors and dizziness, and review methods to detect when chronic subjective dizziness may be a co-factor in discerning the cause of obscure patient complaints. Clinical case examples will be provided as a tool to illustrate clinical practices and procedures commonly utilized in advanced vestibular testing. After successful completion of this course, the student should have acquired a working knowledge of advanced vestibular testing and a critical understanding of the informational yield each may provide.

VSD 5004 - Pediatric Vestibular Assessment (1.5)

This course is designed to introduce the students to pediatric vestibular dysfunction and assessment. Students will learn how vestibular dysfunction presents in children

as well as which diagnoses are most common. Students will learn how to obtain a thorough case history. Students will learn how to modify, administer, and interpret common bedside and diagnostic evaluations of the vestibular system. This course will discuss appropriate referrals and rehabilitation methods for children with vestibular dysfunction.

VSD 5005 - Vestibular and Balance Rehabilitation Therapy (1.5)

The program will introduce the principles and basic techniques of Vestibular and Balance Rehabilitation Therapy (VBRT). The primary emphasis of the course will be to develop the skills necessary to assist in the development and execution of a treatment program for the dizzy patient. A review of the pathophysiology and normal compensation process of vestibular disorders will be discussed and how symptomatology and test results will influence VBRT. The course will assume prior knowledge of the anatomy and physiology of the vestibular system and a familiarity with assessment techniques in the diagnosis of vestibular disorders such as VNG, platform posturography, rotary chair, electrocochleography, VEMP, passive and active head rotation etc.



DEGREE PROGRAMS

Doctor of Optometry

Doctor of Audiology

Doctor of Occupational Therapy

Doctor of Philosophy in Biomedicine

Master of Medical Science in Physician Assistant Studies

Master of Science:

Biomedicine; Clinical Audiology; Clinical Optometry;

Low Vision Rehabilitation; Occupational Therapy;

Orientation and Mobility; Orthotics and Prosthetics;

Speech-Language Pathology; Vision Rehabilitation Therapy

Master of Education:

Blindness and Vision Impairment

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