USC Independent Health Professions at the Ostrow School of Dentistry

Fit Families, a free weekly wellness program for local children and their parents, is funded and staffed by USC's Division of Biokinesiology and Physical Therapy, which U.S. News & World Report *has named the country's top physical therapy program. "We are always looking at ways to give back – it's part of our professional code of ethics," said Cheryl Resnik, director of community outreach for the division.*

The USC Division of Biokinesiology and Physical Therapy and the Division of Occupational Science and Occupational Therapy are administered by the Ostrow School of Dentistry of USC. Both of these divisions offer outstanding education at either the graduate or undergraduate level.

The Division of Biokinesiology and Physical Therapy was established in 1944. For those wishing to enter the profession of physical therapy, the division offers the Doctor of Physical Therapy degree. For persons who are practicing physical therapists, the division offers a Master of Science program. In addition, the division offers the nation's longest-standing Ph.D. degree program in Physical Therapy, now a Ph.D. in Biokinesiology. Experienced clinicians with a master's degree in physical therapy may be eligible to apply for the Doctor of Physical Therapy in an Advanced Standing program. Clinicians seeking specialization in a specific area of practice may enter the Clinical Residency Program. The division is headquartered on the Health Sciences campus; all degree programs are offered through the Graduate School.

The Division of Occupational Science and Occupational Therapy opened in 1942 and is headquartered on the Health Sciences campus. More than 50 percent of the recipients of the highest academic awards given by the American Occupational Therapy Association have been USC alumni. The division offers a professional degree program allowing students to earn a B.S. degree from the USC College of Letters, Arts and Sciences and, in one additional year, an M.A. in occupational therapy. These graduates are eligible to sit for The National Board for Certification as occupational therapists. The division offers three degrees in conjunction with the Graduate School: the Master of Arts for both currently registered occupational therapists or for persons with degrees in related fields, the world's first Ph.D. in Occupational Science and the professional Occupational Therapy doctorate. The division also confers an undergraduate minor in occupational science, one of only a few similar programs offered worldwide. The Division of Occupational Science and Occupational Therapy is fully accredited by the Accreditation Council for Occupational Therapy Education, 4720 Montgomery Lane, Bethesda, Maryland 20824-1220, (301) 652-2682.

Biokinesiology and Physical Therapy

Health Sciences Campus
Center for the Health Professions
1540 E. Alcazar Street, CHP 155
Los Angeles, CA 90089-9006
(323) 442-2900
FAX: (323) 442-1515

Faculty

Associate Dean and Chair: James Gordon, Ed.D., P.T., F.A.P.T.A.

Associate Chair: Cheryl Resnik, D.P.T.

Professors: James Gordon, Ed.D., P.T., F.A.P.T.A.; Carolee J. Winstein, Ph.D., P.T.

Professors (Clinical Scholars): Linda Fetters, Ph.D., P.T.; Robert F. Landel, D.P.T., O.C.S.

Associate Professors: Lucinda L. Baker, Ph.D., P.T.; Nina S. Bradley, Ph.D., P.T.; Sandra Howell, Ph.D., P.T.; Christopher Powers, Ph.D., P.T.; George J. Salem, Ph.D.; Francisco Valero-Cuevas, Ph.D.

Assistant Professor: Nicolas Schweighofer, Ph.D.

Associate Professors of Clinical Physical Therapy: Beth Fisher, Ph.D., P.T.; Rose Hamm, D.P.T., CWS; Kornelia Kulig, Ph.D., P.T.; Katherine Sullivan, Ph.D., P.T., F.A.H.A.

Assistant Professors of Clinical Physical Therapy: Jesus Dominguez, Ph.D., P.T.; Yogi Matharu, D.P.T., O.C.S.; Michael O'Donnell, D.P.T., O.C.S.; Marisa Perdomo, D.P.T.; Cheryl Resnik, D.P.T.; Todd Schroeder, Ph.D.; Susan Sigward, Ph.D., P.T.; Michael Simpson, M.S., P.T.; Julie Tilson, D.P.T., M.S., N.C.S.

Assistant Professor of Research Physical Therapy: Steven Cen, Ph.D.

Instructors of Clinical Physical Therapy: Erin Chapman, D.P.T., O.C.S.; Aimee Diaz, P.T., S.C.S., A.T.C.; Jacquelyn Dylla, D.P.T.; Morgan Fones, D.P.T., O.C.S.; Lori Ginoza, D.P.T., N.C.S.; Yasuyuki Kasayama, D.P.T., O.C.S.; Jeffrey Rodrigues, D.P.T., CCS; Jonathan Sum, D.P.T., C.S.C.S.; Kimiko Yamada Heng, D.P.T., A.T.C., C.S.C.S.

Adjunct Associate Professors: Stephen Reischl, D.P.T., O.C.S.; Rizkalla Zakhary, Ph.D.

Adjunct Assistant Professors of Clinical Physical Therapy: Kyle F. Baldwin, D.P.T.; Julia Burlette Itamura, D.P.T., O.C.S.; Lily Cabellon, M.D.; Sharon DeMuth, D.P.T.; Daniel Farwell, D.P.T.; Sean Flanagan, Ph.D., A.T.C., C.S.C.S.; Larry Ho, D.P.T., O.C.S.; Sally Ho, D.P.T.; Robbin Howard, D.P.T., N.C.S.; Daniel Kirages, D.P.T., O.C.S.; Ndidiamaka Matthews, D.P.T., N.C.S.; John Meyer, D.P.T., O.C.S.; Craig Newsam, P.T.; Elizabeth Souza, D.P.T., C.H.T.; Gary Souza, D.P.T., O.C.S.

Adjunct Instructors of Clinical Physical Therapy: Ginelle Amormino, D.P.T.; Mike Andersen, D.P.T.; Jason Cozby, D.P.T., O.C.S.; Kristin DeMars, P.T., M.P.T., N.C.S.; Courtney Few, D.P.T., O.C.S.; John Jankoski, M.P.T., N.C.S., O.C.S.; Becky Kern, D.P.T., O.C.S.; Susan Layfield, D.P.T.; Covey Lazoras, D.P.T., N.C.S.; Bernard Li, D.P.T, O.C.S.; Mils Limcay, D.P.T., O.C.S.; Claire McLean, D.P.T.; Lisa Meyer, D.P.T.; Lisa Nocetti-DeWit, D.P.T., A.T.C.; Jennifer Penn, D.P.T.; Elizabeth Poppert, D.P.T., O.C.S.; Elizabeth Ruckert, P.T., D.P.T.; Cassandra Sanders-Holly, D.P.T.; Claire Smith, D.P.T., O.C.S.; Katie Weimer, D.P.T.

Emeritus Professors: Helen J. Hislop, Ph.D., Sc.D., FAPTA; Jacquelin Perry, M.D. (*Orthopedics*)

Emeritus Associate Professor: Lenore M. Krusell, M.A., P.T.

Programs

The Division of Biokinesiology and Physical Therapy offers curricula leading to the master's degree and three doctoral degrees. The entry-level professional program is for graduate students in majors other than physical therapy and leads to a Doctor of Physical Therapy degree. For physical therapy clinicians who wish to earn the D.P.T. degree there is an advanced standing program; credits from the M.S. in physical therapy or the M.P.T. may become the basis for advanced standing. The graduate curricula for the Master of Science and Doctor of Philosophy degrees are open to all qualified students who are or are not physical therapists.

Master of Science

Graduate study for the Master of Science in Biokinesiology is open to individuals who have a bachelor's degree and who have a strong interest in movement science.

Admission Requirements

Admission requirements include a superior grade point average in cumulative undergraduate and graduate course work (if applicable). Applicants should score at least 600 in each area of the Graduate Record Examinations. Applicants are to provide the department with three letters of recommendation. The faculty may request a personal interview before making a decision on admission. Admission will be considered for the fall semester only. The application deadline is January 15. All applicants should contact the Division of Biokinesiology and Physical Therapy for advisement.

Prerequisites

The prerequisite for applicants to the Master of Science program in biokinesiology is either: (a) a bachelor's degree or higher with a science major or equivalent; or (b) a bachelor's or master's degree in physical therapy with appropriate basic science content. Courses completed at the time of application must include work (with appropriate laboratory study) in chemistry, physics, calculus

and biology. Highly recommended is course work in anatomy, physiology, histology, kinesiology, trigonometry, neuroscience, analytical geometry, exercise physiology, biochemistry and computer programming. Applicants with no background in cellular or molecular biology may be required to take PT 509 in the entry-level D.P.T. program. Candidates should have some degree of computer literacy. International applicants will be considered on a special evaluation of credentials.

Students deficient in certain prerequisites may be admitted subject to completion of requirements within two years after admission. An additional year may be granted upon review of the student's program by a faculty committee. Work in any prerequisite subjects will not be part of the required units for the Master of Science.

Degree Requirements
Completion of the degree requires satisfactory completion of a minimum of 32 credits of course work at the 500 level or above, a research project (BKN 559 and BKN 590), and a comprehensive examination administered with the chair of the Biokinesiology Committee acting as the examination advisor.

REQUIRED COURSES		UNITS
BKN 550	Neurobehavioral Basis of Movement	4
BKN 551	Musculoskeletal and Biomechanical Basis of Movement	4
BKN 552	Physiological Basis of Voluntary Movement	4
BKN 559	Readings in Biokinesiology	1-4, max 8
BKN 590	Directed Research	1-12
PM 510L	Principles of Biostatistics	4

Students must complete the three biokinesiology core courses (BKN 550, BKN 551, BKN 552) before sitting for their comprehensive examination. Substituting a course for one of the core courses may be allowed after receiving approval from the Biokinesiology Program Committee prior to the beginning of the course.

In order to fulfill the research project requirement, the following plan is suggested; however, each plan can be individualized based on the needs of the student and/or advisor:

1. Select a research professor (from the department) whose work interests them. This should be done by the end of the first year of study.

2. After receiving the professor's approval, sign up for BKN 559 (4 units) and complete a semester reading the literature pertinent to the professor's work.

3. The following semester, sign up for BKN 590 (4 units) and participate in an ongoing research project that is being conducted by the professor. The research paper must be completed within the semester for which BKN 590 units are being given.

See the Doctor of Philosophy in Biokinesiology section, page 705, for a list of courses available to M.S. students.

Doctor of Physical Therapy

Post Professional Doctor of Physical Therapy Program
Applicants must be experienced physical therapy clinicians licensed to practice in the United States. Alternatively, foreign trained therapists must be graduates of institutions recognized by the American Physical Therapy Association. Applicants must also hold a master's degree in physical therapy or a field related to physical therapy practice. Generally, a minimum grade point average of 3.0 on a 4.0 scale as well as a minimum score of 500 on each of the three components of the Graduate Record Examinations are required. The degree requirement includes successful completion of 30-31 units as described in the following three sections:

REQUIRED COURSES		UNITS
PT 573	Physical Examination and Differential Diagnosis in Patients with Medical Disorders	2
PT 585	Physical Examination and Differential Diagnosis in Patients with Neurological Disorders, or	2
PT 624a	Neurological Differential Diagnosis and Therapeutic Interventions	3
PT 591	Physical Examination and Differential Diagnosis in Patients with Orthopedic Disorders	2
PT 605	Orthopedic Radiology	2
PT 607	Clinical Scanning	2
PT 608	Pharmacotherapeutics	2

ELECTIVES (A MINIMUM OF 9 UNITS IS REQUIRED, ONE FROM EACH CATEGORY IS RECOMMENDED)		UNITS
Anatomy		
BKN 551	Musculoskeletal and Biomechanical Basis of Movement	4
BKN 563	Biomechanics	2
BKN 573ab	Advanced Dissection Anatomy	2
PT 514L	Musculoskeletal Anatomy	4
PT 534	Neuroanatomy	3
PT 554L	Analytical Anatomy	3
PT 622	Advanced Management of Spinal Disorders	3
PT 623	Advanced Management of Extremity Disorders	3
Neurobiology		
BKN 550	Neurobehavioral Basis of Movement	4
BKN 566	Neurobiology of Locomotion	2
BKN 578	Classic Readings in Biokinesiology	2
BKN 587ab	Physiological Correlates of Therapeutic Exercise	4-4
BKN 593	Behavioral Basis of Motor Control and Learning	3
PT 509	Cellular and Systems Physiology	3
PT 546	Neuropathology	3
PT 549L	Clinical Exercise Physiology	4
PT 569	Fundamentals of Neuroscience	4
PT 624bL	Neurological Differential Diagnosis and Therapeutic Interventions	3
Exercise Physiology		
BKN 552	Physiological Basis of Voluntary Movement	4
BKN 587ab	Physiological Correlates of Therapeutic Exercise	4-4
BKN 588	Physiology and Biomechanics of Resistance Exercise	2
PT 509	Cellular and Systems Physiology	3

PT 549L	Clinical Exercise Physiology	4
PT 571L	Clinical Management of Cardiopulmonary Dysfunction	4
PT 622	Advanced Management of Spinal Disorders	3
PT 624bL	Neurological Differential Diagnosis and Therapeutic Interventions	3

Capstone Project (PT 592)
This required project provides the student with the opportunity to synthesize the learning experiences of the D.P.T. program. It can take the form of a case study, a learning module for students or patients, a business plan for a unique form of health care delivery, or some other innovative concept. Work towards the completion of the project is done under the guidance of a single faculty member or a committee, depending on the magnitude and scope of the project. The primary faculty advisor will determine the unit value of the project.

A clinical residency is also available as part of the post-professional D.P.T. program.

Certificate in Orthopedic Physical Therapy
Certificate in Neurologic Physical Therapy
Clinical Residency Programs
These programs are directed at practicing clinicians who seek post-professional clinical residency education in orthopedic or neurologic physical therapy and wish to obtain an academic credential for its completion.

Admission Requirements, Prerequisites and Degree Requirements
Admission requirements such as grade point average, GRE scores and P.T. licensure are the same as those for the post-professional D.P.T. In addition to the above listed requirements, experience in orthopedic physical therapy as evidenced by the years in practice and post-graduate course work taken will be assessed in the applicant's portfolio. The faculty may request a personal interview. Admission will be considered for fall semester only. Deadline for application is four months prior to the proposed starting date. All applicants should contact the Division of Biokinesiology and Physical Therapy for advisement. Completion of the certificate requires satisfactory completion of a minimum of 15 units.

REQUIRED COURSES FOR CERTIFICATE IN ORTHOPEDIC PHYSICAL THERAPY		UNITS
PT 595abcd	Residency in Advanced Clinical Physical Therapy	1-4 each
PT 622	Advanced Management of Spinal Disorders	3
PT 623	Advanced Management of Extremity Disorders	3

REQUIRED COURSES FOR CERTIFICATE IN NEUROLOGIC PHYSICAL THERAPY		UNITS
PT 595abcd	Residency in Advanced Clinical Physical Therapy	1-4 each
PT 624abL	Neurological Differential Diagnosis and Therapeutic Interventions	3-3

Doctor of Physical Therapy and Master of Public Health
The Post Professional Doctor of Physical Therapy (D.P.T.) and the Master of Public (M.P.H.) dual degree program offers the opportunity for physical therapy clinicians to pursue a doctoral-level education in combination with an integrated approach to health care. The program spans four years. Students begin the first one to two years completing M.P.H. core and elective course work in the Department of Preventive Medicine. The remaining years are devoted to program requirements in physical therapy.

Professional Entry-Level Doctor of Physical Therapy Program
This program, for persons who are not physical therapists, comprises six semesters and two summers for completion of the required 115 units. All courses are in sequence and only in rare circumstances is the sequence altered.

Admission Requirements (Entry-Level)
Applicants are required to complete the equivalent of a U.S. baccalaureate degree at an accredited college or university prior to matriculation. Prerequisite course work must include: four courses in the biological sciences (including human anatomy, human physiology and either cell or molecular biology); one year of college physics; one year of college chemistry; one semester of college mathematics; two courses in psychology; one course in composition and writing; and one course in either literature or history. Human anatomy, human physiology, physics and chemistry must include laboratories. The following courses are highly recommended: biochemistry, calculus, kinesiology, exercise physiology, neuroscience, genetics and a cross-cultural course in sociology. Applicants should be computer literate.

Students from foreign countries must have completed one year of study in the United States prior to application. Credits from foreign institutions must be approved by the USC Office of Admission.

Graduate Record Examinations (GRE)
The GRE is required of all applicants. In general, minimum scores of 500 are required on each of the general test measures of verbal, quantitative and analytical ability.

Applications
Applications are available in September for the class entering in September of the following year. The deadline for receipt of applications is December 1 of each year. Only one class is admitted each year.

The Admissions Committee reviews all information submitted. Applicants may be requested to appear for a personal interview. It is highly recommended that all applicants make an appointment to visit the division's office located on the Health Sciences campus and talk with students and members of the faculty.

Notice of Acceptance
Notice of acceptance will be sent to successful candidates no earlier than late January and continually thereafter until the class is filled. In no case will an acceptance be offered earlier than one year before anticipated enrollment.

Candidates should reply to an offer of acceptance within three weeks enclosing a $500 deposit (nonrefundable) which is credited to tuition at the time of registration. A letter of withdrawal is required if applicants wish to relinquish their place in the class; release is granted automatically upon receipt of the letter.

Degree Requirements (Entry-Level)
The USC Graduate School awards the D.P.T. to enrolled students who have completed satisfactorily the three-year curriculum of 115 credits (depending on electives chosen). The minimum number of credits required for graduation is 115. The minimum GPA required for graduation is 2.75. Clinical experience (clerkship) is part of the curriculum during all three years.

The Division of Biokinesiology and Physical Therapy uses a system of student evaluation and grading that is designed to encourage self-reliance, to stimulate the student's independent quest for knowledge and to promote excellence in clinical and academic achievement.

Faculty of the program are responsible for establishing evaluation criteria appropriate to the objectives of each course and for specifying the manner in which evaluative information is to be gathered. For clinical evaluation, descriptive comments based on the student's performance are submitted by faculty and clinical instructors to the student's permanent file.

REQUIRED COURSES		UNITS
PT 509	Cellular and Systems Physiology	3
PT 514L	Musculoskeletal Anatomy	4
PT 516	Principles of Disease	2
PT 521L	Basics of Patient Management	4
PT 529	Life Span Motor Control	3
PT 530ab	Therapeutic Exercise	2-2
PT 534L	Neuroanatomy	3
PT 536	Pathology of Cardiopulmonary Disease and General Medical Conditions	3
PT 539	Clinical Pharmacology	1
PT 546	Neuropathology	3
PT 549L	Clinical Exercise Physiology	4
PT 551L	Therapeutic Application of Physical Agents	2
PT 554L	Analytical Anatomy	3
PT 561abcde	Evidence for Physical Therapist Practice	2-2-2-2-2
PT 566	Disorders of the Musculoskeletal System	3
PT 569	Fundamentals of Neuroscience	4
PT 571L	Clinical Management of Cardiopulmonary Dysfunction	4
PT 574	Clinical Biomechanics	3
PT 581L	Clinical Management of the Patient with Neurological Dysfunction	5
PT 582	Mechanics of Human Gait	2
PT 583L	Clinical Electrophysiology	3
PT 600abcdez	Clinical Clerkship	1-3-1-1-3-0
PT 606	Clinical Imaging	2
PT 621L	Clinical Management of the Patient with Musculoskeletal Dysfunction	5
PT 630	Integrated Management of the Upper and Lower Extremities	3
PT 631	Integrated Management of the Axial Skeletal System and Related Movement Disorders	3
PT 632	Integrated Patient Management Seminar	5
PT 650	Differential Diagnosis in Physical Therapy	2
PT 660	Advanced Clerkship with Academic Integration	5
PT 665	Advanced Clinical Clerkship	8

ELECTIVE COURSES		UNITS
PT 612L	Physical Therapy Management of Spinal Disorders	2
PT 613L	Physical Therapy Management of the Foot and Lower Quarter	2
PT 614L	Evaluation and Management for Hand Dysfunction	2
PT 615	Management of the Complicated Patient	2
PT 618L	Seminar in Advanced Neurological Rehabilitation	2
PT 619L	Clinical Electro-physiology	2
PT 654	Physical Therapy Interventions in Pediatrics	2

Doctor of Philosophy in Biokinesiology

The graduate program leading to the Doctor of Philosophy in Biokinesiology is designed to prepare candidates for research and teaching at the university level. Actual programs of study will be designed with a degree of flexibility directed toward individual students who seek to become independent scholars.

Admission Requirements

Applicants must meet all general admission requirements of the university. Admission requirements include a superior grade point average in cumulative undergraduate and graduate course work (if applicable). In addition, applicants should score at least 600 in each area of the Graduate Record Examinations (GRE) and have some research experience. Students admitted for the Master of Science degree are not automatically admitted to the Doctor of Philosophy program. The Master of Science is not required as a prerequisite to the Ph.D. but may be advised.

Applicants must have a personal interview with the program faculty. A student can be considered for admission only when a member of the full-time Ph.D. faculty has agreed to serve as the student's Ph.D. advisor. Three letters of recommendation and duplicate transcripts must be sent to the division for preliminary evaluation, although final acceptance is based upon the official USC application procedure.

Prerequisites (Ph.D. Program)

The prerequisite for applicants to the Ph.D. program in biokinesiology is either: (a) a bachelor's degree or higher with a science major or equivalent; or (b) a bachelor's or master's degree in physical therapy with appropriate basic science content. Courses completed at the time of application must include work (with appropriate laboratory study) in chemistry, calculus, physics and biology. Highly recommended is course work in anatomy, physiology, histology, cell biology, exercise physiology, kinesiology, biochemistry, neuroscience, trigonometry, analytical geometry and computer programming.

Candidates should be computer literate. International applicants will be considered upon evaluation of credentials by the USC Office of Admission.

Students deficient in certain prerequisites may be admitted subject to completion of requirements within two years after admission. An additional year may be granted upon review of the student's program by a faculty committee. Work in any prerequisite subject will not be part of the required 60 units for the Doctor of Philosophy.

Screening Procedure

A screening procedure will be offered twice each year for qualified students. It must be taken prior to the completion of 24 units at the 500-level or higher. The purpose of the screening procedure is to assess the progress of the Ph.D. student and to determine whether that progress is sufficient to continue in the Ph.D. program. Passing the procedure is a prerequisite for continuation in the Ph.D. program.

Course Requirements

A minimum of 60 units is required for the Doctor of Philosophy degree.

REQUIRED COURSE WORK		UNITS
BKN 550	Neurobehavioral Basis of Movement	4
BKN 551	Musculoskeletal and Biomechanical Basis of Movement	4
BKN 552	Physiological Basis of Voluntary Movement	4
BKN 790	Research	1-12
BKN 794abcdz	Doctoral Dissertation	2-2-2-2-0
INTD 500*	Ethics and Accountability in Biomedical Research	1
PM 510L**	Principles of Biostatistics	4
PM 511aL**	Data Analysis	4

*Or equivalent graduate ethics course.

** Or equivalent graduate level statistics.

Ph.D. students must complete three core courses (BKN 550, BKN 551, BKN 552) before participating in the screening procedure. Substituting a course for one of the core courses may be allowed after receiving approval from the Biokinesiology Program Committee prior to the beginning of the course.

Other course requirements (to complete 60 units) will vary according to the specific needs of each student. Course work other than departmental offerings is encouraged and may be required by the student's guidance committee.

COURSES AVAILABLE FOR M.S./PH.D. STUDENTS		UNITS
BKN 559	Readings in Biokinesiology	1-4, max 8
BKN 563	Biomechanics	2
BKN 566	Neurobiology of Locomotion	2
BKN 567	Advanced Topics in Biomechanics	2
BKN 573ab	Advanced Dissection Anatomy	2-2
BKN 575	Principles of Musculoskeletal Imaging	2
BKN 585	Systematic Research Writing	3
BKN 587ab	Physiological Correlates of Therapeutic Exercise	4-4
BKN 588	Physiology and Biomechanics of Resistance Exercise	4
BKN 590	Directed Research	1-12
BKN 593	Behavioral Basis of Motor Control and Learning	3
BKN 594abz	Master's Thesis	2-2-0
BKN 599	Special Topics	2-4, max 8
BKN 615	Principles of Skeletal Adaptation	4
BKN 617	Modeling the Motor System: An Introduction	2
BKN 618L	Modeling the Motor System: Laboratory	1
BKN 621	Electromyography in Research and Practice	3
BKN 623	Neuroplasticity and Neural Repair	3
BKN 672	Advanced Independent Study in Biokinesiology	1-4, max 8
BKN 790	Research	1-12
BKN 794abcdz	Doctoral Dissertation	2-2-2-2-0

Foreign Language Requirement
There is no foreign language requirement.

Guidance Committee
Upon successful completion of the screening examination the student and the major advisor will select a guidance committee for continuing course work and independent study. The guidance committee comprises five members: three to four full-time faculty from the Division of Biokinesiology and Physical Therapy, one whom serves as committee chair, and one or two faculty members outside the division.

The guidance committee will recommend course work, independent study and readings in the major and cognate areas.

Qualifying Examination
The Ph.D. qualifying examination is offered during the fall or spring semesters. The qualifying examination concentrates on the student's ability to demonstrate knowledge in the major academic area chosen and its relation to other areas of study offered in the department. The qualifying examination has both written and oral components. A student failing any part of the examination may be allowed one additional opportunity to pass that portion at the discretion of the guidance committee, within the regulations of the Graduate School governing the repetition of qualifying examinations.

Dissertation Committee
After the qualifying examination has been passed and a dissertation topic approved, the guidance committee shall be known as the dissertation committee and may be reduced to three members upon unanimous recommendation to the dean of graduate studies. One of the three members must be from outside the major division. The chair of the dissertation committee will be the principal research advisor.

Dissertation and Oral Defense
An acceptable dissertation based on original investigation is required. The dissertation must show technical mastery of a special field, capacity for independent research and scholarly ability.

The dissertation and the defense or final oral must have the unanimous approval of the dissertation committee. The dissertation should be complete within three years of the date the proposal is approved.

Doctor of Philosophy in Biokinesiology and Physical Therapy

The graduate program leading to the Doctor of Philosophy in Biokinesiology and Physical Therapy offers an opportunity for highly qualified students to prepare for careers in academic health care. The curriculum is designed for individuals who envision a career that combines training for physical therapy practice and scholarly research.

Admission Requirements

Applicants must have earned a bachelor's degree with a superior grade point average as well as Graduate Record Examinations scores. A personal interview with program faculty is required. Prerequisite course work must include: four courses in the biological sciences with labs (including human anatomy, human physiology and cell or molecular biology); one year of college physics with lab; one year of college chemistry with lab; one semester of college mathematics; two courses in psychology; one course in composition and writing; one course in literature or history. Courses that are highly recommended include: biochemistry, calculus, kinesiology, exercise physiology, neuroscience, genetics and a cross-cultural course in sociology.

Application for admission to the Division of Biokinesiology and Physical Therapy requires submission of two sets of materials: special division application and university application forms. Students are admitted for study in the Ph.D. in Biokinesiology and Physical Therapy program beginning in the fall semester of each academic year. Both sets of applications must be submitted by December 1 of the previous year. At the time of admission to the program, the student must identify a faculty member who will serve as an advisor throughout every phase of study.

Degree Requirements
This degree is under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section (page 86) and the Graduate School section of this catalogue (page 97) for general regulations.

YEARS 1, 2 - REQUIRED COURSES		UNITS
PM 510L	Principles of Biostatistics	4
PM 511aL	Data Analysis	4
PT 507	Professional Practice: Therapist Perspective	2
PT 509	Cellular and Systems Physiology	3
PT 514L	Musculoskeletal Anatomy	4
PT 516	Principles of Disease	2
PT 521L	Basics of Patient Management	4
PT 529	Life Span Motor Control	3
PT 534L	Neuroanatomy	3
PT 536	Pathology of Cardiopulmonary Disease and General Medical Conditions	3
PT 539	Clinical Pharmacology	1
PT 546	Neuropathology	3
PT 547	Professional Practice: System Perspective	2
PT 549L	Clinical Exercise Physiology	4
PT 551L	Therapeutic Applications of Physical Agents	2
PT 554L	Analytical Anatomy	3
PT 557	Professional Practice: Patient Perspective	2
PT 566	Disorders of the Musculoskeletal System	3
PT 569	Fundamentals of Neuroscience	4
PT 571L	Clinical Management of Cardiopulmonary Dysfunction	4
PT 574	Clinical Biomechanics	3
PT 581L	Clinical Management of the Patient with Neurological Dysfunction	5
PT 582	Mechanics of Human Gait	2
PT 583L	Clinical Electrophysiology	3
PT 600abcdez	Clinical Clerkship	1-3-1-1-3-0
PT 621L	Clinical Management of the Patient with Musculoskeletal Dysfunction	5

YEARS 3, 4, 5 - REQUIRED COURSES		UNITS
BKN 790	Research	1-12
BKN 794abcdz	Dissertation	2-2-2-2-0

YEAR 6 - REQUIRED COURSES		UNITS
PT 630	Integrated Management of the Upper and Lower Extremities	3
PT 631	Integrated Management of the Axial Skeletal System and Related Movement Disorders	3
PT 632	Integrated Patient Management Seminar	5
PT 660	Advanced Clerkship with Academic Integration	5
PT 665	Advanced Clinical Clerkship	8

A minimum of 116 units is required for completion of this program.

Estimated Calendar of Study
Basic and Clinical Science Foundation Courses (Years 1, 2)
The student will enroll in all required course work and clinical experiences *excluding* BKN 790, BKN 794abcdz, PT 630, PT 631, PT 632, PT 660, PT 665.

Qualifying Exam (Year 3)
The student will select a guidance committee and begin preparing a research proposal (register for BKN 790). During this time, the student is encouraged to enroll in key elective courses, both inside and outside the division, which will enhance research proposal development. The expectation is that the student will sit for the qualifying exam and achieve doctoral candidacy at the end of year three.

Research and Dissertation Preparation (Years 4, 5)
The student will complete the research project and prepare a dissertation (register for BKN 790 and BKN 794). The expectation is that the student will successfully defend the dissertation by the end of year five.

Completion of Internship Requirement (Year 6)
The student will complete the required internships to achieve clinical competency (register for PT 630, PT 631, PT 632, PT 660 and PT 665).

Courses of Instruction

BIOKINESIOLOGY (BKN)

The terms indicated are *expected* but are not *guaranteed*. For the courses offered during any given term, consult the *Schedule of Classes*.

BKN 504 Neuromuscular Systems (3, Fa) (Enroll in BME 504)

BKN 550 Neurobehavioral Basis of Movement (4, Sp) Introduction to the neurobehavioral and neurobiological basis of movement. Review of information processing, neural basis of perception/action, motor systems, and higher cognitive function and behavior. *Recommended preparation:* biology and physiology.

BKN 551 Musculoskeletal and Biomechanical Basis of Movement (4, Fa) Introduction to the mechanical properties of the musculoskeletal system. Review of connective tissue and muscle mechanics, arthrology, anatomical design and statics. Laboratory dissections illustrate biomechanical concepts.

BKN 552 Physiological Basis of Voluntary Movement (4, Sp) Consideration of the neuromuscular and musculoskeletal physiology of voluntary movement.

BKN 559 Readings in Biokinesiology (1-4, max 8, FaSpSm) Independent review and synthesis of papers appearing in the current literature.

BKN 563 Biomechanics (2, 2 years, Sp) Advanced study of the kinematics of human motion. Emphasis on the inverse dynamics solution to qualify forces and moments of force. Lecture and demonstration.

BKN 566 Neurobiology of Locomotion (2) Topics include developmental biology of embryonic motility, central pattern generators, descending neural regulation, sensory modulation, and perception/action influences on the motor control of locomotion. *Prerequisite:* BISC 524, BISC 525; *recommended preparation:* BKN 550.

BKN 567 Advanced Topics in Biomechanics (2, Sp) Advanced examination of motion-analysis techniques, applications and data interpretation. Magnetic tracking techniques, upper-extremity kinematics, energy/work/impulse concepts, intersegmental dynamics, and EMG muscle modeling are examined. *Prerequisite:* BKN 563.

BKN 573ab Advanced Dissection Anatomy (2-2, FaSpSm) Advanced analysis of systems or structures with dissection. Emphasis on correlations with function.

BKN 575 Principles of Musculoskeletal Imaging (2, Sm) Basic principles of musculoskeletal imaging as it relates to biomechanics research. Topics include MRI physics, variable imaging parameters and selection of pulse sequences.

BKN 578 Classic Readings in Biokinesiology (2) A seminar course in which students read and discuss classic scientific papers that have shaped the development of the movement sciences over the past 150 years.

BKN 585 Systematic Research Writing (3, Sm) Development of analytical journal reading skills and proficiency in scientific writing. Lecture and tutorial format.

BKN 587ab Physiological Correlates of Therapeutic Exercise (4-4, FaSp) *a:* Responses of the physically handicapped to exercise. Emphasis on muscle, energy metabolism, body temperature, environment, endocrine considerations. Strengthening, training, endurance, and evaluation of performance. *b:* Responses of the physically handicapped to exercise, with emphasis on cardiovascular and respiratory adaptations and pathology.

BKN 588 Physiology and Biomechanics of Resistance Exercise (2, Sp) Science of resistance-exercise prescription, adaptation, and outcome assessment. Topics include periodization, neuromuscular and connective-tissue adaptation, special populations, and biomechanical considerations.

BKN 590 Directed Research (1-12, FaSpSm) Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Graded CR/NC.

BKN 593 Behavioral Basis of Motor Control and Learning (3, Fa) Seminar in movement science dealing with the behavioral basis of motor control and learning from an information processing perspective. *Recommended preparation:* statistics; psychology.

BKN 594abz Master's Thesis (2-2-0) Credit on acceptance of thesis. Graded IP/CR/NC.

BKN 599 Special Topics (2-4, max 8, FaSpSm) Studies of scientific theory in physical therapy.

BKN 615 Principles of Skeletal Adaptation (4, 2 years, Sm) Introduction to the integrative physiology of skeletal adaptation to mechanical loading. Emphasis on mechanical and chemical regulation of bone mass.

BKN 617 Modeling the Motor System: An Introduction (2, 2 years, Sp) Introduction of basic principles and models of the primate motor system. Emphasis on arm control.

BKN 618L Modeling the Motor System: Laboratory (1, 2 years, Sp) Introduction of computer programming and implementation of computational models in a laboratory setting.

BKN 621 Electromyography in Research and Practice (3, 2 years, Fa) Physiology and electrophysiology of muscular contraction, how it is collected, quantified and processed. Uses of electromyographic information for research and clinical assessments. *Recommended preparation:* human anatomy, skeletal muscle physiology.

BKN 623 Neuroplasticity and Neural Repair (3, 2 years, Fa) Integration of basic research on neuroplasticity and clinical research on central nervous system reorganization after brain injury. Implication for neurorecovery and rehabilitation.

BKN 672 Advanced Independent Study in Biokinesiology (1-4, max 8, FaSpSm) Examination of selected mechanisms underlying normal movement and pathological movement. Ph.D. students only.

BKN 790 Research (1-12, FaSpSm) Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Graded CR/NC.

BKN 794abcdz Doctoral Dissertation (2-2-2-2-0, FaSpSm) Credit on acceptance of dissertation. Graded IP/CR/NC.

PHYSICAL THERAPY (PT)

PT 507 Professional Practice: Therapist Perspective (2, Fa) Identification of personal values, attitudes and beliefs and their relationship to personal development into a health care provider. Emphasis on communication skills, ethics, and professional guidelines, laws and regulations.

PT 509 Cellular and Systems Physiology (3, Fa) Selected subjects in cellular and systems physiology. Emphasis on molecular and cellular aspects of neuromuscular function; also renal and endocrine physiology.

PT 514L Musculoskeletal Anatomy (4, Fa) Musculoskeletal anatomy, innervation, blood supply, and function: intensive study of the head, neck, trunk, and limbs. Lecture, dissection laboratory.

PT 516 Principles of Disease (2, Fa) Principles and mechanisms of genetics, immunology, infection, wound healing, and oncology. Lecture.

PT 521L Basics of Patient Management (4, Fa) Development of basic decision-making skills, professional behaviors and impairment assessment in patients with musculoskeletal neurologic and/or cardiopulmonary dysfunction. Lecture, laboratory.

PT 529 Life Span Motor Control (3, Fa) Introduction to sensorimotor systems, overview of current perspectives in motor control from fetus through late adulthood, and clinical tests of motor proficiency. Lecture, limited laboratory.

PT 530ab Therapeutic Exercise (a: 2, Sp; b: 2, Sm) *a:* Theoretical and practical principles for evaluation of exercise need and prescription of exercise programs. Emphasis on approaches for patients with musculoskeletal deficits. (Duplicates credit in former PT 530.) *b:* Examination of needs analysis and prescription of exercise programs for special patient populations and assessment of current community trends in exercise and wellness.

PT 534L Neuroanatomy (3, Sm) Organized approach to structures in the brain, spinal cord and peripheral nervous systems that subserve motor, sensory, and integrative functions, memory, cognitive and special senses. Lecture, laboratory.

PT 536 Pathology of Cardiopulmonary Disease and General Medical Conditions (3, Fa) Pathology and pathophysiological mechanisms in disease of the cardiac, pulmonary and circulatory systems; examination of diabetes, burns, and other disabling medical disorders. Lecture. *Prerequisite:* PT 509, PT 514*L*, PT 516, PT 521*L*, PT 529.

PT 539 Clinical Pharmacology (1, Fa) Effects of commonly used drugs in patients with physical disability; side effects that alter physical performance or responses to exercise.

PT 546 Neuropathology (3, Sp) Pathology in the central and peripheral nervous systems that alter motor and sensory performance. Emphasis on loss of motion, excessive and involuntary movement disorders. Lecture. *Prerequisite:* PT 516, PT 534*L*.

PT 547 Professional Practice: System Perspective (2, Sm) Analysis of the integration of physical therapy practice into the national health care system; administration, budgeting and reimbursement for physical therapy services.

PT 549L Clinical Exercise Physiology (4, Fa) Adaptation of the human body to exercise and the use of exercise to modify human function. Lecture and laboratory.

PT 551L Therapeutic Application of Physical Agents (2, Sp) Physiologic responses to the application of thermal, mechanical, electromagnetic and hydrodynamic therapeutic procedures. Evaluation procedures and intervention planning. Lecture, laboratory. *Prerequisite:* PT 521*L*.

PT 554L Analytical Anatomy (3, Sp) Detailed kinesiologic analysis of axial, spine, head, neck, face and bulbar muscles. Lecture, laboratory and clinical demonstration. *Prerequisite:* PT 514*L*.

PT 557 Professional Practice: Patient Perspective (2, Sp) Examination of issues related to professional-patient relationships, culture, lifestyles, ethnicity, gender and age. Emphasis on communication within a patient care model.

PT 561abcde Evidence for Physical Therapist Practice (2-2-2-2-2) *a:* Introduction to a patient-centered Evidence Based Practice model with emphasis on professional communication skills, ethics, professional guidelines, laws and regulations; *b:* introduction to acquiring, appraising and integrating research evidence; *c:* advanced critical analysis and application of research of evidence; *d:* advanced integration of patient values as influenced by culture, ethnicity, lifestyles, gender, and age into patient-centered clinical decision making; *e:* analysis of the integration of physical therapist practice into the national health care system; administration, budgeting and reimbursement for physical therapist services.

PT 566 Disorders of the Musculoskeletal System (3, Sp) Regional description of pathology and pathophysiological mechanisms of disorders of bone, connective tissue, and joints. Lecture, demonstration.

PT 569 Fundamentals of Neuroscience (4, Sp) Detailed analysis of neurophysiologic mechanisms underlying normal and abnormal motor and sensory function. Lecture. *Prerequisite:* PT 509, PT 516, PT 529, PT 534*L*.

PT 571L Clinical Management of Cardiopulmonary Dysfunction (4, Fa) Physical therapy evaluation and intervention in the care of patients with circulatory, cardiac, or pulmonary dysfunction. Lecture, case presentations, laboratory. *Prerequisite:* PT 521*L*.

PT 573 Physical Examination and Differential Diagnosis in Patients with Medical Disorders (2, Fa) Physical assessment and differential diagnosis in common medical conditions. Emphasis on factors that influence physical therapy or require referral back to the physician.

PT 574 Clinical Biomechanics (3, Fa) Introduction to the principles of biomechanics (statics, dynamics) as they apply to physical therapy practice. Emphasis on tissue mechanics, joint function and gait. Lecture. *Prerequisite:* PT 554*L*.

PT 581L Clinical Management of the Patient with Neurological Dysfunction (5, Fa) Physical therapy theory and methods for intervention in neurological dysfunction. Lecture, laboratory. Neuroanatomy lab available. *Prerequisite:* PT 509, PT 516, PT 521*L*, PT 529, PT 534*L*.

PT 582 Mechanics of Human Gait (2, Sp) Introduction to both normal and pathological gait. Emphasis on the basic components of abnormal ambulation including temporal-spatial factors, joint motion, kinetics, kinematics, and muscle activity. Lecture.

PT 583L Clinical Electrophysiology (3, Sp) Use of electrical currents to evaluate and treat musculoskeletal, neurological and wound disorders. Theory and practice. Lecture, laboratory. *Prerequisite:* PT 514*L*, PT 554*L*.

PT 585 Physical Examination and Differential Diagnosis in Patients with Neurological Disorders (2, Fa) Physical examination and differential diagnosis in neurologic disorders. Emphasis on factors that influence physical therapy or require referral back to the physician.

PT 591 Physical Examination and Differential Diagnosis in Patients with Orthopedic Disorders (2, Sp) Physical examination and differential diagnosis in orthopedic disorders. Emphasis on factors that influence physical therapy or require referral back to the physician.

PT 592 Capstone Project (1-6, max 6, FaSpSm) Synthesis of knowledge gained in the pursuit of D.P.T. degree through a case study, a learning module for students or patients, a business plan for a unique form of health care delivery, or some other innovative concept. The primary faculty advisor will determine the unit value of the project.

PT 595abcd Residency in Advanced Clinical Physical Therapy (1-4 each, FaSpSm) Residency open to students pursuing a Graduate Certificate in Orthopedic Physical Therapy or Neurologic Physical Therapy or the post-professional D.P.T. program. Graded CR/NC. P.T. Licensure required.

PT 600abcdez Clinical Clerkship (1-3-1-1-3-0, FaSpSm) *a:* Practical experience in two- or six-week physical therapy manual skills, decision making and professional behaviors. *b:* Practical experience in six-week physical therapy manual skills, decision making, and professional behaviors. *c:* Practical experience in two-week physical therapy psychomotor skills, decision making and professional behaviors. *d:* Practical experience in two-week physical therapy psychomotor skills, decision making and professional behaviors. *e:* Practical experience in six-week physical therapy psychomotor skills, decision making and professional behaviors. Graded CR/NC.

PT 605 Orthopedic Radiology (2, Fa) Study of normal and pathologic skeletal radiographic examinations.

PT 606 Clinical Imaging (2, SpSm) Elements of reading roentgenographs, CAT and MRI scans for the physical therapist. Lecture, demonstration, practical experience. Open only to Biokinesiology and Physical Therapy graduate students.

PT 607 Clinical Scanning (2, Sp) Survey of diagnostic imaging for orthopedic and neurologic disorders seen in physical therapy practice.

PT 608 Pharmacotherapeutics (2, Fa) Indications, contraindications, physiologic mechanisms, and side-effects of pharmacologic agents. Analysis of interactions between drugs and physical therapy interventions.

PT 612L Physical Therapy Management of Spinal Disorders (2, FaSpSm) Advanced evaluation and treatment skills for the management of individuals with spinal disorders. Lecture, laboratory. *Prerequisite:* PT 600*d*.

PT 613L Physical Therapy Management of the Foot and Lower Quarter (2, Fa) Advanced evaluation and treatment skills for management of individuals with lower extremity disorders. Lecture, laboratory. *Prerequisite:* PT 600*d*.

PT 614L Evaluation and Management of Hand Dysfunction (2, Sp) Pathology, evaluation, differential diagnosis and treatment of hand and wrist dysfunction. Lecture, laboratory. *Prerequisite:* PT 600*d*.

PT 618L Seminar in Advanced Neurological Rehabilitation (2, Sp) Advanced evaluation treatment, and problem solving skills for the individual with neurological dysfunction. Lecture, laboratory. *Prerequisite:* PT 600*d*.

PT 619L Clinical Electrophysiology (2, Fa) Advanced evaluation and treatment of individuals with peripheral nerve disorders using electrotherapy. Lecture, laboratory. *Prerequisite:* PT 600*d*.

PT 621L Clinical Management of the Patient with Musculoskeletal Dysfunction (5, Sp) Physical therapy theory and methods of evaluation and treatment of orthopedic dysfunction. Lecture, demonstration, laboratory. Dissection lab available. *Prerequisite:* PT 514*L*, PT 521*L*.

PT 622 Advanced Management of Spinal Disorders (3, FaSpSm) Theoretical and practical foundations in orthopedic rehabilitation of spinal disorders with emphasis on differential diagnosis from systemic manifestation. Lecture, laboratory, and case presentations. Open to licensed physical therapists only.

PT 623 Advanced Management of Extremity Disorders (3, FaSpSm) Theoretical and practical foundations in orthopedic rehabilitation of occupational, recreational and athletic disorders of the extremities; emphasis on differential diagnosis from systemic manifestations. Lecture, laboratory, and case presentations. Open to licensed physical therapists only.

PT 624abL Neurological Differential Diagnosis and Therapeutic Interventions (3-3, FaSp) Theoretical and practical foundations of clinical practice for specialization in neurologic physical therapy. *a:* Principles of neurologic differential diagnosis, mechanisms of neurorecovery and rehabilitation of focal neurologic disorders covered. *b:* Emphasis on advanced skills in neurologic differential diagnosis and rehabilitation for complex neurologic disorders.

PT 630 Integrated Management of the Upper and Lower Extremities (3, FaSp) Advanced evaluation and management of upper and lower extremity disorders and related movement dysfunction. *Prerequisite:* PT 600*e*.

PT 631 Integrated Patient Management of the Axial Skeletal System and Related Movement Disorders (3, FaSp) Advanced assessment and management of axial skeletal dysfunctions and related movement disorders. *Prerequisite:* PT 600*e*.

PT 632 Integrated Patient Management Seminar (5, FaSp) Integration of physical therapy management of complicated patients with concurrent musculoskeletal, cardiopulmonary and/or neurologic disorders. *Prerequisite:* PT 571L, PT 581L, PT 621L.

PT 642abc Evidence Based Practice (2-2-2, a: Sm, b: Fa, c: Sp) *a:* Practical considerations of evidence-based practice including patient interviews and search methods. *b:* Development of critical analysis skills of evidence to enhance critical thinking. *c:* Focus on evidence-based decision making using patient perspectives to effect optimal function outcomes.

PT 650 Differential Diagnosis in Physical Therapy (2, FaSpSm) Consideration of principle of differential diagnosis with emphasis on mastering this skill. Open only to Biokinesiology and Physical Therapy graduate students. *Recommended preparation:* completion of years 1 and 2.

PT 654 Physical Therapy Intervention in Pediatrics (2, Sm) Physical therapy management of commonly encountered pediatric diagnoses. Seminar, clinical laboratory. Open to students enrolled in physical therapy degree programs only.

PT 660 Advanced Clerkship with Academic Integration (5, FaSp) A 16-week clerkship consisting of a minimum of 24 hours per week in a part-time setting. Emphasis on the care of orthopedic, neurologic, pediatric or complicated medical conditions. Graded CR/NC. *Prerequisite:* PT 600*e*.

PT 665 Advanced Clinical Clerkship (8, FaSp) A 16-week clerkship consisting of a minimum of 36 hours per week in a full-time setting. Emphasis on care of orthopedic, neurologic, pediatric or complicated medical conditions. Graded CR/NC. *Prerequisite:* PT 600*e*.

Occupational Science and Occupational Therapy

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Adjunct Associate Professor of Clinical Occupational Therapy: Diane Kellegrew, Ph.D., OTR/L

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Emeritus Professors: Mary Reilly, Ed.D.; Elizabeth J. Yerxa, Ed.D.; Ruth Zemke, Ph.D.

Degrees Offered
The Division of Occupational Science and Occupational Therapy offers a Bachelor of Science in Occupational Therapy, a minor in Occupational Science, and a Master of Arts in Occupational Therapy. The Master of Arts in Occupational Therapy is offered for students continuing their education following their undergraduate degree in occupational therapy, for those whose first degree is in another field and also for certified occupational therapists seeking a post-professional degree. The division also offers the Doctorate of Occupational Therapy (O.T.D.) and the Ph.D. in Occupational Science. The Division of Occupational Science and Occupational Therapy is fully accredited by the Accreditation Council for Occupational Therapy Education, 4720 Montgomery Lane, P.O. Box 31220, Bethesda, Maryland 20824-1220, (301) 652-2682.

Entry into occupational therapy practice is at the graduate degree level only. In order to practice, students in the bachelor's program must earn an M.A. degree in Occupational Therapy, sit for the National Board for Certification in Occupational Therapy (NBCOT) exam and apply for a license (in most states including California).

Pi Theta Epsilon
Pi Theta Epsilon is a national honor society for occupational therapy students and alumni. This society recognizes and encourages superior scholarship among students enrolled in entry-level graduate programs of occupational therapy across the United States.

The Alpha Eta Chapter of Pi Theta Epsilon at the University of Southern California selects candidates early in the spring semester of each year based on their academic standing and their potential for leadership in the profession.

Bachelor of Science

The undergraduate curriculum leads to the Bachelor of Science with a major in occupational therapy. Although professional study begins either during the junior year or in the summer preceding the senior year, students may apply to the major at any time. Successful completion of the Master of Arts degree and successful completion of a minimum of 24 full-time weeks of clinical fieldwork are required for eligibility to sit for the National Board for Certification in Occupational Therapy. Certification from the board and licensure (most states) are required to practice as an occupational therapist. (See page 713 for a description of the M.A. degree program.)

Application Procedures for Incoming Freshman and Transfer Applicants
Students may request admission to the occupational therapy major when applying as freshmen or when transferring to USC. Students transferring from other institutions need to enter USC no later than the first semester of their junior year. See the Undergraduate Admission section of this catalogue for admission procedures to the university.

Admission Criteria for Current USC Students
After admission to USC, students wishing to add or change their major to occupational therapy should contact the division. Requirements for admission are:
1. an autobiographical statement which demonstrates an exploration and understanding of occupational therapy as a career choice
2. a cumulative grade point average of 3.0 or higher in undergraduate course work for USC undergraduate and transferring students
3. a plan for completion of all USC Dornsife College of Letters, Arts and Sciences general education requirements and foreign language requirements by the beginning of the senior year

Application Procedures for Current USC Students
Applications will be reviewed when the following materials have been received by the Division of Occupational Science and Occupational Therapy:
1. Completed division application form
2. Current copy of the student's STARS report
3. Autobiographical statement including:
   a. Reasons for wanting to enter the profession
   b. Understanding of occupational therapy
   c. Experience relevant to occupational therapy
   d. Summary of skills and accomplishments
4. Three letters of recommendation from professors, employers or other professionals, not related to the applicant, sent directly to the division or delivered in a sealed envelope. One letter should be from a professor.

Deadlines
Freshmen may apply anytime. Sophomores must apply by April 30 to begin the program in the fall of their junior year. Juniors must apply by January 15 and will begin the program with an eight-week summer session prior to their senior year. Students transferring from other institutions need to enter USC no later than the first semester of their junior year.

Program Requirements

A total of 128 units is required for the Bachelor of Science degree. An occupational therapy major cannot count any 300-level OT course toward the B.S. degree.

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge needed to become a well-educated person. This program requires six courses in different categories, plus writing, diversity and foreign language requirements, which together comprise the USC Core. See pages 63 and 245 for more information.

Required Pre-Professional Courses

We recommend that you meet with an admissions counselor within the division in order to determine course work that can be taken at USC or could be transferred and substituted for required course work. Before taking the advanced professional courses you must have completed the pre-professional required courses:

- Within the last five years
- With a minimum GPA of 3.0 (pass/fail or grades below a C are not accepted)
- From an accredited junior college, four year college or university
- Either in a classroom setting or online; however, anatomy must be completed in a classroom setting (refer to Coursework Taken Elsewhere on page 57)
- For a total of three or four semester units each (with the exception of medical terminology which may be 1 or 2 units)

Required Pre-Professional Courses (USC course numbers are noted)

- Enrolled or transferring students who wish to transfer credit for courses taken at another institution must gain university approval:

PRE-PROFESSIONAL COURSES		UNITS
OT 200	Medical Terminology for Health Professions	1
SOCI 200 or ANTH 201	Introduction to Sociology, or Introduction to Social Anthropology	4
OT 260	Human Functional Anatomy for the Occupational Therapist, or	3
EXSC 301L	Human Anatomy	4
OT 261	Human Physiology for Occupational Therapists, or	3
BISC 307L	General Physiology	4
PSYC 336L	Developmental Psychology	4
PSYC 360	Abnormal Psychology	4
PSYC 274	Statistics I (highly recommended; required effective summer 2012)	4

Gerontology or adult development (recommended but not required)

Four-week intensive courses are offered by the division in human anatomy (OT 260) and human physiology (OT 261) from mid-May to mid-June (just prior to the start of summer professional courses) for those students who have been unable to complete those courses earlier. These courses are also offered fall and spring semesters.

Students may take OT 405L, OT 440 and OT 441 in the junior year, after having completed Human Anatomy and Developmental Psychology. Human Physiology must be completed by fall of the junior year. The remaining pre-professional courses must be completed by the start of the senior year.

Required Professional Courses

Enrollment in professional occupational therapy courses is limited to junior and senior occupational therapy majors only.

REQUIRED PROFESSIONAL COURSES		UNITS
OT 405L	Foundations: Occupation	4
OT 440L	Foundations: Kinesiology	2
OT 441L	Foundations: Neuroscience	2

Two of the following: OT 401L Practice Immersion: Physical Rehabilitation and Geriatrics (8), OT 402L Practice Immersion: Mental Health (8), or OT 403L Practice Immersion: Pediatrics (8)

OT 410	Therapeutic Use of Self	2
OT 411	Clinical Reasoning	2
OT 430	Communication Skills for Effective Practice	4
OT 451	Neuroscience of Behavior	4
OT 470	Qualitative Research for Evidence-Based Practice	4
OT 480	Quantitative Research for Evidence-Based Practice	4

Scholastic Standards

Undergraduate occupational therapy students must maintain a GPA of at least 3.0 (A = 4.0) in all required OT courses in order to continue into the master's (M.A.) program. If an undergraduate student's OT grade point average (GPA) falls below 3.0, or if the cumulative undergraduate GPA falls below 3.0 at the end of the fall semester of the senior year, continuance is not assured.

Advising

Advisement is available through the division.

Minor in Occupational Science

The division offers a minor in the dynamic discipline of occupational science. It is one of a select few programs in the world that offers undergraduates the opportunity to explore this field.

Unlike other creatures, humans are innately driven to fill their time with interesting, meaningful activities, which scholars call "occupations." That is, humans need to be occupied. These occupations have a profound impact on physical and mental health, one's sense of well-being and the experience of quality of life. Occupational Science seeks to understand the precise nature and function of occupations and the critical effect of daily activity on human beings. Scientists working in the field examine questions such as: what is the relationship between childhood occupations and adult competency and achievement; what constitutes a healthy balance of work, rest and leisure; what factors contribute to a good fit between a particular individual and his or her occupations; as well as many other issues.

The minor in occupational science requires a total of 20 units including a gateway course (OT 250) plus four upper division courses selected from seven course offerings. It is open to all majors at USC. An occupational therapy major cannot count any 300-level OT course toward the B.S. degree.

LOWER DIVISION: GATEWAY COURSE		UNITS
OT 250	Introduction to Occupational Science and Occupational Therapy	4

UPPER DIVISION: 4 COURSES REQUIRED		UNITS
OT 300	Occupational Expressions of Diverse Identities and Lifestyles	4
OT 320	The Nature of Human Occupation: Form, Function, and Meaning	4
OT 325	The Brain: Mind, Body and Self	4
OT 330	Perspectives on the Daily Life of Families	4
OT 333	Sports Ethics	4
OT 350	Disability, Occupations, and the Health Care System	4
OT 360	Creating the Self through Narrative: Acts of Life Story Production	4
OT 375	The Narrative Structure of Social Action: Narrative, Healing, and Occupation	4

Master of Arts

The Division of Occupational Science and Occupational Therapy offers a Master of Arts degree with two routes of entry. Those with a baccalaureate degree in occupational therapy will begin graduate course work. Those with a baccalaureate degree in a field other than occupational therapy take additional 400-level courses before beginning graduate work. Eligibility to sit for the National Board for Certification in Occupational Therapy examination occurs when all course work is completed, including the equivalent of 24 full-time weeks of clinical fieldwork, and the M.A. degree has been awarded.

Admission Requirements

Those with a baccalaureate degree in occupational therapy: prerequisites are a bachelor's degree in occupational therapy from an accredited college or university or World Federation of Occupational Therapy (WFOT) approved program; certification (or eligibility for certification) by the National Board for Certification in Occupational Therapy; a minimum grade point average of 3.0 (A = 4.0); total score of 1000 or higher on the General Test of the Graduate Record Examinations taken within five years of enrollment; three letters of recommendation and an autobiographical sketch/statement of purpose. A satisfactory score on the TOEFL within two years of enrollment is a requirement for international students who have graduated from a non-English speaking college or university.

Those with a baccalaureate degree in a field other than occupational therapy must have completed all prerequisites:

- Within five years of enrollment
- Prior to the start of the program with a minimum GPA of 3.0 (pass/fail or grades below a C are not accepted)
- From an accredited junior college, college or university
- Either in a classroom setting or online; however anatomy must be completed in a classroom setting
- With each course totaling three or four semester units (with exception of medical terminology which may be 1 or 2 units) as follows (course numbers refer to USC courses, but prerequisites can be taken at any accredited college or university):

  Medical Terminology for Health Professions (OT 200)
  Human Anatomy with Laboratory* (EXSC 301L or OT 260)
  Human Physiology* (OT 261 or BISC 307L)
  Introductory Statistics (PSYC 274)
  Developmental Psychology or Human Development (PSYC 336L)
  Abnormal Psychology (PSYC 360)
  Introductory Sociology or Cultural Anthropology (SOCI 200 or ANTH 201)
  Gerontology or Adult Development (recommended but not required)

*If anatomy and physiology are combined, students must take two sequential semesters with a laboratory each semester (6-8 units).

Four-week intensive courses in human anatomy with lab and human physiology are offered from mid-May to mid-June (just prior to the start of the program) for those students who have been unable to complete them earlier.

Courses prerequisite to master's degree work for students entering the M.A. program with a degree other than occupational therapy include *two of the following three:* OT 401L, OT 402L, OT 403L, *and all of the following:* OT 405L, OT 410, OT 411, OT 430, OT 440L, OT 441L, OT 451, OT 470 and OT 480

Application Procedure

For those with a baccalaureate degree in occupational therapy: applications are accepted at any time, preferably by February 15 for fall admission and October 15 for spring admission.

For those with a baccalaureate degree in a field other than occupational therapy: applications for early decisions are due by November 30; all other applications are due February 15.

Applications received after the February 15 deadline are considered on a space-available basis. Application materials include: 1) USC Online Graduate Application; 2) division online Supplemental Application for Graduate Admission; 3) three letters of recommendation; 4) transcripts from all colleges/universities attended; 5) results of the aptitude test of the Graduate Record Examinations; and 6) TOEFL scores if required. A personal interview may be requested.

International Students

Students educated outside the United States must have their credentials evaluated by the Office of Admission before application to the division can be reviewed. See the Admission section of this catalogue. International students must demonstrate competency in English, as measured by the Test of English as a Foreign Language (TOEFL).

Degree Requirements

The M.A. degree is under the jurisdiction of the USC Graduate School. Students should also refer to the Graduate School section of this catalogue (page 97) for general regulations. All courses applied toward the degree must be courses accepted by the Graduate School.

Requirements include: GPA of 3.0 in all course work attempted and all course work applied to the degree; at least two-thirds of units applied to the degree must be at the 500 level or higher.

REQUIRED COURSES		UNITS
OT 451	Neuroscience of Behavior, and	4
OT 470	Qualitative Research for Evidence-Based Practice, or	4
OT 401 or OT 402 or OT 403	(Practice Immersion Courses)	8
OT 504	Health Promotion and Wellness	4
OT 570	Occupation-Centered Programs for the Community, or	
OT 581	Quantitative Research for the Practicing Clinician	4
OT 580	Leadership Capstone	2
OT 585	Advanced Seminar in Occupational Science	2

Thesis Option

A minimum of 28 units is required: 20 units of required courses, 4 units of elective at 500 level or above, and 4 units of OT 594ab Master's Thesis. Acceptance of the thesis by the guidance committee and the university completes the degree.

Comprehensive Examination Option

A minimum of 32 units is required: 20 units of required courses, 4 units of elective and 8 units of occupational therapy electives. All electives must be 500 level or above. Successful performance on a written comprehensive examination administered on campus each fall and spring semester completes the degree.

Doctor of Occupational Therapy

The Occupational Therapy Doctorate (O.T.D.) is a post-professional degree program that provides graduates with advanced knowledge and skills in one of four leadership concentrations: 1) advanced clinical practice; 2) clinical research; 3) policy and administration; and (4) pedagogy. O.T.D. students graduate from the program with a strong foundation in occupational science as well as in-depth mentored residency experience. The O.T.D. prepares graduates to secure positions as expert clinicians in specialty or emerging practice areas, as contributors to clinical research teams, as administrative leaders within health care organizations, and as non-tenure track faculty in institutions of higher education.

Admission Requirements

Applicants for admission to the O.T.D. program are expected to have at least a baccalaureate degree from an accredited college or university and must be certified or licensed as an occupational therapist or be eligible to sit for the National Board for Certification in Occupational Therapy (NBCOT) examination at time of matriculation. Domestic students not certified upon matriculation must pass the NBCOT examination by the end of the first semester of the program to maintain enrollment. At the discretion of the O.T.D. director, some international students may not be required to obtain NBCOT certification. A minimum GPA of 3.0 (A = 4.0) and a minimum GRE combined verbal and quantitative score of 1000 are required. Applicants must have earned a minimum cumulative 3.0 GPA in the 400- and 500-level required courses. At least three letters of reference, an autobiographical statement of purpose and a current resume are required. Applicants' leadership potential, previous academic record, clinical experiences and professional accomplishments will also be considered.

International Students

Students educated outside the United States must have graduated from a program approved by the World Federation of Occupational Therapists (WFOT). USC maintains additional admissions requirements for international students (see the Admission section of this catalogue), including English language competence as measured by the Test of English as a Foreign Language (TOEFL) examination.

Application Procedures

Applications are accepted on a continuous basis. For consideration for fall semester admission, applications must be received by February 15. Applications received after February 15 will be considered on a space-available basis. Application requirements include: 1) USC Online Graduate Application; 2) Division of Occupational Science and Occupational Therapy online supplemental application for graduate admission; 3) three letters of reference; 4) autobiographical statement of purpose; 5) transcripts from all colleges/universities attended; and 6) GRE General Test scores.

Degree Requirements

The degree is awarded under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section, page 86, and the Graduate School section, page 97, of this catalogue, for general regulations. All courses applied toward the degree must be accepted by the USC Graduate School.

Course Requirements

Satisfactory completion of 60 units beyond the baccalaureate degree is required.

REQUIRED OCCUPATIONAL THERAPY FOUNDATION COURSES (20 UNITS REQUIRED)		UNITS
OT 451	Neuroscience of Behavior	4
OT 470	Qualitative Research for Evidence-Based Practice	4
OT 504	Health Promotion and Wellness	4
OT 580	Leadership Capstone	2
OT 581	Quantitative Research for the Practicing Clinician	4
OT 585	Advanced Seminar in Occupational Science	2

REQUIRED OCCUPATIONAL SCIENCE CORE COURSES (8 UNITS REQUIRED)		UNITS
OT 620	Current Issues in Occupational Science and Occupational Therapy	4
OT 621	Occupational Therapy Leadership: Contemporary Issues	4

Elective Courses (8 units required)
Students will complete a minimum of 8 course units at the 500-level or higher. A minimum of 4 of these 8 elective units must be selected from courses outside the Division of Occupational Science and Occupational Therapy.

Residency Requirement (24 units required)
Students will complete 24 units of OT 686 residency. The residency ensures that graduates of the O.T.D. program demonstrate competence in one of the following leadership concentrations: 1) advanced clinical practice; 2) clinical research; 3) policy and administration; and 4) pedagogy.

At least 20 units applied toward the O.T.D. must be successfully completed before enrolling in OT 686. Students may complete their residency over three consecutive semesters (6 units, 6 units and 12 units) or over four consecutive semesters. It is highly recommended that one semester of OT 686 be enrolled full-time (12 units without any other simultaneous course enrollment). Full-time residency ensures the opportunity for full immersion in residency. Faculty must approve each student's residency plan prior to enrollment. O.T.D. residency provides students the opportunity for mentorship by experts in their O.T.D. leadership concentration (e.g., a master clinician, a world-class occupational science researcher, a leader in professional policy or administration, or a faculty member with at least three years of academic experience).

Capstone Requirement
In the final semester of enrollment, each student will submit a portfolio demonstrating competence in his or her chosen leadership concentration. The final portfolio will include documentation of both written and oral presentation skills and expertise as designated in the residency plan.

Clinical Experience Criterion
If the student has less than three years of clinical experience as a registered and/or licensed occupational therapist at time of admission, he or she may be required to complete at least 8 units of clinical occupational therapy courses, which may include:

OT 500abc	Clinical Problems in Occupational Therapy	2-4 each
OT 560	Contemporary Issues in School-Based Practice	4
OT 564	Sensory Integration	4
OT 572	Ergonomics	4
OT 574	Enhancing Motor Control for Occupation	4
OT 583	Lifestyle Redesign	4
OT 590	Directed Research	1-12
OT 610	Sensory Integrative Dysfunction	4

Doctor of Philosophy

The Ph.D. in Occupational Science educates individuals to engage in the scientific study of human occupation, the purposeful activities that constitute our life experiences. This important new science is chiefly concerned with the unique capacity of humans to develop adaptive skills, such as tool use and related occupational behaviors, and to choose and orchestrate daily occupations. It also seeks to understand the function, structure and interrelationship of these occupations and their impact on individuals and institutions.

The focus on occupation distinguishes this program from closely-related disciplines such as psychology, sociology and anthropology. The program emphasizes the development of research skills and encourages students to organize and synthesize knowledge to contribute to occupational science theory, as opposed to therapeutic application.

Admission Requirements

Applicants for admission to the Ph.D. program are expected to have a baccalaureate degree in an appropriate field, such as one of the biological or social sciences or occupational therapy, with a minimum GPA of 3.0 (A = 4.0) and a minimum score of 1100 on the verbal and quantitative sections of the Graduate Record Examinations. At least three academic letters of reference must also be submitted. Other considerations include evidence of academic potential based on master's level study (if relevant), research skills and interest, and a statement of purpose. International students must demonstrate competency in English, as measured by the Test of English as a Foreign Language (TOEFL) examination.

Degree Requirements

This degree is awarded under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section (page 86) and the Graduate School section of this catalogue (page 97) for general regulations. All courses applied toward the degree must be courses accepted by the USC Graduate School.

Course Requirements

Satisfactory completion of 60 units beyond the baccalaureate degree is required, including the following courses:

REQUIRED CORE COURSES		UNITS
OT 640	Conceptual Foundations of Occupational Science	4
OT 641	The Nature of Occupation	4
OT 660	Research Practicum (2 units - six semesters)	12

REQUIRED CORE ELECTIVES (SELECT 5)		
OT 604	Temporal Adaptation: Organization and Use of Time	4
OT 612	Information Processing and Occupation	4
OT 642	Therapeutic Uses of Self: Psychodynamic Perspectives	4
OT 643	Meaningful Engagement in Everyday Life	4
OT 644	Foundations of Research on Activity and Health	4
OT 645	Narrative, Healing and the Culture of Biomedicine	4
OT 646	Intersections of Occupational Science and Human Development	4
OT 650	Development of Adaptive Skills	4
OT 651	Adaptation and Disability	4
OT 653	Play and Occupation	4
OT 655	Work and Leisure	4

40 units of OT core courses must be completed. 20 of those units include the required courses OT 640 (4 units), OT 641 (4 units) and OT 660 (12 units). The remaining 20 units are to be selected from the other OT 600-level classes.

Those students who also wish to participate in clinical practice in occupational therapy may opt to complete a master's degree in occupational therapy. Such students are required to complete the requirements for that degree as well as the occupational therapy undergraduate major courses if they are not registered occupational therapists or eligible for registration prior to study.

Cognate Requirement

Completion of a minimum of 12 units in a topic area such as one of the following is required: quantitative research approaches, qualitative research approaches, neuroscience, social development, life span development or gerontology.

Research Practicum

Each student will enroll in 2 units of OT 660 Research Practicum in Occupation per semester for six consecutive semesters, for a total of 12 units. Students are required to begin enrolling in OT 660 in their first semester of doctoral study. In this practicum the student will develop research skills by working as part of a research team under the direction of a faculty member.

Screening Procedures

Departmental screening will be required. Passing this procedure is prerequisite to continuation in the doctoral program. Directions for obtaining and filing the Report on Ph.D. Screening Procedures are found in the Graduate School section of this catalogue.

Dissertation Enrollment

Doctoral students must submit a dissertation according to the policies and procedures described in the Graduate School section of this catalogue. Registration in OT 794 Doctoral Dissertation for a minimum of 4 units (2 units in each of two consecutive semesters) is required.

Summary of All Course Requirements

Required core courses are OT 640 (4), OT 641 (4), OT 660 (12) for a total of 20 units.

Required electives are five 600-level OT courses for a total of 20 units.

Cognate courses are a minimum total of 12 units.

Dissertation requires 2 units per semester for at least two semesters for a minimum total of 4 units.

Additional 4 units can include 4 further units of dissertation or cognate.

Total: 60 units

Foreign Language or Research Skills

The Ph.D. in Occupational Science does not require the demonstration of competence in a foreign language. However, each student is expected to achieve expertise, as defined by the student's guidance committee, in either qualitative or quantitative research techniques through participation in course work and the research practicum.

Guidance Committee

The guidance committee is composed of five faculty members. Three members of the committee must be regular faculty from the Division of Occupational Science and Occupational Therapy. One member must be from outside the division. Complete regulations for establishing a guidance committee are found in the Graduate School section of this catalogue.

Qualifying Examination
The qualifying examination is comprehensive in nature and requires the student to demonstrate a grasp of content from the core courses and the cognate area. The examination is both written and oral and is set and administered by the student's guidance committee. Refer to the Graduate School section of this catalogue for specific directions for filing a request to take the examination.

Dissertation
Doctoral students must submit a dissertation based on students' original research according to the policies and procedures of the Graduate School section of this catalogue. Upon approval of the preliminary copy of the dissertation by all members of the dissertation committee, the candidate must pass an oral defense of the dissertation. Upon successful completion of the oral defense and revisions, approval for final typing is granted and the committee recommends the candidate to the Graduate School for the Ph.D.

Teaching
To prepare students for anticipated roles as faculty members, a teaching component is incorporated into the program. Students who receive teaching assistantships will be required to assist in relevant teaching assignments for a minimum of one academic year. Those who do not receive teaching assistantships are required to present a minimum of six lectures or laboratory sessions.

Additional Information
Further information about the baccalaureate, master's and doctoral programs can be obtained by writing or calling the USC Division of Occupational Science and Occupational Therapy, 1540 Alcazar Street (CHP 133), Los Angeles, CA 90089-9003; (323) 442-2850, toll free (866) 385-4250, or by sending email to otdept@hsc.usc.edu. Information regarding the Division of Occupational Science and Occupational Therapy is available on the Web at *www.usc.edu/hsc/ihp/ot*.

Courses of Instruction

OCCUPATIONAL SCIENCE AND OCCUPATIONAL THERAPY (OT)

The terms indicated are *expected* but are not *guaranteed*. For the courses offered during any given term, consult the *Schedule of Classes*.

OT 105g Culture, Medicine and Politics (4, Fa) (Enroll in ANTH 105*g*)

OT 200 Medical Terminology for Health Professions (1) Foundation of medical terminology and hospital abbreviations useful for practice in health care.

OT 220 Lifestyle Design: Introduction to Occupational Therapy (2, FaSp) Introduction to theoretical concepts concerning the relationship of engagement in activities (occupations) to health and well being. Application of these perspectives to students' own lives.

OT 250 Introduction to Occupational Science and Occupational Therapy (4) Introduction to concept of occupation and overview of human drive for meaningful activity; impact of occupations on health and well-being; analysis of personal occupational patterns; selected therapeutic applications.

OT 260 Human Functional Anatomy for the Occupational Therapist (3, Sm) An anatomical survey of the human musculoskeletal, nervous, cardiovascular, respiratory, digestive and urinary system. *Recommended preparation:* introductory undergraduate course in biology.

OT 261 Human Physiology for Occupational Therapists (3, FaSp) Provides a general overview of human physiology with special emphasis on physiologic systems supporting internal homeostatic mechanisms and human motion applicable for occupational therapists. Open only to OT majors. *Recommended preparation:* undergraduate biology course.

OT 300 Occupational Expressions of Diverse Identities and Lifestyles (4) Exploration of the diverse ways occupational practices become central to identity, reify standard social ideologies, and are manipulated to redress conventional standards.

OT 310 Creativity Workshop (2, FaSpSm) Theories and practice of the creative process in varied media, genres and occupations. Explores creativity in the arts, sciences, professions, evolution, daily life, and culture.

OT 312 Creating a Sustainable Lifestyle (2) Scientists and policymakers advocate lifestyle changes as crucial to solving the environmental crisis. Investigation into the development of habits that promote environmental sustainability and personal wellbeing.

OT 320 The Nature of Human Occupation: Form, Function, and Meaning (4) The complex nature of human occupation is covered from an interdisciplinary perspective. Emphasis is on how occupation contributes to human experience in a lived world.

OT 325 The Brain: Mind, Body, and Self (4, FaSpSm) Exploration of neuroscience as it impacts everyday living, from the fundamentals of neurons and synapses, to the neural basis of language, empathy, and social interaction.

OT 330 Perspectives on the Daily Life of Families (4) Examines family structures and processes, the occupational dimensions of families, and the meanings embedded in the acts of daily life of contemporary families.

OT 333 Sports Ethics (4, FaSp) Critically examines ethical issues central to the world of sports that range from matters of fair play and cheating to performance-enhancing drugs and gene-doping.

OT 350 Disability, Occupations, and the Health Care System (4) Exploration of the ways in which able-bodyism, sexism, racism, classism and homophobia contribute to occupational opportunities or barriers and weave their way into health care.

OT 360 Creating the Self through Narrative: Acts of Life Story Production (4) Analysis of life stories, life histories, and testimonies in social interactions, texts, and films. Life stories are an occupation to re-create the "Self" in response to conflict and change.

OT 375 The Narrative Structure of Social Action: Narrative, Healing and Occupation (4) Narrative as guide and structure of practical action. Special emphasis on chronic illness and disability and narrative structure of clinical interactions.

OT 390 Special Problems (1-4) Supervised, individual studies. No more than one registration permitted. Enrollment by petition only.

OT 401L Practice Immersion: Physical Rehabilitation and Geriatrics (8, FaSp) Scientific and theoretical underpinnings and knowledge and skills necessary for occupational therapy evaluation and intervention in adult rehabilitation and geriatrics; incorporates related Level I Fieldwork. Open only to upper division and master's level occupational therapy majors. *Prerequisite*: OT 405*L*, OT 440*L*, OT 441*L*.

OT 402L Practice Immersion: Mental Health (8, FaSp) Scientific and theoretical underpinnings and knowledge and skills necessary for occupational therapy evaluation and intervention in mental health practice; incorporates related Level I Fieldwork. Open only to upper division and master's level occupational therapy majors. *Prerequisite*: OT 405*L*, OT 440*L*, OT 441*L*.

OT 403L Practice Immersion: Pediatrics (8, FaSp) Scientific and theoretical underpinnings and knowledge and skills necessary for occupational therapy evaluation and intervention in pediatrics; incorporates related Level I Fieldwork. Open only to upper division and master's level occupational therapy majors. *Prerequisite*: OT 405*L*, OT 440*L*, OT 441*L*.

OT 405L Foundations: Occupation (4, FaSp) Introduction to basic tenets of occupational therapy history and practice, the profession's language, and foundations of occupational science; incorporates experience and analysis of activities. Open only to upper division and master's occupational therapy majors.

OT 410 Therapeutic Use of Self (2, FaSp) Exploration of efficacy, therapeutic use of self, empathy and mindfulness; development of self-awareness to support the art, craft and skill of effective therapeutic relationships. Open only to upper division and master's level occupational therapy majors. *Prerequisite*: OT 405*L*, OT 440*L*, OT 441*L*.

OT 411 Clinical Reasoning (2, FaSp) Dynamic look at creation and application of professional knowledge and expertise; examines interrelationship between theory and practice; incorporates narrative and illness experiences in clinical reasoning. Open only to upper division and master's level occupational therapy majors. *Prerequisite*: OT 410 and OT 401*L* or OT 402*L* or OT 403*L*.

OT 430 Communication Skills for Effective Practice (4, FaSp) Principles of written, verbal and non-verbal communication with professionals, clients and families, from a personal and professional perspective; group interventions; interview skills; advocacy as communication. Open only to upper division and master's level occupational therapy majors. *Prerequisite*: OT 410 and OT 401*L* or OT 402*L* or OT 403*L*.

OT 440L Foundations: Kinesiology (2, FaSpSm) Review of joint and muscle structure and function; application of basic biomechanical, neuromuscular and musculoskeletal principles to the analysis of everyday activities and therapeutic interventions. Open only to upper division and master's occupational therapy majors.

OT 441L Foundations: Neuroscience (2, FaSpSm) Application of basic neural function to the analysis of daily living tasks and activities; review of pathological conditions that interfere with performance in occupation. Open only to upper division and master's occupational therapy majors.

OT 451 Neuroscience of Behavior (4, FaSp) Foundation for understanding neural functions involved in typical/atypical behaviors; review of neural circuitry, experimental methods, basic behavioral systems, higher order cognitive functions and associated disorders. Open only to upper division and master's level occupational therapy majors. *Prerequisite*: OT 405*L*, OT 440*L*, OT 441*L*.

OT 470 Qualitative Research for Evidence-Based Practice (4, FaSp) Traditions and methods of qualitative research; development of skills for research design, implementation and dissemination; critique of qualitative research for evidence-based practice and occupational science. Open only to upper division and master's level occupational therapy majors. *Prerequisite*: OT 405*L*, OT 440*L*, OT 441*L*.

OT 480 Quantitative Research for Evidence-Based Practice (4, FaSp) Traditions and methods of quantitative research; emphasis on formulation of clear clinical questions; finding, evaluating, and applying evidence to a clinical problem; includes journal club. Open only to upper division and master's level occupational therapy majors. *Prerequisite:* OT 410 and OT 401*L* or OT 402*L* or OT 403*L*.

OT 486 Clinical Internship with Seminar (1-2, max 6, FaSpSm) Clinical internship to qualify for professional certification. Seminar to integrate theory with application of treatment principles for various populations. Graded CR/NC. Open only to OT majors. *Prerequisite:* completion of all OT major academic requirements.

OT 490x Directed Research (2-8, max 8, FaSp) Individual research and readings. Not available for graduate credit. Open only to OT majors.

OT 499 Special Topics (2-4, max 8, FaSpSm) Course content to be selected in occupational therapy and occupational science.

OT 500abc Clinical Problems in Occupational Therapy (2-4, 2-4, 2-4, FaSpSm) Specific applications of occupational therapy practice in varied clinical/health settings. Seminar to integrate theory with application of intervention principles for various populations. Graded CR/NC.

OT 504 Health Promotion and Wellness (4, FaSp) Examination of relationship of occupation to health, well-being, participation; critical thinking about lifestyle factors influencing occupational engagement; occupational science and wellness in occupational therapy practice. Open only to occupational therapy majors.

OT 505 Seminar in Occupational Therapy (2-4) Occupational therapy and the health care system. Open only to OT majors. Graded CR/NC.

OT 506 The Making of a Profession (4, Fa) Historical review of the development of occupational therapy in the contexts of social, economic, and political events; foundational understandings of occupation as a therapeutic force. Open only to OT majors.

OT 507 Daily Dilemmas for the Reflective Practitioner (4, Fa) Examination of the complex relation between theoretical knowledge and practical expertise, types of reasoning therapists use, and what it means to be an engaged, reflective practitioner. Open only to OT majors.

OT 510 Quantitative and Qualitative Analysis of Occupational Data (4, Sp) Data analysis for the study of occupational patterns and occupation in therapy. Survey of methods used for statistical analysis and for analysis of qualitative methods.

OT 550 Foundations of Occupational Science (4) Exploration of the emergence of occupational science, critical evaluation of dimensions of occupation through engagement and reading, and impact on the practice of occupational therapy. Open only to OT majors.

OT 555 Seminar: Implementation of the Advocacy Model (2-4, Sp) The patient as decision-maker in chronic care; competency development through activities of daily living, leisure skills, time organization and life goal planning; action research. Open only to OT majors.

OT 560 Contemporary Issues in School-Based Practice (4, Fa) Current issues in school-based occupational therapy evaluation, ongoing assessment and intervention. Topics include successful collaboration in inclusive classrooms and on IFSP and IEP teams. Open only to OT majors. Graded CR/NC.

OT 564 Sensory Integration (4, Sp) Comprehensive overview of sensory integration theory and basic intervention principles. A case-based approach will facilitate the integration of sensory integration, evidence-based practice and occupational science. Open only to OT majors. Graded CR/NC.

OT 570 Occupation-Centered Programs for the Community (4, FaSp) Development of a proposal for new or extended services; includes trends analysis, needs assessment, literature review, marketing plan, mock funding request, program evaluation and presentation. Open only to occupational therapy majors.

OT 571 Assistive Technology (4, Sp) Principles of assessment, selection, training, and follow-up with clients in the use of assistive technologies to enable and enhance participation in a meaningful occupation. Open only to OT majors. Graded CR/NC.

OT 572 Ergonomics (4, Sp) Focus on the effects of physical design in the workplace on users' injury rate, behavior, performance and stress levels. Intervention for repetitive motion included. Open only to OT majors. Graded CR/NC.

OT 573 Hand Rehabilitation (4, Fa) Occupation-based evaluation and intervention for individuals with acute and chronic hand disorders. Topics include scar management, splinting, peripheral nerve injury, wound healing and physical agent modalities. Open only to OT majors. Graded CR/NC.

OT 574 Enhancing Motor Control for Occupation (4, FaSp) Laboratory examining approaches to assessment and remediation of motor control following upper motor neuron lesions. An occupation-based approach to Neurodevelopmental Treatment (NDT) will be emphasized. Open only to OT majors. Graded CR/NC.

OT 575 Dysphagia Across the Lifespan: Pediatrics through Geriatrics (2, Sp) A comprehensive investigation of the anatomy and physiology of normal and abnormal swallowing. Didactic and hands-on study of assessment and treatment interventions will be addressed. Open only to OT majors. Graded CR/NC.

OT 576 Universal Design (4, Fa) Examination of the concepts and principles of universal design and the benefits of the approach for people with disabilities and for all individuals. Open only to Occupational Therapy and Occupational Science majors. Graded CR/NC.

OT 578 Therapeutic Communication for the Healthcare Practitioner (2) Explores the principles and practice of therapeutic communication including motivational interviewing, mindfulness, and cognitive behavioral therapy. Graded CR/NC. Not open to undergraduates.

OT 580 Leadership Capstone (2, FaSp) Professional capstone in leadership, advocacy, ethical reasoning, professional behavior, and public policy as it impacts the practice of occupational therapy; independent professional externship.

OT 581 Quantitative Research for the Practicing Clinician (4, FaSp) Traditions and methods of quantitative research for practicing clinicians; emphasis on formulation of clear clinical questions; finding, evaluating, and applying evidence to a clinical problem. Open only to occupational therapy majors.

OT 583 Lifestyle Redesign (4, Sp) Seminar examining occupations and lifestyle redesign as a contribution to health and well-being. Topics include therapeutic process, needs assessment, design and marketing of lifestyle modules. Open only to OT majors. Graded CR/NC.

OT 585 Advanced Seminar in Occupational Science (2, FaSp) Advanced analysis of occupational science concepts including dimensions of occupation and the impact of occupation on health and wellbeing; factors associated with participation in occupation at the individual, community and global levels. Open only to occupational therapy majors.

OT 588 Research Methods (4, Sp) Descriptive, comparative, and evaluative research methods; research tools and procedures; application of general systems theory. Open only to OT majors.

OT 590 Directed Research (1-12, FaSpSm) Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Graded CR/NC. Open only to OT majors.

OT 594abz Master's Thesis (2-2-0, FaSp) Credit on acceptance of thesis. Graded IP/CR/NC. Open only to OT majors.

OT 599 Special Topics (2-4, max 8, FaSpSm) Recent developments in occupational therapy and occupational science.

OT 604 Temporal Adaptation: Organization and Use of Time (4, 2 years, Fa) Environmental, biological, psychological and sociocultural influences on perceptions of and utilization of time. Implications for human adaptation.

OT 610 Sensory Integrative Dysfunction (4, FaSpSm) Differential evaluation of sensory integrative dysfunction; theory and procedure for enhancing the processing of sensory data by children with learning and behavior disorders. *Prerequisite:* admission by advance application and instructor's approval only; must be certified as an occupational or physical therapist.

OT 612 Information Processing and Occupation (4, 2 years, Fa) Phylogenesis and ontogenesis of human information processing capacity enabling engagement in occupation; components and contributions to adaptation and coping.

OT 620 Current Issues in Occupational Science and Occupational Therapy (4) Review of current occupational science research as it is applied to practice; examination of leadership opportunities; development of proposal focusing on chosen area of study. Open only to occupational therapy doctoral students. *Prerequisite*: OT 550 or OT 585.

OT 621 Occupational Therapy Leadership: Contemporary Issues (4) Examination of themes in occupational therapy related to power, confidence, and identity; development of leadership skills; analysis of the impact of policy and advocacy on occupational therapy. Open only to occupational therapy doctoral students.

OT 640 Conceptual Foundations of Occupational Science (4, FaSp) Analysis of the conceptual foundations and methodological orientations for occupational science, understandings of disciplinary perspectives, formulation of theoretical arguments, and the interpretation of research data.

OT 641 The Nature of Occupation (4, FaSp) Theoretical and historical foundations for the study of occupation, engagement in living and learning in everyday life.

OT 642 Therapeutic Uses of Self: Psychodynamic Perspectives (4, FaSp) Survey of the diversity of analytic conceptions of subjectivity and intersubjectivity. Emphasis on the way these ideas influence the notion of therapeutic efficacy within Occupational Science.

OT 643 Meaningful Engagement in Everyday Life (4) Exploration of the subjective experience of meaningful engagement in work, play, and the occupational pursuits of everyday life, drawing on contributions from the social sciences.

OT 644 Foundations of Research on Activity and Health (4, FaSp) Examination of effectiveness and efficacy research, study design and methodology, dimensions of adaptation and research methods through the lens of two division-based research programs.

OT 645 Narrative, Healing and the Culture of Biomedicine (4, FaSp) Introduction to narrative as analytic framework for considering chronic illness, disability, occupation, and the moral and cultural influences on the clinical reasoning of health professionals.

OT 646 Intersections of Occupational Science and Human Development (4, FaSp) Analysis of occupational science perspectives related to human development and participation in sociocultural practices and examination of developmental theories and their relationship to occupational science.

OT 650 Development of Adaptive Skills (4, Fa) Critical analysis of occupation as means and product of human adaptation. Adaptive skill development from traditional and occupational science approaches. Research methods and results.

OT 651 Adaptation and Disability (4, Sp) Social and cultural adaptation to disabilities and stigmatized medical conditions through anthropological studies of groups and individuals. Training in ethnographic methods with such populations. (Duplicates credit in former OT 551.)

OT 653 Play and Occupation (4, 2 years, Sp) Major conceptual, theoretical, and empirical studies of play; development and organization of play in relation to occupation; research on play as occupation. (Duplicates credit in former OT 553.)

OT 655 Work and Leisure (4, Sp) Ontogenesis and phylogenesis of work and leisure. Systems view of person/environmental interactions affecting competence and satisfaction with activity. Occupation and the need for mastery.

OT 660 Research Practicum (2, max 12) Experiential learning through immersion in one or more externally funded research groups in the Division, enabling intense participation in multi-skilled rsesearch groups. Graded CR/NC. Open only to Occupational Therapy and Occupational Science majors.

OT 686 Residency (6 or 12, max 24, FaSpSm) Residency involving development, administration, evaluation, or policy formulation for occupation-centered programs in clinical or community settings. Development of portfolio for professional doctorate. Open to OT majors only. Graded CR/NC.

OT 790 Research (1-12) Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Graded CR/NC. Open only to OT majors.

OT 794abcdz Doctoral Dissertation (2-2-2-2-0, FaSp) Credit on acceptance of dissertation. Graded IP/CR/NC. Open only to OT majors.