

College of Health Sciences

The College of Health Sciences has the mission of preparing students for careers in the health sciences and as health care providers. It is dedicated to improving health care by educating excellent, ethical health care professionals through a program of teaching, research and service. Students are instilled with the Jesuit ideals of concern for the spiritual, emotional and physical development of the individual as well as a lifelong commitment to leadership in the advancement of their personal skills and profession.

DEGREES OFFERED

Marquette University confers the degree of bachelor of science on students who have satisfactorily completed the following majors: athletic training, biomedical sciences, clinical laboratory science, exercise science, and speech pathology and audiology. Students who successfully complete the honors program may receive an honors bachelor of science in these majors.

The Graduate School confers a master of science in speech-language pathology and a certificate in bilingual English-Spanish. Biomedical sciences faculty participates in the doctoral specialization in neuroscience through the biological sciences graduate program. Details for these programs can be found in the *Graduate Bulletin*.

The college also offers a professional doctoral program in physical therapy and a master's degree in physician assistant studies. Upon successful completion of these programs, the degree of doctor of physical therapy or master of physician assistant studies is conferred. Details for these programs can be found later in this section.

MAJORS/MINORS OFFERED

The College of Health Sciences offers majors in athletic training, biomedical sciences, clinical laboratory science, exercise science, and speech pathology and audiology. Specific requirements and typical four-year programs are listed on the next several pages. Students majoring in any of the majors offered by the College of Health Sciences must be a resident in the college to complete the major and earn the corresponding degree.

The College of Health Sciences offers two minors, biomedical sciences and speech pathology and audiology.

Students interested in minoring in **speech pathology and audiology** must complete 21 hours of speech pathology and audiology course work including SPPA 1001, 2120, and 1100.

Requirements for a **biomedical sciences** minor are 18 credits selected from the following BISC 1060, 2070, 2125, 2135, 2150, 2173, 3110, 3112, 3213, 3115, 3150, 3859, 4120, 4130, 4140, 4145, 4160, 4165, 4931, 4995, and CLLS 1010. A maximum of nine transfer credits can be awarded toward the requirement for the minor.

PRE-PROFESSIONAL HEALTH STUDIES

Pre-professional studies at Marquette means pursuing a bachelor's degree with the intent to enroll in a professional school following graduation. Choosing a major in the College of Health Sciences is one way to prepare for a career in medicine, dentistry, forensics, chiropractic medicine, physical therapy, athletic training, physician assistant, occupational therapy, pharmacy, podiatry and optometry. The College of Health Sciences provides advising, career counseling, seminars and recommendations to help you with the professional school application process.

Course requirements may vary among institutions and across disciplines. Students should consult graduate and professional schools of interest to identify specific course requirements.

Students considering the Doctor of Physical Therapy or Master of Physician Assistant Studies programs must complete prerequisite courses at an accredited four-year educational institution.

PRE-DENTAL SCHOLARS PROGRAM

The Pre-dental Scholars program is an accelerated program which allows students to receive an undergraduate degree with conditional acceptance to Marquette University's School of Dentistry, the only dental school in the state of Wisconsin. Pre-dental scholars complete a bachelors' degree and a dental degree in seven years rather than the eight years normally required.

Pre-dental scholars enrolled in the College of Health Sciences pursue a major in biomedical sciences and complete the undergraduate portion of their studies in three years. The first three years of the pre-dental scholar program, students will complete the curriculum and major requirements. Courses taken in the fourth year (first year of dental school) count as requirements towards the bachelors' degree and also toward the completion of their dental degree.

ACADEMIC EXPECTATIONS FOR PRE-DENTAL SCHOLARS

1. **Academic Standards** of the Pre-Dental Scholars Program require that you:
 - a. Have a cumulative 3.500 grade point average at the end of each semester in the program.
 - b. Receive a grade of no less than a B or better in all science or math courses.
 - c. Complete a typical course load of 15-18 credit hours per semester.
 - d. Under no circumstances will a student in this program be admitted to the School of Dentistry before completing six semesters of full-time course work at Marquette University.
 - e. May not repeat any math or science courses.
 - f. AP coursework in any science or math will not satisfy prerequisite requirements.
2. **Failure to meet the Academic Requirements** in any semester will result in you being placed on probation beginning the following semester. Courses taken in the probationary semester must be approved in writing by your academic advisor. If, at the end of this probationary semester, you have not brought your cumulative grade point back up to a 3.500 and/or have received less than a B grade in any science or math course, you will be withdrawn from the program. If you have returned to the academic standards by the end of the probationary semester, you will be returned to good standing in the program.
 - a. During this probationary semester, you must complete a typical 15-18 credit course load and may not withdraw from any course(s).
 - b. A second probationary semester will not be permitted and will result in withdrawal from the Program.
 - c. Failure to meet the academic standards during the spring semester of the junior year will result in withdrawal from the program and will impact your admission to the Marquette University School of Dentistry.
3. **Appeals:** Your appeal to any decision must be made to the Pre-Dental Scholars Committee in writing and should elaborate on any personal or medical circumstances that affect your academic performance. Any appeal related to grades or classroom performance, however, must be taken up with the faculty involved or through the use of his/her department's grade appeal procedures.
4. **University Probation:** Behaviors and/or activities that lead to University Probation may result in removal from the program and impact admission to the Marquette University School of Dentistry. Such activities include Academic Dishonesty or any activity deemed inappropriate, unethical, or illegal.
5. **Academic Dishonesty:** Any activity deemed inappropriate, unethical, or illegal, regardless of whether that behavior leads to University Probation, may result in removal from the program and impact admission to the Marquette University School of Dentistry.
6. **Summer Coursework:** All Science and math courses must be taken at Marquette University unless your academic advisor agrees, in writing and in advance, that circumstances warrant

that courses may be taken elsewhere. Science or math courses taken at junior, community, two-year, or technical schools are not acceptable and will not satisfy the science and math requirements of this program. Courses in the humanities are not subject to the above restriction, but you must have approval for these courses from your college advisor.

7. **Dental Aptitude Test (DAT):** The DAT may be taken as early as the spring semester of the sophomore year but no later than the fall semester of the junior year.
8. **Financial Aid:** To matriculate to the Dental School during their fourth year at Marquette, any undergraduate scholarships and financial aid will be applicable for only three years. After completing the first three years of undergraduate course work, students must apply for financial aid and scholarships through the dental school.

Withdrawal from this program, whether voluntary or otherwise, does not necessarily compromise your ability to apply to the Marquette Dental School through normal application procedures, providing that you are competitive with other applicants.

GRADUATION REQUIREMENTS

AMOUNT AND QUALITY OF WORK

Candidates for a degree must earn the required number of credits for their major and a minimum number of quality points equal to twice the number of credit hours attempted at Marquette (C average). Students may earn credits but not quality points from another institution. All students must earn at least a C average in their Marquette work.

A student must earn a C or better in all the courses in their major. Courses completed with a grade of CD or D do not count toward the total hour requirement for a major or minor but do count toward the total number of credit hours for graduation. Students who receive a grade of CD or D in a course in their major or minor may choose to repeat the course and for certain majors, are required to repeat the course or otherwise establish proficiency in a manner designated by the department. Credit is never given twice for the same course. Students must consult the area of the bulletin of their chosen major and minor for specific graduation requirements.

Students must fulfill the University Core of Common Studies, college and major curriculum requirements and take elective courses within the number of credits required for graduation. Certain combinations of major and minor fields may require more than the minimum number of credits for graduation. Students should consult an adviser before selecting a major and an optional minor.

Applicants for graduation must submit an application to the college dean's office by the last day of advising week in the term prior to the term of graduation. (November for May and August graduates; March for December graduates.)

It is the responsibility of the student to know and fulfill all University Core of Common Studies, College of Health Sciences and major requirements.

ACADEMIC REGULATIONS

Students in the College of Health Sciences are expected to comply with the academic requirements and regulations listed in the University section of this bulletin. Students must maintain a cumulative grade point average of at least 2.000. A term GPA falling below 2.000 or insufficient progress toward degree completion in a semester may result in the student being placed on probation. All students on probation will be reviewed and subject to academic dismissal if the terms of probation are not met. Specific majors may have more stringent term and cumulative GPA requirements. Students must consult the area of the bulletin of their chosen major for major-specific academic regulations.

Students in the professional phase of the Doctoral of Physical Therapy or Master of Physician Assistant Studies programs must comply with the academic regulations listed in the *Physical Therapy and Physician Assistant Student Handbook*. The *Physical Therapy and Physician Assistant Student Handbook* is issued to students upon entering the professional phase of the curriculum.

ADVISERS

Upon enrollment in the College of Health Sciences each student is assigned an adviser. The adviser will assist the student with course selection, sequencing of courses, academic matters related to their curriculum and career advising. It is the student's responsibility to monitor his/her own progress toward degree requirements.

ABSENCE FROM FINAL EXAMINATIONS

A health science student who misses a final examination in any course must file a written excuse with the college office within 48 hours of the examination. Students with validated excuses may take make-up examinations during the following term at the time designated by the university. Clearance of temporary grades (I, X and IX) in all health sciences courses is administered through the College of Health Sciences office.

CR/NC OPTION

For enrichment purposes, junior and senior students are given an option to elect one course per term (to a maximum of four courses) for which only a CR (credit) or NC (no-credit) is assigned.

Eligible courses include only true electives in the individual's program selected from offerings by other divisions of the university. Courses excluded are all those taken in fulfillment of the requirements of the core curriculum and all offerings in their specific major or minor.

ATTENDANCE

Courses in this college often include performance under the guidelines and supervision of faculty and staff in classroom, laboratory, clinic as well as on- and off-campus professional situations.

Students are expected to attend all meetings of the courses in which they are registered. Any absence, regardless of the reason will prevent the student from getting the full benefit of the course. Each professor in the College of Health Sciences sets the attendance policy in her/his classes and provides it at the start of the semester in the course syllabus. It is the responsibility of each student to follow the attendance policy for the courses in which they are enrolled. College of Health Sciences course professors may submit a grade of WA after a student has been informed verbally about absences and the attendance policy but continues to miss classes. Refer to the University Attendance Policy in the front section of this bulletin for further details on attendance and absence procedures.

APPROVAL FOR SUMMER SESSIONS STUDY

Students who plan to take courses in summer school at another institution are required to obtain the approval from the deans office for such courses before the summer session begins. Approval will be based on course descriptions in the current bulletin of the college or university at which the courses will be attempted. The student is expected to present such information. If prior approval is not obtained, there is no guarantee that credits earned or course(s) will be accepted or transferred by Marquette University.

INDEPENDENT STUDY COURSES

Independent study courses (4995/7995) may be taken in the College of Health Sciences. The purpose of these courses is to provide an independent, guided study experience for qualified students. A student must be in good academic standing in the College of Health Sciences. The purpose of an independent study course is to allow the student to pursue topics and issues in a course and/or a legitimate course of study for which no regularly scheduled course is offered. Permission and approval is contingent on the approval of the research proposal, the faculty's willingness to accept the proposal and to work with the student for the duration of the course. All independent study courses must have written approval from the instructor, department chairperson and assistant dean.

ACADEMIC LOAD

The academic load of a student is measured by credit hours assigned to each course. The normal College of Health Sciences program varies from 15 to 18 credit hours per term.

Request for permission to exceed 19 credit hours must have prior approval from the dean's office.

APPEALS PROCEDURE

If the student feels that the scoring and/or grading of an individual quiz, examination or assignment is in error, she/he should call it to the attention of the instructor of the course immediately upon receipt of the grade.

A student may appeal a final grade received in a course if the student believes the grade to be in error. The student is expected to exhaust all possibilities of resolving the problem with the instructor. If this does not lead to resolution, the student may initiate, in writing, a formal appeal of the grade to the Chairperson of the Department. The student's written request must state the reason he/she believes the grade should be changed. The Chairperson reserves the right to meet

with the student and instructor separately and/or together. The Chairperson will make a final decision regarding the grade appeal. The student can appeal the decision of the Chairperson to the Dean of the College of Health Sciences. No level of appeal is available beyond the Dean. No formal request for a grade appeal will be given consideration if the request is submitted later than the final day officially scheduled for the removal of incomplete grades, approximately four weeks after the beginning of the academic term immediately following the term in which the grade was assigned.

Individual programs in the College of Health Sciences may conduct hearing procedures related to academic or clinical deficiencies. An adviser is permitted at these hearings. If an adviser is an attorney, the hearing must be scheduled to allow the presence of Marquette University's legal counsel. An attorney may function as an adviser only and will not play an active role in the hearing or speak on behalf of the student. Since the academic standards hearing is not a legal proceeding, traditional rules of evidence do not apply.

ACADEMIC REGULATIONS

ACADEMIC DISHONESTY

The College of Health Sciences follows the university guidelines for cases of academic dishonesty that are defined in the University section of this bulletin. No level of appeal is available beyond the Dean.

TRANSFER CREDIT POLICY

The College of Health Sciences will grant credit for courses taken for a grade and completed with a C or better. Only credit will transfer, not grades. Courses completed on a quarter-hour system will be converted to semester credits, therefore reducing the total credits accepted. A Marquette equivalent will be specified for each transferable course. Courses awarded as 9290-9294 (lower division) or 9390-9399 (upper division) indicate courses that will transfer for which there is no discernible Marquette equivalent. These credits will count toward the degree however, they will not fulfill any requirement where a specific course number (i.e. ENGL 1001 or BISC 1015) has been indicated. Please contact the college office with any questions or concerns regarding the transfer of credits.

STUDENT ORGANIZATIONS

AMERICAN STUDENT DENTAL ASSOCIATION (ASDA)

The American Student Dental Association is a national professional association that represents students interested in the field of dentistry whether they are exploring a career in dentistry or nearing the end of their professional training. ASDA is devoted to student concerns and the student viewpoint on professional issues in the field of dentistry. ASDA provides opportunities to students to interact with fellow students and professionals in the field of dentistry. All students in the university interested in the field of dentistry are eligible to join.

BIOMEDICAL SCIENCES STUDENT ASSOCIATION

All Biomedical Sciences students are eligible for membership in the Biomedical Sciences Association. The purpose of the organization is to provide students with opportunities to learn more about career opportunities; interact with alumni; develop service opportunities; participate in fund-raising activities; and interact with other students and faculty in a more informal setting.

COLLEGE STUDENT COUNCIL

All health sciences students are eligible for membership in the College of Health Sciences Student Council. The council functions as a liaison between the college and the Marquette University Student Government. The council serves as a coordinating instrument of professional and social activities for all students in the College of Health Sciences. Its purpose is to stimulate a professional attitude among health sciences students; to promote cooperation and understanding among health sciences students as well as with the faculty and administration; and an awareness and promotion of health education in the community.

CLINICAL LABORATORY SCIENCE

In addition to the university student organizations, clinical laboratory science students are eligible for membership in the Clinical Laboratory Science Student Council, the American Society for Clinical Laboratory Science (ASCLS), and the American Society for Clinical Pathology (ASCP).

ATHLETIC TRAINING/EXERCISE SCIENCE

Students enrolled in exercise science or athletic training are eligible for membership in the Health Sciences Student Council. Students may also be eligible for student membership in the American College of Sports Medicine, National Strength and Conditioning Association, American Society of Exercise Physiologists, National Athletic Trainers Association, and other fitness related organizations.

PHYSICAL THERAPY

Students enrolled in the Department of Physical Therapy are eligible for membership in the Physical Therapy Student Council and are required to become student members in the American Physical Therapy Association during the professional phase of the program.

PHYSICIAN ASSISTANT STUDIES

The Student Association of the American Academy of Physician Assistants has awarded a charter membership to the Department of Physician Assistant Studies at Marquette University. All students in the program participate. The organization coordinates fund raising activities, hosts guest lecturers and interacts with other student groups as well as the Wisconsin Academy of Physician Assistants. A major goal of the group is to facilitate student involvement in the political process of their national organization.

SPEECH PATHOLOGY AND AUDIOLOGY

The Marquette University Chapter of the National Student Speech-Language-Hearing Association (MU-NSSLHA) is comprised of undergraduate and graduate students interested in the professions of Speech-Language Pathology and Audiology. The organization hosts guest speakers from the professional community, interacts with other student groups and is active in community and charitable organizations.

BACKGROUND CHECKS, DRUG TESTING

Some degrees, majors and/or courses may require a student to submit to a criminal background check and/or drug testing. The results of those checks and/or tests may affect the student's eligibility to continue in that degree, major and/or course.

CURRICULA INFORMATION

DEPARTMENT OF BIOMEDICAL SCIENCES

The Marquette University Department of Biomedical Sciences offers a biomedical sciences major and minor area of study for undergraduate students interested in pursuing careers in or related to health care professions and offers graduate courses for the Ph.D. specialization in neuroscience. The primary purpose of the major and minor are to provide human-oriented courses in anatomical sciences, biochemistry, nutrition, microbiology, molecular biology, pathology, pharmacology and physiology. The coursework will provide students with the opportunity to acquire the concepts, principles, facts, and terminology fundamental to all health care professions or to areas which require health related knowledge.

GRADUATION REQUIREMENTS

Candidates for the baccalaureate degree must complete a minimum of 128 credit hours including the following requirements:

<i>Area</i>	<i>Credit hours</i>
UCCS Requirements	36-39
Required Science Cognates	17-25
Required Health and Society Cognates	4-6
Major	30

Core and Department Curriculum Requirements:

Diverse Cultures (DC) **3 credits**

Any course approved for the university core in this area

Histories of Cultures and Societies (HCS) **6 credits**

One course approved for the university core in this area and one history elective

Human Nature and Ethics (HNE) **6 credits**

PHIL 1001, PHIL 2310

Individual and Social Behavior (ISB) **3 credits**

PSYC 1001

Literature and Performing Arts (LPA) **3 credits**

Any literature course approved for the university core in this area (excludes ARSC 2970, COMM 2100, MUSI 1020, MUSI 2420, THAR 1020 and other non-literature LPA courses)

Mathematical Reasoning (MR) **3 credits**

Any statistics course approved for the university core

Rhetoric (R) **6 credits**

Any courses approved for the university core in this area*

Science and Nature (SN) **3 credits**

Any required cognate (see below) that has been approved for inclusion in the university core

Theology (T) **6 credits**

THEO 1001 and another course approved for the university core in this area

*ENGL 1001 and ENGL 1002 are recommended for pre-professional students

▲ Indicates UCCS courses in course descriptions.

Required Science Cognates:

All students are required to take BIOL 1001, BIOL 1002, CHEM 1001, CHEM 1002, organic chemistry (either CHEM 2111 and CHEM 2112 or BISC 2050), and one of the following laboratory science courses: BIOL 2001, CLLS 1010, CLLS 3160, PHTH 7525, or BISC 4165. Students who are interested in pursuing a professional or graduate education should take the following courses: CHEM 2111, CHEM 2112, PHYS 1001, PHYS 1002, BIOL 2001, MATH 1410.

Required Health and Society Cognates:

All students are required to take a minimum of one credit in medical ethics (PHIL 4335, PHIL 4336 or THEO 4450/5450) Students are also required to take one of the following courses related to health and society: BISC 2150*, HEAL 2100, PSYC 3420, SOCI 2300, SOCI 3500, SOCI 3520, SOCI 3550, SOCI 3570, SOCI 4300 or SOWJ 1001. Special topics (4930) and topics (4931) courses that relate to health and society may be approved on an individual basis.

*NOTE: BISC 2150 can be taken for the Health and Society Cognate requirement OR as a BISC elective, but it cannot be used to fulfill both requirements.

Major Requirements:

The following courses are required for undergraduate students not admitted to the MPA, DPT or Pre-dental Scholars programs: BISC 1001 (new freshman only), BISC 2135, BISC 4145, BISC 3115, BISC 4120, BISC 3150, BISC 4160 and biochemistry (either BISC 3213, BISC 2070, or BIOL 4101).

Additional courses must be selected from the following list to reach a total of 30 credits: BISC 1030, BISC 2125, BISC 3136, BISC 2150*, BISC 2173, BISC 3110, BISC 3112, BISC 3859, BISC 4140, BISC 4165, BISC 4931, BISC 4986, BISC 4995, BIOL 2201, BIOL 2301, BIOL 3102, BIOL 3202, BIOL 3302, BIOL 3501, BIOL 3502, BIOL 3702, BIOL 4806, CLLS 2050, CLLS 2060, CLLS 3160, PHTH 7558, PHTH 7515/6515. A maximum of nine transfer credit hours can be applied toward the requirements for a major.

*NOTE: BISC 2150 can be taken for the Health and Society Cognate requirement OR as a BISC elective, but it cannot be used to fulfill both requirements.

Minor Requirements:

For a biomedical sciences minor, 18 credits are required from the following list: BISC 1030, BISC 1060, BISC 2070, BISC 2125, BISC 2135, BISC 2150, BISC 2173, BISC 3110, BISC 3112, BISC 3115, BISC 3150, BISC 3213, BISC 3859, BISC 4120, BISC 4130 (PA and PT students only), BISC 4140, BISC 4145, BISC 4160, BISC 4165, BISC 4931, BISC 4995, CLLS 1010. A maximum of nine transfer credit hours can be applied toward the requirements for a minor.

ACADEMIC PERFORMANCE

All students must comply with the College of Health Sciences graduation requirements. Candidates for a degree must earn at least the minimum number of credits listed in their curriculum and a minimum GPA of 2.000. A student must earn a C or better in all major courses. Major courses completed with a CD or less do not count toward the total hour requirement for the major or minor but do count toward the total number of credit hours for graduation. A waiver request may be submitted by a student if a required BISC course taken in the senior year is completed with a CD or D grade, provided the student has completed at least 30 credits in the major with a C or better.

CURRICULA INFORMATION*TYPICAL PROGRAM FOR BIOMEDICAL SCIENCES MAJOR*

<i>Freshman</i>			
FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
ENGL 1001 (R)	3	ENGL 1002*/COMM 1100 (R)	3
CHEM 1001	4	CHEM 1002	4
BIOL 1001 (SN)	3	BIOL 1002	3
THEO 1001 (T)	3	PSYC 1001 (ISB)	3
UCCS (HCS)	3	History elective	3
BISC 1001	1		
	17		16
<i>Sophomore</i>			
FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
BIOL 2001*/Lab Course****	1-3	CHEM 2112*/BISC 2070**	4/3
CHEM 2111*/BISC 2050	4/2	PHIL 2310 (HNE)	3
BISC 2135	4	Statistics (MR)	3
PHIL 1001 (HNE)	3	Electives	6-9
MATH 1410*/elective	3		
	13-17		15-18
<i>Junior</i>			
FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
PHYS 1001*/elective	4/3	PHYS 1002*/elective	4/3
BISC 3115	3	BISC 4145	4
BISC 3213*/elective	4/3	BISC 3150	3
Health and Society Requirement***	3	Literature (LPA)	3
Elective	3	Electives	3-6
	15-17		14-17
<i>Senior</i>			
FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
PHIL 4336	1	BISC 4120	3
UCCS (DC)	3	BISC Elective	3
BISC Elective	3	UCCS (T)	3
BISC 4160	3	Electives	7
Elective	3-6		
	13-16		16

* Courses required for many post-graduate/professional programs

** The biochemistry requirement can be satisfied by either BISC 2070 or BIOL 4101 in the sophomore year or BISC 3213 in the junior year

*** BISC 2150, HEAL 2100, PSYC 3420, SOCI 2300, SOCI 3500, SOCI 3520, SOCI 3550, SOCI 3570, SOCI 4300 or SOWJ 1001. Special topics (4930) and topics (4931) courses that relate to health and society may be approved on an individual basis.

**** The laboratory course requirement can be satisfied by either BIOL 2001, BISC 4165, CLLS 1010, CLLS 3160 or PPTH 7525/6525.

BIOMEDICAL SCIENCES MAJOR CURRICULUM FOR PRE-PA STUDENTS**Freshman**

FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
ENGL 1001 (R)	3	ENGL 1002/COMM 1100 (R)	3
CHEM 1001	4	CHEM 1002	4
BIOL 1001 (SN)	3	BIOL 1002	3
UCCS (HCS)	3	History elective	3
THEO 1001 (T)	3	PSYC 1001 (ISB)	3
BISC 1001	1		
	17		16

Sophomore

FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
Literature (LPA)	3	UCCS (DC)	3
CHEM 2111	4	CHEM 2112	4
PHIL 1001 (HNE)	3	PHIL 2310 (HNE)	3
BISC 2135	4	UCCS (T)	3
Health and Society Requirement*	3	Statistics (MR)	3
	17		16

BISC 2150, HEAL 2100, PSYC 3420, SOCI 2300, SOCI 3500, SOCI 3520, SOCI 3550, SOCI 3570, SOCI 4300 or SOWJ 1001. Special topics (4930) and topics (4931) courses that relate to health and society may be approved on an individual basis.

Junior (PA 1 year)

FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
BISC 3213	4	BISC 4145	4
BISC 4130	5	PHTH 7558	4
BISC 3110	3	BISC 3150	3
PHIL 4336	1	BISC 7410	4
PHAS 7040	1	BISC 4165	1
BISC 4160	3	PHAS 7117	3
	17		19

Summer Session – PA Curriculum***Senior (PA 2 year)**

FIRST TERM	SEM. HRS.	SECOND TERM
BISC 7120	4	PA Curriculum*

*See PA section of the bulletin

**BIOMEDICAL SCIENCES MAJOR CURRICULUM
FOR DIRECT ADMIT PHYSICAL THERAPY STUDENTS**

Freshman

FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
BIOL 1001 (SN)	3	BIOL 1002	3
CHEM 1001	4	CHEM 1002	4
ENGL 1001 (R)	3	ENGL 1002/COMM 1100 (R)	3
THEO 1001 (T)	3	PSYC 1001 (ISB)	3
Elective	3	Elective	3
BISC 1001	1		
	17		16

Sophomore

FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
BISC 2050	2	BISC 2070	3
UCCS (HCS)	3	History elective	3
PHIL 1001 (HNE)	3	PHTH 1001*	1
Literature (LPA)	3	Statistics*** (MR)	3
Electives	3-6	PHIL 2310 (HNE)	
Elective	3		
	14-17		16

Junior

FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
PHYS 1001	4	PHYS 1002	4
Elective	3	BISC 4145	4
BISC 3115	3	BISC 3150	3
UCCS (T)	3	Health and Society Requirement**	3
BISC elective	1-3	PHIL 4336	1
	14-17		15

Senior

FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
PHTH 7512 (DC)	3	PHTH 7530	2
BISC 4130	5	PHTH 7528	2
PHTH 7503	3	PHTH 7515	4
PHTH 7513	3	PHTH 7525	3
BISC 4160	3	BISC 4120	3
	17		14

*Students who are not direct admit PT students are not required to complete PHTH 1001

** BISC 2150, HEAL 2100, PSYC 3420, SOCI 2300, SOCI 3500, SOCI 3550, SOCI 3550, SOCI 3570, SOCI 4300 or SOWJ 1001.
Special topics (4930) and topics (4931) courses that relate to health and society may be approved on an individual basis.

***Any statistics course approved for math requirement of the UCCS

PRE-DENTAL SCHOLARS CURRICULUM BIOMEDICAL SCIENCES MAJOR**Freshman**

FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
ENGL 1001 (R)	3	ENGL 1002 (R)	3
CHEM 1001	4	CHEM 1002	4
BIOL 1001 (SN)	3	BIOL 1002	3
UCCS (HCS)	3	History elective	3
THEO 1001 (T)	3	PSYC 1001 (ISB)	3
BISC 1001	1	BISC 1030	1
	17		17

Sophomore

FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
CHEM 2111	4	CHEM 2112	4
PHIL 1001 (HNE)	3	PHIL 2310 (HNE)	3
MATH 1410	3	BISC 2070	3
BIOL 2001	3	BISC 4145	4
Elective	3	Elective	3
	16		17

Junior

FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
PHIL 4336	1	BISC 4120	3
Health and Society Requirement*	3	UCCS (T)	3
Literature (LPA)	3	BISC 3150	3
BISC 4160	3	Statistics** (MR)	3
PHYS 1001	4	PHYS 1002	4
UCCS (DC)	3		
	17		16

Year One - Dental Curriculum

FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
BISC 7513	4	BISC 7410	4
BISC 7514	4	BISC 7515/7516	6
Clinical curriculum	TBD	Clinical curriculum	TBD

Years Two through Four — Dental Curriculum**Clinical Curriculum TBD**

* BISC 2150, HEAL 2100, PSYC 3420, SOCI 2300, SOCI 3500, SOCI 3520, SOCI 3550, SOCI 3570, SOCI 4300 or SOWJ 1001.

Special topics (4930) and topics (4931) courses that relate to health and society may be approved on an individual basis.

**Any statistics course approved for math requirement of the UCCS

DEPARTMENT OF CLINICAL LABORATORY SCIENCE

The Department of Clinical Laboratory Science educates persons who will be highly skilled in laboratory medicine and who will possess those professional qualities necessary for the practice of clinical laboratory science. It qualifies them to be employed as clinical laboratory scientists (medical technologists) in hospital laboratories, clinics, physicians' offices, research and teaching laboratories, as well as in biological and pharmaceutical companies, industry, and public health bureaus. The course work provides the foundations necessary for individuals to develop administrative and teaching skills, as well as qualify for medical and graduate schools.

The Clinical Laboratory Science major is an integrated four-year curriculum leading to a bachelor of science degree. The first three years are spent on campus. The first nine weeks of the fourth year are spent on campus while the remainder of the senior year is spent at a clinical site. Marquette University admits no more students in the major than can be accommodated during the senior year. Students are assigned to the clinical affiliation by a matching process using student preference, hospital preference and a ranking by lottery.

ACCREDITATION

The Clinical Laboratory Science Program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences; 5600 N. River Road, Suite 720; Rosemont, IL 60631; (773) 714-8880. Upon successful completion of the course work, students are eligible for the appropriate certification and/or licensure examinations. The university assumes no responsibility for the success of its students in obtaining professional certification or other types of professional licensure.

ADMISSION REQUIREMENTS

Applicants to the Department of Clinical Laboratory Science are expected to fulfill the university admission requirements. In addition to these, they must have had two laboratory sciences, one of which must be chemistry. Three years of advanced high school mathematics and high school physics are recommended. Marquette University accepts freshman students for August and January enrollment, but students enrolling in clinical laboratory science are urged to begin college in the fall because of scheduling difficulties inherent in mid-year admission.

Certain essential functions represent the non-academic requirements of the program that a student must possess to successfully complete the program and become employable. These include the ability to distinguish colors, the ability to learn to perform and interpret highly complex testing methods, the ability to disseminate information in an accurate and confidential manner and the ability to become a competent phlebotomist. Students must have good tactile skills, possess adequate physical and emotional health to work under stress and demonstrate respect and care for others.

ADMISSION WITH ADVANCED STANDING AND TRANSFER WITHIN THE UNIVERSITY

For students applying for admission with advanced standing from another institution or as transfers from within the university, the general university regulations apply.

Ordinarily, the following courses are not accepted from other institutions: CLLS 1010, CLLS 3124, CLLS 3127, CLLS 3140, CLLS 3173 and CLLS 3174.

Due to the nature of the content of BISC 2070, BISC 3213, CLLS 3124 and CLLS 3127, a student who has already completed these courses must repeat them if five or more years will have lapsed between the time the course was completed and the date of enrollment in the senior year. Ordinarily, CLLS 3124, CLLS 3127, CLLS 3140, CLLS 3173 and CLLS 3174 must be taken during the year immediately preceding the senior year.

Applicants who are Certified Laboratory Assistants or Medical Laboratory Technicians are expected to complete all pre-senior course requirements or their equivalent. Credits can be transferred only if the institution from which the student received her/his training is accredited by appropriate accrediting agencies. Credits from junior colleges may not exceed one-half the number of credit hours required for graduation from the four-year curriculum at Marquette. Each individual applicant with previous laboratory training will be evaluated to determine whether or not any credit will be granted for clinical work completed in their previous training program.

The classification of advanced standing or transfer student does not depend upon the total number of credit hours the student has earned but rather upon the number of courses that a student must complete prior to the senior year. Only those courses that directly apply to the bachelor of science degree are used in determining the student's classification. However, the student record in the computer data base will reflect all course work transferred.

The number of students admitted with advanced standing or as transfers with any classification depends upon available openings in the class for which the applicant qualifies.

Advanced standing or transfer students are never accepted for admission to the senior year only.

ADMISSION AS A SPECIAL STUDENT IN CLINICAL LABORATORY SCIENCE

Students who are not in the Department of Clinical Laboratory Science may be permitted to take clinical laboratory science courses. Clinical laboratory scientists who are certified and/or licensed by an appropriate agency may enroll in certain components of the senior year.

Requests for permission to take these courses must be made to the Department of Clinical Laboratory Science chair. If permission is granted, the student must then make application to the university as a special student in the Department of Clinical Laboratory Science. The regular tuition is charged for these courses.

DEGREE REQUIREMENTS

Students in Clinical Laboratory Science must fulfill the non-science requirements which are stated in the bulletin issued for the year they entered the university. They must fulfill the current science, mathematics and pre-senior clinical laboratory science course requirements in effect as prerequisites for their senior year. Candidates for the baccalaureate degree in Clinical Laboratory Science must complete a minimum of 128 credit hours including the following requirements:

Core Curriculum Requirements

Students majoring in Clinical Laboratory Science must complete a minimum of 37 semester hours of core curriculum requirements. The University Core of Common Studies (UCCS) curriculum is included in the Clinical Laboratory Science (CLS) Core Curriculum requirements.

Core and Department Curriculum Requirements:

Rhetoric (R)6 credits
Any courses approved for the university core in this area*	
Mathematical Reasoning (MR)3 credits
MATH 1700	
Diverse Cultures (DC)3 credits
Any course approved for the university core in this area	
Histories of Cultures and Societies (HCS)3 credits
Any course approved for the university core in this area	
Individual and Social Behavior (ISB)3 credits
Any course approved for the university core in this area	
Literature and Performing Arts (LPA)3 credits
Any course approved for the university core in this area	
Science and Nature (SN)3 credits
BIOL 1001	
Human Nature and Ethics (HNE)7 credits
PHIL 1001, PHIL 2310, PHIL 4336 or other medical ethics course	
Theology (T)6 credits
THEO 1001 and another course approved for the university core in this area	

*ENGL 1001 and ENGL 1002 are recommended for pre-professional students.

Requirements for a CLS Major

The following courses constitute the Clinical Laboratory Science major:

Required Cognates:

- BIOL 1002 General Biology (3 credits)
- BISC 2070 (3 credits) or BISC 3213 (4 credits)
- BISC 1015 (5 credits) or BISC 4145 (4 credits)
- CHEM 1001 General Chemistry (4 credits)
- CHEM 1002 General Chemistry (4 credits)
- CHEM 2111 Organic Chemistry (4 credits)

Major Course Requirements:

- CLLS 1010 Concepts in Clinical Laboratory Medicine (3 credits)
- CLLS 3124 Medical Bacteriology (4 credits)
- CLLS 3127 Medical Microbiology (4 credits)
- CLLS 3140 Laboratory Instrumentation (3 credits)
- CLLS 3160 Molecular Diagnostics: Laboratory Techniques (3 credits)
- CLLS 3173 Analytical and Clinical Chemistry (4 credits)
- CLLS 3174 Clinical Hematology 1 (4 credits)
- CLLS 4180 Basic Concepts in Clinical Education Methods and Practicum (1 credit)
- CLLS 4181 Modern Management Concepts for the Clinical Laboratory and Practicum (1 credit)
- CLLS 4183 Clinical Chemistry and Practicum (6 credits)
- CLLS 4184 Clinical Hematology 2 and Practicum (4 credits)
- CLLS 4185 Clinical Hemostasis and Practicum (3 credits)
- CLLS 4186 Clinical Immunohematology and Practicum (6 credits)
- CLLS 4187 Clinical Immunology and Serology and Practicum (2 credits)
- CLLS 4188 Clinical Microbiology and Practicum (6 credits)
- CLLS 4189 Clinical Urinology and Practicum (2 credits)

Electives 12 credits

Students may choose from any university offerings to earn a total of 12 credits. Upon arrival at Marquette University the student's adviser will work out a program that is best suited to the needs of the student. The science requirements are subject to revision.

TYPICAL PROGRAM FOR CLINICAL LABORATORY SCIENCE MAJOR

Freshman

FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
BIOL 1001 ¹ (SN)	3	BIOL 1002 ²	3
CHEM 1001	4	CHEM 1002.....	4
CLLS 1100.....	0	ENGL 1002 or COMM 1100 (R).....	3
ENGL 1001 (R).....	3	MATH 1700 (MR)	3
UCCS (ISB)	3	Elective	3
Elective	3		
	16		16

Sophomore

FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
CHEM 2111	4	BISC 2070 ²	3
CLLS 1010 ¹	3	BISC 1015 ²	5
UCCS (HCS)	3	UCCS (LPA).....	3
PHIL 1001 (HNE)	3	PHIL 2310 (HNE)	3
THEO 1001 (T).....	3		
	16		14

Junior

FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
CLLS 3124 ¹	4	CLLS 3127 ^{2,3}	4
CLLS 3160 ¹	3	CLLS 3140 ^{2,3}	3
UCCS (DC).....	3	CLLS 3174 ^{2,3}	4
UCCS (T)	3	PHIL 4336	1
Elective	3	Elective	3
	16		15

Summer Session Between Junior and Senior Year

CLLS 3173.....	4
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Senior⁴

CLLS 4180.....	1	CLLS 4186	6
CLLS 4181.....	1	CLLS 4187	2
CLLS 4183.....	6	CLLS 4188.....	6
CLLS 4184.....	4	CLLS 4189.....	2
CLLS 4185.....	3		
			31

1 Offered only in the Fall semester of each academic year.

2 Offered only in the Spring semester of each academic year.

3 Must be taken in the semester immediately preceding the clinical phase.

4 The senior year (clinical phase) consists of 38 consecutive weeks usually beginning with Summer Session.

TYPICAL PROGRAM FOR CLINICAL LABORATORY SCIENCE PRE-MEDICAL MAJOR

<i>Freshman</i>			
FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
BIOL 1001 ¹ (SN)	3	BIOL 1002 ²	3
CHEM 1001	4	CHEM 1002	4
CLLS 1100	0	ENGL 1002 (R)	3
UCCS (DC)	3	UCCS (ISB)	3
ENGL 1001 (R)	3	MATH 1700 (MR)	3
UCCS (HCS)	3		
	16		16
<i>Sophomore</i>			
FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
CHEM 2111	4	BIOL 2001 or Elective	3
CLLS 1010 ¹	3	CHEM 2112	4
PHIL 1001 (HNE)	3	UCCS (LPA)	3
PHYS 1001	4	PHYS 1002	4
THEO 1001 (T)	3	PHIL 2310 (HNE)	3
	17		17
<i>Junior</i>			
FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
BISC 3213 ¹	4	BISC 4145	4
CLLS 3124 ¹	4	CLLS 3127 ^{2,3}	4
CLLS 3160 ¹	3	CLLS 3140 ^{2,3}	3
PHIL 4336	1	CLLS 3174 ^{2,3}	4
UCCS (T)	3		
	15		15
<i>Summer Session Between Junior and Senior Year</i>			
CLLS 3173	4		
<i>Senior⁴</i>			
CLLS 4180	1	CLLS 4186	6
CLLS 4181	1	CLLS 4187	2
CLLS 4183	6	CLLS 4188	6
CLLS 4184	4	CLLS 4189	2
CLLS 4185	3		
	31		

1 Offered only in the Fall semester of each academic year.

2 Offered only in the Spring semester of each academic year.

3 Must be taken in the semester immediately preceding the clinical phase.

4 The senior year (clinical phase) consists of 38 consecutive weeks usually beginning with Summer Session.

GENERAL DEGREE REGULATIONS

ACADEMIC REGULATIONS

Students in the Department of Clinical Laboratory Science are expected to comply with the academic requirements and regulations listed in the University section of this bulletin. Amplifications and additions to these requirements are detailed herein and govern only those students enrolled in the Department of Clinical Laboratory Science. Course requirements and regulations are subject to change on an annual basis and depend upon the demands of the profession. Students are subject to these changes regardless of the date of their matriculation in the major.

RESIDENCY REQUIREMENT

Clinical laboratory science students must spend the term immediately preceding the senior year in residency (attend as a full-time student). Ordinarily this is the second term of the junior year during which the student must take CLLS 3127, CLLS 3140, and CLLS 3174.

PROFESSIONAL REGULATIONS

In addition to being evaluated through the use of written examinations and assignments, class participation and practical examinations, clinical laboratory science students are also evaluated with respect to their professional qualities. The instructors in most clinical laboratory science courses complete a written evaluation of each student.

During the senior year students are subject to the rules and regulations of the affiliating unit to which they are assigned.

SCHOLASTIC REGULATIONS**Essential Courses**

There are certain cognate courses, the subject matter of which is deemed essential to the understanding of clinical laboratory science course work. Successful completion of subsequent courses is dependent upon the information learned in the prerequisite course(s). Therefore, grades of less than C in these “essential” courses are considered unacceptable to the fulfillment of the requirement. The following courses are included in this regulation: CHEM 1002, BISC 2070 or BISC 3213, BISC 1015 or BISC 4145. Students must also achieve a grade of C or better in all the courses in their major.

To fulfill the degree requirements, major and essential courses (or their equivalent) in which unacceptable grades have been earned must be repeated or the student must demonstrate proficiency in the discipline by some other method as assigned by the promotions committee. Students who complete guided study (CLLS 1100) to establish proficiency are issued a grade of CR. A student will not normally be permitted to repeat more than two of these courses.

JUNIOR AND SENIOR CRITERIA

To be classified as a junior in clinical laboratory science, students must meet the following criteria:

1. Completion of all lower division science, mathematics, and clinical laboratory science courses and at least 30 credit hours of humanities.
2. Attainment of a cumulative grade point average of 2.200 as well as a 2.000 in science, mathematics, and clinical laboratory science courses.

To be classified as a senior in clinical laboratory science, the following criteria must be met:

1. Completion of all requirements through junior year which are in effect for the particular class beginning the senior year regardless of when the student matriculated in the major.
2. Attainment of a cumulative grade point average of 2.200 as well as a grade point average of 2.000 in the required science, mathematics, and clinical laboratory science courses.

Students who fail to meet the criteria for junior and/or senior classification due to serious reasons but whose deficiencies are minimal and who have shown potential for success may appeal. If the promotions committee upon review of the written appeal grant admission with PROBATION status, the student must make up his/her deficiencies. These students do not necessarily participate in the matching process but are accepted by an affiliation through individual negotiation between the university department chair and the affiliation's program director.

ACADEMIC ACTIONS

Students who fail to maintain a C or 2.000 cumulative grade point average are automatically warned on their grade reports. Their grade point average deficiency is calculated along with the grade point required in all future work to achieve the 2.000 required for graduation. For clinical laboratory science students, this action refers only to eligibility to continue at the university, rather than their eligibility to continue in the clinical laboratory science major. For requirements specific to students in clinical laboratory science, refer to the section on Scholastic Regulations.

Students who fail to comply with the rules and regulations of the department with respect to immunizations, health insurance, safety, honesty or whose conduct or health is unsatisfactory may be *required to withdraw*.

Students in the senior year who are in violation of the rules and regulations of the clinical facility are subject to dismissal from that facility. This action is under the jurisdiction of the authorities of that institution in consultation with the university department chair.

Students who fail to maintain progress necessary to meet the minimum requirements because of grade point average or excessive failure (F or U) grades are subject to review by the Academic Standards Committee, and they may be *required to withdraw from the college*.

During the senior year the academic actions taken are varied in severity dependent upon the scholastic and/or professional deficiency. These *actions* are the following: *clinical censure*, *clinical warning and required to withdraw*. The method of making up unacceptable grades during the senior year which have resulted in the issuing of an *action of clinical censure or clinical warning*

will be determined by mutual agreement between the university department chair and the affiliation clinical program director. The Academic Standards Committee will prescribe, in writing, conditions under which these students will be allowed to continue. Students who do not meet the conditions thus stipulated will be *required to withdraw*.

ATTENDANCE

In addition to the College of Health Sciences Absence Policy, the attendance policy for senior year is stipulated by the rules and regulations of each of the affiliations.

RULES AND REGULATIONS

Employment During the Senior Year

The rigors of the program are such that it is highly recommended that senior students not be employed except on weekends. Eight hours of employment on the weekends are considered to be the maximum that a senior student can be employed.

Immunizations and Health Insurance

Prior to enrollment in the courses in medical microbiology, students are required to have appropriate immunizations and/or have tests to determine immune status. Students are not permitted to begin the senior year until they have presented evidence of adequate health insurance coverage.

Study Abroad

Refer to the University — Academic Programs section of the bulletin.

Clinical laboratory science students qualify for these programs. Usually science courses may not be taken during their studies abroad. Generally, study abroad will require additional time spent at the university beyond the usual four-year sequence.

Special Regulations

Students who withdraw during the senior year, must, if readmitted, repeat the entire senior year. Due to the nature of clinical laboratory work, students may be required to attend sessions scheduled outside of the regularly scheduled class times. These sessions are scheduled with advance notice to the students.

In clinical laboratory science courses, a student who in any way acts dishonestly in class assignments or examinations shall be liable to dismissal from the department and being issued a grade of F.

For the safety of patients, peers and themselves, students are required to dress appropriately while attending clinical laboratory science sessions for all courses.

Senior students who wish to be excused from class for participation in athletics, band or chorus must have a grade point average of 2.600 to qualify for this privilege.

Senior students must have a criminal background check prior to beginning their clinical assignments. Some clinical sites may have requirements beyond those of the University (e.g. physical examination, drug testing, etc.). Seniors are expected to participate in the state clinical laboratory science conference.

FACILITIES AND LABORATORIES

The teaching laboratories on the university campus are structured to simulate a clinical setting and students have opportunities to experiment with modern technologies and diagnostic instrumentation.

The affiliating clinical laboratory sites are: ACL Laboratories, BloodCenter of Wisconsin, Clement J. Zablocki VA Medical Center, Dynacare Laboratories, Moreland Medical Center Laboratory, ProHealth Care Medical Associates and Wheaton Franciscan Healthcare, Inc. All affiliations are located in the Milwaukee area.

DEPARTMENT OF PHYSICAL THERAPY

MISSION

The faculty of the Department of Physical Therapy embraces the missions of the university and the College of Health Sciences to graduate entry-level professionals who recognize the need for ongoing reflective assessment to always elevate their work and service to a greater degree of excellence.

We strive to educate students who will develop into professionals who are knowledgeable of current practices and trends, skillful in applying their knowledge, flexible in their relationships with others, and motivated to serve others. Furthermore, to meet the current health care needs in underserved areas, we are committed to supporting programs of outreach that will enhance the enrollment and training of disadvantaged students and service to disadvantaged populations.

We seek to prepare students to become practitioners who are self-directed, lifelong learners, continually striving to advance their knowledge and skills and to understand the social, political, and economic forces that impact the profession. Our primary goal is to graduate physical therapists that are recognized by consumers and other health care professionals as practitioners of choice to whom consumers have direct access for diagnosis of, interventions for, and prevention of impairments, functional limitations, and disabilities related to movement, function, and health. Finally, we expect our graduates to support social justice in part by being role models in the service of disadvantaged segments of the population.

PHILOSOPHY

The department is committed to providing a generalist physical therapy education to qualified students who have completed a rigorous blend of humanities, social science, and basic science course work. The goal of the professional phase of the physical therapy curriculum is to continue to develop the Jesuit ideals of *cura personalis* (care for the total person) and men and women for others and to integrate these ideals into the delivery of health care.

The university's urban location facilitates cultural sensitivity and the opportunity for the department to respond to the diverse needs of the surrounding community. Given this, the department supports admission policies and procedures that are equitable and enrich diversity in the composition of the department's student body.

The department is committed to the concept of freshman admission, which reduces the need for competition between physical therapist students and aims to foster long-term comradeship among students and between students and educators. Such a noncompetitive environment is also believed to encourage students to pursue a well-rounded, socially conscious background of experiences. The department believes that these experiences, coupled with exposure to the common beliefs and values in the Jesuit educational tradition, magnify the educational process and reinforce the concept of *cura personalis*.

The teaching-learning process is recognized as a dynamic interaction of shared responsibility among the academic faculty, clinical faculty and students. The department supports the educational view that students learn in a multitude of ways, necessitating a variety of learning experiences. These experiences are important for the development of a life-long autonomous learner who is self-motivated, self-directed and able to construct knowledge, not just absorb it. Faculty are resources and role models in the development of these traits.

Each faculty member must accept the responsibility of being a role model by maintaining personal clinical competence, providing quality instruction, contributing to the general body of knowledge, showing professionalism, respecting the dignity of others and being advocates for patient and professional causes. Finally, they will help students to become educated members of society, active members of their profession, and role models for peers and future physical therapists.

Marquette's Department of Physical Therapy provides the student with a post-baccalaureate curriculum for the practice of physical therapy, built on a liberal arts foundation. All students are encouraged to continue their professional development to enhance their skills and knowledge in the practice of physical therapy beyond their entry-level education.

EXPECTED GLOBAL STUDENT OUTCOMES

Graduates of the Marquette University, Department of Physical Therapy will:

- 1) Demonstrate the skills necessary to provide autonomous physical therapy services in essential practice areas as defined by the *Guide to Physical Therapist Practice*.

- 2) Screen individuals through testing and differential diagnosis, to determine a physical diagnosis which is within the scope of physical therapy, and/or to determine the need for referral to other health professionals.
- 3) Apply evidence based decision making in planning and delivering effective, cost efficient plans of care.
- 4) Participate in professional learning.

DEGREE OFFERED

Students admitted to the Physical Therapy program are enrolled in a curriculum that culminates in a doctor of physical therapy degree. This is a six-year curriculum for a student admitted at the freshmen level. The student first will earn a baccalaureate degree of his or her choice and then be awarded the Doctor of Physical Therapy (DPT) degree at the end of the professional course work. Students admitted with a bachelor's degree will earn the Doctor of Physical Therapy degree after completing the three-year professional program.

ADMISSION REQUIREMENTS

Students may be admitted to the program as freshman with a guaranteed admission to the professional phase beginning fall of 2013 if the student successfully meets all requirements for advancement. Guaranteed admission cannot be extended if requirements are not successfully completed in the pre-professional phase.

High school applicants to the Department of Physical Therapy are expected to fulfill the general admissions requirements listed in the University section of this bulletin. In addition, the following specific items should be noted for admission to the Department of Physical Therapy:

1. One year of high school chemistry and biology is required. Applicants should include trigonometry among the three required units in mathematics because trigonometry is a prerequisite for General Physics 1 and 2 at Marquette.
2. Freshman class enrollment is limited. College entrance exam results, transcripts and the application must be received at Marquette by Dec. 1 of the preceding academic year for which the student is applying.
3. The sequence of courses in the professional phase begins in August of each academic year.

Marquette students who were not admitted as freshmen may apply to transfer into the program. Further details of entrance requirements are available from Marquette's Office of Undergraduate Admissions.

PHYSICAL THERAPY OBSERVATION HOURS POLICY

Currently enrolled Marquette students, who have a health care major with a clinical component in their undergraduate coursework, may complete up to 40 hours of the required minimum 80 hours of PT observation as part of their clinical component in their undergraduate major. Clinical hours completed in the undergraduate major must be documented by their undergraduate academic advisor. The remainder of the 80 hours must be completed under the supervision of a physical therapist and documented on one or more of the Marquette clinical hour's assessment and verification forms prior to June 1 preceding fall enrollment in the professional phase.

A minimum of 10 spaces have historically been offered to Marquette pre-physical therapy students (PREP) wishing to transfer into Year Four. To apply for this window of admission, students need to complete at least 12 of the physical therapy prerequisite credits at Marquette University and meet or exceed all requirements for the undergraduate phase. External transfer students with degrees from other institutions are encouraged to apply for entry into the professional phase and are enrolled as space allows.

DPT prerequisites courses must be completed at an accredited four-year institution and cannot be completed through online courses. DPT prerequisites required before admission to the professional phase:

<i>Area of Study</i>	<i>Credit Hours</i>
Biology	3
General Chemistry 1 and 2	8
Introduction to Physical Therapy	1*
General Physics 1 and 2	8
Statistics	3
<i>Total</i>	<i>23**</i>

* Waived for accepted transfer students but will need to document proficiency in medical terminology in lieu of Intro to PT Class. Completion of a programmed text and written departmental test in medical terminology would meet this requirement.

**External transfer students will need 12 credits of social sciences and/or humanities in addition to the DPT prerequisites. Three credits of cognitive and motor learning are strongly recommended, but not required.

ESSENTIAL FUNCTIONS

Students are made aware as freshmen and prior to entering the professional phase that all students must be able to carry out the basic duties of a generalist physical therapist with or without reasonable accommodation(s). A generalist P.T. is one who is capable of treating patients across the lifespan. Specifics of the essential functions are included in the P.T. student handbook.

ACCREDITATION

The Commission on Accreditation in Physical Therapy Education (CAPTE) has granted accreditation to the current Doctor of Physical Therapy program. Initial accreditation of the DPT program was granted in April of 2002. Current Accreditation Status: Accreditation. Five-year history: Accreditation. Students are free to contact CAPTE with questions or concerns by mail or phone at: CAPTE American Physical Therapy Association; 111 N. Fairfax St.; Alexandria, VA 22314; (703) 684-2782.

ACADEMIC REGULATIONS

UNDERGRADUATE PHASE

Students admitted to the DPT Program as freshmen must meet all requirements for advancement. These include: student must have achieved a 2.400 or greater cumulative grade point average in the specified prerequisite professional coursework (23 credits). Students must submit proof of completion of 80 volunteer and/or work related hours supervised by a physical therapist by June 1 after completion of the DPT3 academic year. Students must also have a demonstrated plan to receive their bachelor's degree at the end of the spring term of the DPT5 year in the professional phase (years 4, 5 and 6) of the program. Except for ATTR and EXSC students, students who do not complete their undergraduate degree in the traditional 4 years must submit a written plan to the PT Department Chairperson to complete their undergraduate degree within the required time frame. Students who complete pre-requisite credits (biology, chemistry, physics and statistics) in summer school need to do so at a four-year institution. No online courses are accepted for prerequisite physical therapy courses. Courses taken at other institutions require pre-approval from the Assistant Dean in the College of Health Sciences. Students failing to satisfy all requirements or students who are required to withdraw for academic reasons will not be admitted to the professional phase of the program. Following acceptance into the professional phase of the program, students follow the curriculum as outlined for the three-year professional phase unless prior approval is received from the department chairperson.

CR/NC GRADE OPTION

University guidelines allow junior and senior students to elect one course per term (to a maximum of four courses) for which only an CR or NC grade is assigned, given certain requirements are met. Refer to the CR/NC Option entry in The University section of this bulletin for the specific requirements. However, this CR/NC option is not available for any course that is part of the 23 prerequisite core credits nor any course normally required in the professional phase of the program.

COURSE SEQUENCE

Professional phase courses taken early while a student is in the pre-professional phase are subject to the academic standards held in the professional phase of the program including a minimum 2.200 GPA for all professional phase courses completed in a given semester. Moreover, all professional phase courses taken early must be completed with a C or better. Taking courses early and out of sequence is discouraged. No online prerequisite courses are accepted. Students who fail to meet these requirements may be placed on academic probation and required to retake professional phase courses.

PROFESSIONAL PHASE

A student must complete the academic requirements of the DPT program within four years of admission to the professional phase of the program in the fall semester of the DPT4 year, unless there are non-academic extenuating circumstances. Failure to complete the PT program requirements within the 4-year time limit may result in dismissal from the program. During the professional phase of the program a student will be considered in GOOD ACADEMIC STANDING if he/she complies with the academic standards printed in the Physical Therapy student handbook. Failure to meet the academic requirements will result in probation or dismissal from the program.

TUITION/FINANCIAL AID FOR PROFESSIONAL PHASE

Students who enter physical therapy as freshmen are considered in the pre-professional phase for Years 1-3, and the DPT professional phase for Years 4-6. Full-time students will be charged normal undergraduate rates of tuition for Years 1-3. Students are charged the higher professional phase tuition rate in years 4-6. There is no additional tuition payment for summer work. Even though undergraduate students in Year 4 are considered in the professional phase of the program, they may still apply for normal financial aid channels available to Marquette undergraduate students. When physical therapy students complete their undergraduate degree, they can no longer be considered for undergraduate sources of financial aid.

EXAMINATIONS

A student who misses a final examination risks the loss of credit and the possibility of not being able to enroll in subsequent PHTH courses. All such cases will be judged by the departmental chairperson.

CERTIFICATION IN BASIC LIFE SUPPORT

Certification in basic life support that includes child, infant and both one- and two-person adult CPR along with AED (automatic external defibrillator) training is required of all students prior to beginning the fourth year of the DPT program. Continued certification is required to be maintained by the student throughout the DPT curriculum. Failure to maintain current certification may jeopardize enrollment in subsequent PHTH courses and/or clinical assignments. Students should contact their local Heart Association or Red Cross offices.

EMERGENCY CARE AND SAFETY

All clinical sites will provide the students with safety information including emergency procedures. There may be potential health risks at a clinical site. Students are required to complete yearly OSHA training. Students are not employees of the facility and are not covered by workman's compensation. Students provide proof of health insurance, but should also be aware that they are responsible for the cost of any emergency care, unless the injury or illness was due to negligence on the part of the facility. In non-emergency situations, students should expect to be responsible for their own medical care while off campus.

All DPT students are required to attend and provide documentation of completion of yearly OSHA training sessions, which assure that they have received training on OSHA guidelines for blood borne pathogens and universal precautions.

Patient Right to Refuse

Clinical Contracts state that patients have the risk-free-right to refuse to participate in clinical education and that patients/clients provide informed consent to being involved in the clinical education experience.

POLICY FOR STUDENTS REQUESTING ACCOMMODATIONS

It is the responsibility of a student to request reasonable accommodations in the classroom or laboratory. Students are encouraged to discuss their needs with their instructors. It is expected that students will be proactive in addressing learning needs rather than reactive. Disability Services which is part of the Office of Student Educational Services is a valuable resource to both students and faculty.

LIABILITY INSURANCE

Even though the university has liability insurance on students while they are in clinical practice situations, some facilities require the student to have an additional liability policy. This type of insurance can be obtained through the insurance company used by the American Physical Therapy Association by student members of the association.

ABSENCES

Students who are ill or anticipate absence for a family emergency must contact the physical therapy office immediately. All students must consult with the instructor of the course(s) missed for makeup if necessary. Absences of two or more weeks during the fourth, fifth or sixth years of the program may be considered as grounds for repeating the entire term.

Anticipated absences from full-time clinic must be approved in advance by one of the Directors of Clinical Education at Marquette University and the center coordinator of clinical education at the clinical site. Unapproved absences are not acceptable and may lead to dismissal from the clinical site. Emergency absences, illness, etc., are circumstances usually considered to be acceptable absences if they are substantiated by the coordinators.

WITHDRAWAL FROM THE PHYSICAL THERAPY PROGRAM

Withdrawal from the program is achieved through a written request submitted to the chairperson of the Department of Physical Therapy. Any student considering withdrawing from the physical therapy program is encouraged to meet with the chairperson of the Department of Physical Therapy or his/her adviser prior to making a final decision.

CURRICULA INFORMATION

DIRECT ADMIT CURRICULA INFORMATION

TYPICAL PROFESSIONAL PROGRAM — PHYSICAL THERAPY DEGREE: DPT †

Year Four

FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
BISC 4130	5	BISC 4120	3
BIOL 3701*	4	BISC 3150***	3
PHTH 7503	3	PHTH 7515	4
PHTH 7512 (DC)	3	PHTH 7525	3
PHTH 7513	3	PHTH 7528	2
Medical Ethics**	1	PHTH 7530	2
		Medical Ethics**	1
	14*-19		17-18

Summer Session

	SEM. HRS.
PHTH 7504	2
PHTH 7549	2
PHTH 7560	4
PHTH 7539	3
PHTH 7522	2
	13

Year 5

FALL TERM (12+4)	SEM. HRS.	SPRING TERM	SEM. HRS.
SEE HEALTH SCIENCES PROFESSIONAL CALENDAR			
PHTH 7518	3	PHTH 7533	4
PHTH 7523	1	PHTH 7558	4
PHTH 7505	2	PHTH 7570	4
PHTH 7532	4	PHTH 7577	2
PHTH 7526	3	PHTH 7555	2
PHTH 7986 section 1001	4	PHTH 7667	2
	17		18

Summer Session

PHTH 7986, section 1002 Clinical 2	10 Sem. hrs.
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Year 6

FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
PHTH 7668	4	PHTH 7986 section 1003	8
PHTH 7675	4	PHTH 7986 section 1004	8
PHTH 7682	3		
PHTH 7684	2		
PHTH 7674	3		
PHTH 7932 Advanced electives	0-2		
	16-18		16

† Students must receive their bachelor's degree at the end of the spring term of the DPT5 year in the professional phase (years 4, 5 and 6) of the program.

* BIOL 3701 is required for Physiological Science majors. BISC 4145 may be taken in the spring of the DPT-third year by physical therapy students in other majors in lieu of BIOL 3701.

** Students completing an undergraduate major in the College of Health Sciences must take PHIL 4336 during or before the 4th year in order to meet the college requirement of 7 credits of PHIL. Students in other colleges who have met the medical ethics requirement prior to year 4 by taking PHIL 4336 or THEO 4450 may not need medical ethics in year 4.

*** BISC majors take BISC 4160 during the 4th year and BISC 3150 during the junior year.

NOTE: Arts and Sciences majors should contact the Physical Therapy Department as soon as possible to ensure proper course placement prior to year 4.

Minimum Total Credits — 126

ATHLETIC TRAINING

Athletic training is an allied health profession whose mission is to enhance the quality of health care for the physically active through prevention, evaluation, management, and rehabilitation of athletic injuries. Students wishing to become athletic trainers will receive an educational foundation in exercise and basic sciences as well as complete the National Athletic Training Association (NATA) required cognates. Entrance into the athletic training major is limited to ensure a wide variety of practical experiences with expert supervision. Applicants must meet admission and retention criteria available in the Exercise Science/Athletic Training office or posted at www.marquette.edu/chs/ and outlined below.

DEGREE OFFERED

Marquette University confers the degree bachelor of science with a major in athletic training on those students who have satisfactorily completed the required curricula.

ATHLETIC TRAINING AND DOCTOR OF PHYSICAL THERAPY

A curriculum has been developed to accommodate prerequisites for entrance into the DPT while meeting the required course work for ATTR. Students that are either direct admit students or intend on applying to the DPT program must meet with a PT and ATTR advisors as soon as possible to discuss programmatic differences that are required to meet each program's requirements.

Students must be aware that some courses in the DPT curriculum can be substituted to complete the ATTR degree, allowing the completion of both programs in a total of 6 years. However, this will result in a delay in graduation from the athletic training major. Students can participate in the May commencement ceremonies following completion of year four and continue in the PT program without interruption. However, undergraduate diplomas will not be granted until December, after successful completion of the DPT5 Fall semester, which fulfills the final ATTR requirements. See curriculum for specifics.

ACCREDITATION

The athletic training major has been granted accredited status through the Commission on Accreditation of Athletic Training Education (CAATE).

Students successfully graduating from this program are eligible to sit for the certification exam through the National Athletic Trainers' Association Board of Certification (NATABOC).

ADMISSION REQUIREMENTS

DIRECT ADMISSION

Admission to the athletic training major can occur at two points in the academic sequencing. The major is filled initially by the admissions office from a pool of incoming freshman who apply by Dec 1 of their senior year of high school. This decision is made from a ranking of applicants based largely on their high school performance, standardized test scores, and athletic training essay. The maximum number of students admitted to athletic training is limited as the program needs to provide adequate clinical supervision to each student. This cannot be accomplished with an excessive number of students. Once accepted by the university, students must provide a completed program physical form documenting compliance with the program's "Technical Standards" prior to beginning the program. See the "Technical Standards" for more information.

TRANSFER ADMISSION

Those students not admitted directly into the program have a chance to transfer into it. Transfers into athletic training are evaluated individually. The program will accept a minimum of 2 qualified transfer students into each sophomore class. Additional transfers into the athletic training major will only be considered if there are vacancies in the program created by previously accepted students transferring out of the major. In general, transfer students join the sophomore class of athletic training students and will need three additional years to complete the required athletic training classes regardless of their previous academic standing.

To be considered for a transfer into the athletic training major, the student must meet the following criteria:

1. Must have a minimum of 2.750 GPA (cumulative).
2. Must document that they have observed in an athletic training setting, preferably at Marquette, for 30 hours.

3. Must have completed or be currently enrolled in and successfully completing the required freshman courses which include:
 - a. CHEM 1001 and 1002
 - b. EXSC 1001 Introduction to Exercise Science
 - c. EXSC 1010 Emergency Care, CPR, and AED
 - d. BISC 1015 Principles of Human Anatomy and Physiology
 - e. EXSC 1050 Surface Anatomy and Palpation
 - f. ATTR 1020 Prevention and Care of Athletic Injuries
4. Must submit a signed Technical Standards form indicating their compliance with program technical standards. This must be verified with a completed program physical form prior to full acceptance into the major.

If candidate meets the criteria he/she must then fill out the transfer application and file this with the Program Director of Athletic Training by March 1st prior to the fall in which they will join the sophomore class. Eligible candidates will be interviewed and admission decisions will be made prior to the end of the school year.

If a student has not accomplished the necessary course work, they have to complete the coursework, and then apply the following year for admission into the next sophomore class. Again, transfers beyond 2 spots will only be considered if there is adequate space in the program.

Transfer students from outside of Marquette University must meet with the Program Director to determine their present standing and the process for applying to the athletic training major.

PROFESSIONAL CONDUCT AND ACADEMIC REGULATIONS

Students in the athletic training major are expected to adhere to the standards of conduct and professionalism set forth by the NATA and described in the student handbook. Professional behavior is vital to the success of every health care provider. To assist each student in developing and refining their professional behaviors, athletic training students are regularly evaluated during the Clinical Proficiency courses and Athletic Training Practicum. Violations and/or major deficiencies may prevent students from receiving clinical assignments and may be grounds for academic probation or dismissal.

ACADEMIC PERFORMANCE

Candidates for a degree must comply with the academic performance requirements described in the student handbook. Failure to meet these requirements will result in possible academic probation or dismissal from the program as described in the handbook. They must earn a minimum cumulative GPA of 2.750. All students must comply with the College of Health Sciences graduation requirements. A student must earn a C or better in all major course requirements. Major courses completed with a CD or less count toward the total hour requirements, but do not fulfill graduation requirements. This class must be repeated prior to graduation from the athletic training major as described in the College of Health Sciences graduation requirements. The department will only allow those students who have satisfactorily completed all academic, technical and professional behavior requirements to attend a clinical affiliation or practicum. The program reserves the right to deny practicum placement to any student that has not satisfactorily met the requirements printed in the *Athletic Training Student Handbook*. Cancellation or delay of a practicum may result in delayed graduation.

EXAMINATIONS

Final examinations are held in all subjects. A student's grade of scholarship in each subject is determined by the combined results of his or her class work, course assignments, and examinations as defined in the course syllabi. A student who misses a final examination in an ATTR or other course risks the loss of credit and the possibility of not being able to enroll in subsequent ATTR and/or EXSC courses. Any student that misses a final exam in any course must file a written excuse with the College of Health Sciences office within 48 hours of the examination. Should the excuse be deemed valid, permission may be given for a delayed examination.

CERTIFICATION IN BASIC LIFE SUPPORT

Certification in basic life support that includes child, infant, and both one- and two-person adult CPR along with AED (automatic external defibrillation) training is required of all students. Certification may be obtained following successful completion of EXSC 1001. Continued certification is required to be maintained by and is the responsibility of the student. Failure to maintain current certification may jeopardize enrollment in subsequent ATTR and/or EXSC courses and clinical/practicum assignments.

HEALTH INSURANCE/HEALTH CERTIFICATION

A program physical form must be completed by the student's physician or student health services prior to each academic year, as described in the student handbook. All students prior to clinical/practical experiences must present evidence of health insurance before clinical/internship assignment can be made. A chest X-ray, vaccinations, and TB screening may be required prior to clinical assignment as dictated by the specific site. Hepatitis B vaccination is recommended.

GRADUATION REQUIREMENTS

Candidates for a baccalaureate degree must complete 128 credit hours for the major:

ATHLETIC TRAINING (ATTR)

Total minimum of 128 credit hours including the following requirements:

<i>Area</i>	<i>Credit Hours</i>
UCCS Requirements	34-37
Required Cognates	17
Major	77

MAJOR REQUIREMENTS

In addition to the UCCS course requirements, the program's curriculum includes the requirements listed on the curriculum for each major. A curricula has been developed to accommodate the prerequisites for entrance into the DPT while meeting the required course work for the athletic training major. Students that are either direct admit DPT students or intend on applying to the DPT program must meet with an adviser as soon as possible to discuss programmatic differences that are required to meet entrance standards. Students must be aware that all required courses must be completed prior to matriculation.

Curricula have also been developed for those students interested in using Athletic Training as a pre-medical, pre-dental, pre-veterinary or pre-graduate school degree. Students are required to meet with an adviser to discuss programmatic differences based upon their unique circumstances.

UCCS AND PROGRAM CURRICULUM REQUIREMENTS

(Please refer to University Core of Common Studies (UCCS) for courses that will meet requirements if not specified below.)

- Rhetoric (R) 6 credits**
ENGL 1001, ENGL 1002 or COMM 1100
- Mathematical Reasoning (MR) 3 credits**
Any approved UCCS statistics course
- Diverse Cultures (DC) 3 credits**
Any approved UCCS course. Note: HEAL 1025 will fulfill both the UCCS DC and HEAL cognate requirements.
- Histories of Cultures and Societies (HCS) 3 credits**
Any approved UCCS course
- Individual and Social Behavior (ISB) 3 credits**
PSYC 1001
- Human Nature and Ethics (HNE) 7 credits**
PHIL 1001, PHIL 2310, PHIL 4336 (or other medical ethics course)
- Literature and Performing Arts (LPA) 3 credits**
Any approved UCCS course
- Science and Nature (SN) 3 credits**
BIOL 1001
- Theology (T) 6 credits**
THEO 1001 plus any approved UCCS course

REQUIRED COGNATES

All students are required to complete BIOL 1001, BIOL 1002, BISC 4120, CHEM 1001, CHEM 1002, and a HEAL course for 3 credits.

MAJOR REQUIREMENTS

The following courses are major requirements that must be completed with a C grade or better (see the Academic Performance section): BISC 1015 and all ATTR and EXSC courses listed in the curriculum.

TYPICAL ACADEMIC PROGRAM FOR ATHLETIC TRAINING MAJOR

Freshman Year

FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
ENGL 1001 (R)	3	ENGL 1002/COMM 1100 (R)	3
UCCS (HCS)	3	HEAL Cognate	3
CHEM 1001	4	CHEM 1002	4
EXSC 1001	2	BISC 1015	5
EXSC 1010	2	ATTR 1020	2
BIOL 1001 (SN)	3	EXSC 1050	1
	17		18

Sophomore Year

FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
EXSC 2115	5	BIOL 1002	3
PSYC 1001 (ISB)	3	EXSC 2190	3
PHIL 1001 (HNE)	3	EXSC 2110	4
ATTR 2130	3	ATTR 2131	3
ATTR 2981	1	ATTR 2150	2
THEO 1001 (T)	3	ATTR 2982	1
	18		16

Junior Year

FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
ATTR 3160	2	ATTR 3170	3
ATTR 3983	1	EXSC 3180	4
EXSC 3189	4	ATTR 3984	1
UCCS (MR—statistics course)	3	BISC 4120	3
UCCS (LPA)	3	EXSC 2106	3
PHIL 2310 (HNE)	3	UCCS (DC)	3
	16		17

Senior Year

FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
EXSC 3187	3	ATTR 4986	14-16
PHIL 4336	1		
EXSC 3170	3		
UCCS (T)	3		
ATTR 3985	1		
EXSC 4192	4		
	15		14-16

Minimum Total Credits — 128

TYPICAL ACADEMIC PROGRAM FOR ATHLETIC TRAINING MAJOR
AND DIRECT ADMIT DPT*Freshman Year*

FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
ENGL 1001 (R)	3	ENGL 1002/COMM 1100 (R)	3
UCCS (HCS)	3	PHIL 1001 (HNE)	3
CHEM 1001	4	CHEM 1002	4
EXSC 1001	2	BISC 1015	5
EXSC 1010	2	ATTR 1020	2
BIOL 1001(SN)	3	EXSC 1050	1
	17		18

Summer

PSYC 1001 (ISB) and UCCS (LPA)	6
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Sophomore Year

FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
EXSC 2115	5	BIOL 1002	3
HEAL Cognate	3	EXSC 2190	3
PHIL 2310 (HNE)	3	EXSC 2110	4
THEO 1001 (T)	3	ATTR 2131	3
ATTR 2130	3	ATTR 2150	2
ATTR 2981	1	ATTR 2982	1
		PHTH 1001	1
	18		17

Junior Year

FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
ATTR 3160	2	ATTR 3170	3
ATTR 3983	1	EXSC 3180	4
EXSC 3189	4	ATTR 3984	1
UCCS (MR–statistics course)	3	EXSC 2106	3
UCCS (T)	3	PHYS 1002	4
PHYS 1001	4	PHIL 4336	1
	17		16

Senior Year DPT Curriculum

Students enrolled in the Doctor of Physical Therapy program will follow the curricula as established by the Physical Therapy Department. The curriculum includes courses in the fourth and fifth year of the DPT program that will substitute for required ATTR major courses (listed in parenthesis). Students can participate in the May commencement ceremony with their class, however, diplomas and official transcripts will not be granted until satisfactory completion of the fall semester in the DPT5 year.

Senior Year

FIRST TERM	CREDITS	SECOND TERM	CREDITS
PHTH 7513(for EXSC 3170)	3	BISC 4120	3
BIOL 4701*	4	BISC 3150	3
BISC 4130	5	PHTH 7515 (for EXSC 3187)	4
PHTH 7503	3	PHTH 7528	2
PHTH 7512 (DC)	3	PHTH 7525	3
ATTR 3985	1	PHTH 7530	2
	19		17

*or BISC 4145 (offered Spring term only)

Summer Session

MODULE 1	CREDITS	MODULE 2	CREDITS
PHTH 7504 (for ATTR 4986)	2	PHTH 7560	4
PHTH 7549	2	PHTH 7522	2
PHTH 7539	3		
	7		6

DPT 5 Year

FALL TERM	CREDITS
PHTH 7518 (for EXSC 4192/5192)	3
PHTH 7523	1
PHTH 7505	2
PHTH 7532	4
PHTH 7526	3
PHTH 7986 section 1001 (for ATTR 4986) ..	4
	17

Minimum Total Credits — 128

EXERCISE SCIENCE

The Marquette University Exercise Science program provides an academic program of liberal arts and basic sciences for the student interested in exercise physiology, fitness and health/wellness. The sequenced curriculum seeks to develop a professional with the skills and academic background to pursue a career in the rapidly growing health and fitness industry. The demand for qualified fitness professionals is expanding as total health and fitness awareness increases. Students may pursue careers in community health, corporate wellness, strength and conditioning, sports management, research, cardiac rehabilitation and fitness. Employment opportunities may include positions with fitness/sports centers, private fitness consulting firms, hospital-based programs, health maintenance organizations, corporate or private fitness programs and YMCA and YWCAs. Students may pursue graduate work, professional education, physical therapy, sports medicine, occupational therapy, anatomy, kinesiology, exercise physiology, biomechanics, or related areas. Select students may combine the major with a recommend sequence of courses to prepare for the admission to the clinical doctorate in physical therapy (DPT).

DEGREE OFFERED

Marquette University confers the degree bachelor of science with a major in exercise science on those students who have satisfactorily completed the required curricula.

EXERCISE SCIENCE AND DOCTOR OF PHYSICAL THERAPY

A curriculum has been developed to accommodate prerequisites for entrance into the DPT while meeting the required course work for EXSC. Students that are either direct admit students or intend on applying to the DPT program must meet with a PT advisor as soon as possible to discuss programmatic differences that are required to meet the standards.

Students must be aware that several courses in the DPT curriculum are required to complete the EXSC degree, resulting in a delay in matriculation. Students can participate in the May commencement ceremonies following completion of the DPT4 year, however, diplomas will not be granted until December, after successful completion of the DPT5 Fall semester.

ADMISSIONS REQUIREMENTS

Applicants to the College of Health Sciences with a major in exercise science are expected to fulfill the admission requirements listed in the University section of the Undergraduate Bulletin. The recommended high school preparation includes three years of high school math. If applicants do not meet the minimum requirement, they must complete one course of college-level math.

ACCREDITATION/RECOGNITION

For successfully meeting established criteria, the National Strength and Conditioning Association (NSCA) officially recognizes Marquette University's Education Program in Strength and Conditioning through January 2010.

The Exercise Science Program in the Department of Physical Therapy at Marquette University in Wisconsin is the fourth academic institution in the United States to be recognized as an accredited academic program of study for exercise physiology by the American Society of Exercise Physiologists (ASEP). A ten-year accreditation was awarded from ASEP through September 2012.

ACADEMIC PERFORMANCE

Candidates for a degree must earn at least the minimum number of credits listed in their curriculum and a minimum GPA of 2.600. All students must comply with the College of Health Sciences graduation requirements. All students must carry a grade point average of 2.400 as a freshman, 2.600 as a sophomore through senior, based on a 4.0 system. A student should understand that a grade point average of 3.000 or better is required for admission consideration by most graduate programs. A student must earn a C or better in all major courses. Major courses completed with a CD or less count toward the total hour requirements but do not fulfill graduation requirements and must be repeated prior to advancing in course sequence.

Students in the exercise science major are expected to comply with the academic requirements and regulations listed in the University and College of Health Sciences section of this Bulletin. In addition to the above, the program expects its students to adhere to standards of conduct and professionalism. Professional behavior is vital to the success of every health care provider. Violations and/or major deficiencies may prevent students from receiving clinical assignments, may be grounds for dismissal, or other penalties.

EXAMINATIONS

Final examinations are held in all subjects. A student's grade of scholarship in each subject is determined by the combined results of his or her class work, course assignments, and examinations as defined in the course syllabi. A student who misses a final examination in an EXSC or other course risks the loss of credit and the possibility of not being able to enroll in subsequent EXSC courses. Any student that misses a final exam in any course must file a written excuse with the College of Health Sciences office within 48 hours of the examination. Should the excuse be deemed valid, permission may be given for a delayed examination.

CERTIFICATION IN BASIC LIFE SUPPORT

Certification in basic life support that includes child, infant, and both one- and two-person adult CPR along with AED (automatic external defibrillation) training is required of all students. Certification may be obtained following successful completion of EXSC 1010. Continued certification is required to be maintained by and is the responsibility of the student. Failure to maintain current certification may jeopardize enrollment in subsequent ATTR and/or EXSC courses and clinical/practicum assignments.

HEALTH INSURANCE/HEALTH CERTIFICATION

All students prior to clinical/practical experiences must present evidence of health insurance before clinical/internship assignment can be made. A chest X-ray, vaccinations, and TB screening may be required prior to clinical assignment as dictated by the specific site. Hepatitis B vaccination is recommended.

GRADUATION REQUIREMENTS

Candidates for a baccalaureate degree must complete the following for each major:

EXERCISE SCIENCE (EXSC)

Minimum of 128 credit hours including the following requirements:

<i>Area</i>	<i>Credit Hours</i>
UCCS Requirements	37
Required Cognates	14
Major (includes three credits of advanced EXSC electives)	65
Electives	15

MAJOR REQUIREMENTS

In addition to the UCCS course requirements, the program's curriculum includes the requirements listed on the curriculum for each major. A curricula has been developed to accommodate the prerequisites for entrance into the DPT while meeting the required course work for the exercise science major. Students that are either direct admit DPT students or intend on applying to the DPT program must meet with an adviser as soon as possible to discuss programmatic differences that are required to meet entrance standards. Students must be aware that all required courses must be completed prior to matriculation

Curricula have also been developed for those students interested in using Exercise Science as a pre-medical, pre-dental, pre-veterinary or pre-graduate school degree. Students are required to meet with an adviser to discuss programmatic differences based upon their unique circumstances.

UCCS AND PROGRAM CURRICULUM REQUIREMENTS

(Please refer to University Core of Common Studies (UCCS) for courses that will meet requirements if not specified below.)

- Rhetoric (R)** **6 credits**
ENGL 1001, ENGL 1002 or COMM 1100
- Mathematical Reasoning (MR)** **3 credits**
Any approved UCCS statistics course
- Diverse Cultures (DC)** **3 credits**
Any approved UCCS course. Note: HEAL 1025 will fulfill both the UCCS DC and HEAL cognate requirements.
- Histories of Cultures and Societies (HCS)** **3 credits**
Any approved UCCS course
- Individual and Social Behavior (ISB)** **3 credits**
PSYC 1001
- Human Nature and Ethics (HNE)** **7 credits**
PHIL 1001, PHIL 2310, PHIL 4336 (or other medical ethics course)
- Literature and Performing Arts (LPA)** **3 credits**
Any approved UCCS course
- Science and Nature (SN)** **3 credits**
BIOL 1001
- Theology (T)** **6 credits**
THEO 1001 plus any approved UCCS course

REQUIRED COGNATES

All students are required to complete BIOL 1001, BIOL 1002, CHEM 1001, CHEM 1002, and a HEAL course for three credits.

MAJOR REQUIREMENTS

The following courses are major requirements that must be completed with a C grade or better (see the Academic Performance section): BISC 1015 and all EXSC courses listed in the curriculum. In addition to these required cognates, students not entering the DPT program, need to complete a minimum of 3 credits of advanced EXSC electives and students entering the DPT program need to complete a minimum of 2 credits of advanced EXSC electives.

TYPICAL ACADEMIC PROGRAM FOR EXERCISE SCIENCE MAJOR

Freshman Year

FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
ENGL 1001 (R)	3	ENGL 1002/COMM 1100 (R)	3
CHEM 1001	4	HEAL Cognate	3
EXSC 1010	2	CHEM 1002	4
EXSC 1001	2	BISC 1015	5
BIOL 1001 (SN)	3	EXSC 1050	1
UCCS (HCS)	3		
	17		16

Major courses (BISC 1015 and all EXSC courses listed in the curriculum) completed with a CD or less must be repeated prior to advancing in course sequence.

Sophomore Year

FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
EXSC 2115	5	PHIL 2310 (HNE)	3
PSYC 1001 (ISB)	3	EXSC 2190	3
PHIL 1001 (HNE)	3	EXSC 2110	4
THEO 1001 (T)	3	Statistics (MR)	3
UCCS (LPA)	3	BIOL 1002	3
	17		16

Major courses (BISC 1015 and all EXSC courses listed in the curriculum) completed with a CD or less must be repeated prior to advancing in course sequence.

Junior Year

FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
EXSC 3100	3	EXSC 3180	4
EXSC 3986	2	EXSC Elective*	3
EXSC 3189	4	EXSC 2106	3
Electives	6	UCCS (DC)	3
	15	UCCS (T)	3
			16
SENIOR YEAR FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
PHIL 4336	1	EXSC 4986	16
EXSC 3170	3		
EXSC 3187	3		
EXSC 4192	4		
Electives	4		
	15		

* Minimum of 3 credits of advanced exercise science electives required

Minimum Total Credits — 128

*TYPICAL PROGRAM FOR EXERCISE SCIENCE MAJOR AND DIRECT ADMIT DPT***Freshman Year**

FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
ENGL 1001 (R)	3	ENGL 1002/COMM 1100 (R)	3
CHEM 1001	4	HEAL Cognate	3
EXSC 1001	2	CHEM 1002	4
EXSC 1010	2	BISC 1015	5
BIOL 1001 (SN)	3	PHTH 1001	1
		EXSC 1050	1
	14		17

Major courses (BISC 1015 and all EXSC courses listed in the curriculum) completed with a CD or less must be repeated prior to advancing in course sequence.

Sophomore Year

FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
EXSC 2115	5	PHIL 2310 (HNE)	3
PSYC 1001 (ISB)	3	EXSC 2190	3
PHIL 1001 (HNE)	3	EXSC 2110	4
THEO 1001 (T)	3	Statistics (MR)	3
UCCS (HCS)	3	BIOL 1002	4
	17		16

Major courses (BISC 1015 and all EXSC courses listed in the curriculum) completed with a CD or less must be repeated prior to advancing in course sequence.

Junior Year

FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
EXSC 3100	3	EXSC 3180	4
EXSC 3189	4	EXSC elective**	2-3
EXSC 3986	2	EXSC 2106	3
UCCS (LPA)	3	PHYS 1002	4
PHYS 1001	4	UCCS (T)	3
PHIL 4336	1		
	17		16-17

** Minimum of 2 credit of advanced exercise science electives required

Senior Year DPT Curriculum

Students enrolled in the Doctor of Physical Therapy program will follow the curricula as established by the Physical Therapy Department. The curriculum includes courses in the fourth and fifth year of the DPT program that will substitute for required EXSC major courses (listed in parenthesis). Students can participate in the May commencement ceremony with their class, however, diplomas and official transcripts will not be granted until satisfactory completion of the fall semester in the DPT5 year.

Senior Year/DPT4 Year

FIRST TERM	CREDITS	SECOND TERM	CREDITS
PHTH 7513 (for EXSC 3170)	3	BISC 4120	3
BIOL 4701*	4	BISC 3150	3
BISC 4130	5	PHTH 7515 (for EXSC 3187)	4
PHTH 7503	3	PHTH 7528	2
PHTH 7512 (DC)	3	PHTH 7525	3
		PHTH 7530	2
	18		17

*Or BISC 4145 (offered Spring term only)

<i>Summer Session</i>			
PHTH 7504 (for EXSC 4986)	2	PHTH 7560	4
PHTH 7549	2	PHTH 7522	2
PHTH 7539	3		
	7		6

<i>DPT5 Year</i>	
<small>FALL TERM</small>	
PHTH 7518 (for EXSC 4192)	3
PHTH 7523	1
PHTH 7505	2
PHTH 7532	4
PHTH 7526	3
PHTH 7986 (for EXSC 3189)	4
	17

Minimum Total Credits — 128

DEPARTMENT OF PHYSICIAN ASSISTANT STUDIES

The College of Health Sciences and the Department of Physician Assistant Studies are dedicated to preparing students for careers as physician assistants by educating them in the Jesuit tradition of *cura personalis*, where academic preparation is coupled to the spiritual, emotional and physical development of the students as they dedicate themselves for service for others. Academic experiences include the humanities, sciences and clinical medicine which prepare the students for the supervised practice of primary medicine within dynamic health care systems.

EDUCATIONAL GOALS

- These goals prepare each student intellectually, socially, affectively, and spiritually:
- Perform an appropriate history and physical exam that concludes with a working diagnosis and initial treatment plan.
 - Apply the evidence-based principles of medicine to accurately diagnose and manage acute and chronic disease states and/or medical emergencies.
 - Function effectively as a member of the health care team in respect to personal relations, team skills, and written and oral communications.
 - Demonstrate a commitment to their profession and life-long learning by continuing medical education, and participation in professional development activities.
 - Demonstrate cultural understanding and sensitivity in interactions with patients of diverse socioeconomic, ethnic, and alternative backgrounds.

UNDERGRADUATE ADMISSION REQUIREMENTS

Students apply for admittance into the Physician Assistant Studies program in the fall term of their sophomore year. They are required to complete the two-year Preprofessional Phase of the Physician Assistant Studies program and be enrolled in the College of Health Sciences to ensure that they have completed the appropriate prerequisite courses that will make them eligible for a degree in biomedical sciences at the end of the fourth year. Following acceptance into the program, students follow the curriculum as outlined for the three-year Professional phase.

The intensity of the program and the skills necessary for practice as a physician assistant require the program to seek applicants with an excellent academic background, along with strong interpersonal skills and maturity. Prior health care experience is also an indicator of a career commitment to clinical practice. The program's admission process will consider each applicant's strengths and select for competitive candidates best qualified to meet the program's mission.

Selection factors considered in the admission process include the following:

1. Cumulative GPA of 3.000 or greater
2. Motivation, maturity, ability to work with people, and suitability for clinical practice
3. Minimum of two hundred patient contact hours in health care.
4. Knowledge of the PA profession and the profession's role in the health care system
5. Graduate Record Exam scores for applicants with a degree; SAT or ACT scores for applicants entering the program without a completed bachelor's degree.
6. Three letters of recommendation
7. Personal interviews

RETENTION POLICY

Students in the pre-professional years in the Physician Assistant Program are subject to the general probation-drop policies at Marquette University.

Students enrolled in the professional program must earn a minimum GPA of 2.800 in each term and earn no single course grade below C. Professional students unable to meet this requirement will be placed on a **one term academic probation** and are required to obtain a 2.800 GPA, with no single course grade lower than a C, the following term. If at the end of the following term the overall quality point is above or equal to 2.800 with no single grade below C the academic probation is dropped. If the student is unsuccessful in obtaining a 2.800 or has a single grade below C the following term, the student may be dismissed from the program at the close of that term. A second probationary semester separated from the first by at least one semester of good academic standing will be permitted. A student failing to meet the academic requirements for a third instance may be subject to dismissal from the program.

Students earning a final grade of CD, D or F **in a professional phase course** may be dismissed from the program.

Students may not participate in Physician Assistant Preceptorships until they have completed all the required courses in the didactic professional curriculum.

TUITION/FINANCIAL AID FOR PROFESSIONAL PHASE

Students enrolled in the Physician Assistant Studies Program upon completion of their baccalaureate degree will be moved into the professional division of Health Sciences and will no longer be eligible for undergraduate financial aid.

CURRICULA INFORMATION

TWO-YEAR PRE-PHYSICIAN ASSISTANT STUDIES (BIOMEDICAL SCIENCES MAJOR)

<i>First Year</i>			
FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
ENGL 1001 (R)	3	ENGL 1002/COMM 1100 (R)	3
CHEM 1001	4	CHEM 1002	4
BIOL 1001 (SN)	3	BIOL 1002	3
UCCS (HCS)	3	History elective	3
THEO 1001 (T)	3	PSYC 1001 (ISB)	3
BISC 1001*	1		
	17		16

<i>Second Year</i>			
FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
UCCS (LPA)	3	UCCS (DC)	3
CHEM 2111	4	CHEM 2112	4
PHIL 1001 (HNE)	3	UCCS (T)	3
BISC 2135	4	PHIL 2310 (HNE)	3
Health and Society Requirement**	3	Statistics (MR)	3
	17		16

*Only required of new freshmen entering the BISC major. Not required for internal or external transfers.

**BISC 2150, HEAL 2100, PSYC 3420, SOCI 2300, SOCI 3500, SOCI 3520, SOCI 3550, SOCI 3570, SOCI 4300 or SOWJ 1001. Special topics (4930) and topics (4931) courses that relate to health and society may be approved on an individual basis.

THREE-YEAR PROFESSIONAL PHASE

Third Year

FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
BISC 3110	3	BISC 4145	4
BISC 3213	4	BISC 3150	3
BISC 4130	5	BISC 4165	1
PHAS 7040	1	PHTH 7558	4
PHIL 4336	1	BISC 7410	4
BISC 4160	3	PHAS 7117	3
	17		19

Summer Session between third and fourth year

PHAS 7050	4
PHAS 7080	2
PHAS 7090	3
PHAS 7270	4
PHAS 7245	2
	15

Fourth Year

FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
BISC 7120	4	PHAS 7111	4
PHAS 7110	6	PHAS 7220	3
PHAS 7115	4	PHAS 7255	2
PHAS 7200	1	PHAS 7235	4
PHAS 7265	1	PHAS 7230	2
PHAS 7260	3	PHAS 7250	4
		PHAS 7116	1
	19		20

Students may not enter the final year of the PA program unless their undergraduate degree has been awarded.

Fifth Year (May – May)

A Master's degree in Physician Assistant Studies requires successful completion of 33 credits of Clinical Clerkship experiences, in addition to a 6 credit Master's Capstone Project. Required Clinical Clerkship experiences include 3 eight-week clerkships (Family Practice, Internal Medicine and Emergency Medicine), 2 four-week clerkships (Pediatrics and Adult General Surgery), and 3 four-week elective clerkships in various medical disciplines.

PHAS 7997 (Summer and Fall)	0
PHAS 7986 Clinical Family Practice	6
PHAS 7986 Clinical Internal Medicine	6
PHAS 7986 Clinical Emergency Medicine	6
PHAS 7986 Clinical Pediatrics (4 wk)	3
PHAS 7986 Clinical General Surgery (4 wk)	3
PHAS 7986 Clinical Electives	9
PHAS 7997 Master's Capstone Project (Spring)	6

Minimum Total Credits — 129

DEPARTMENT OF SPEECH PATHOLOGY AND AUDIOLOGY

The Department of Speech Pathology and Audiology at Marquette University offers a Bachelor of Science degree in Speech Pathology and Audiology and a Master of Science degree in Speech-Language Pathology. The undergraduate program is considered pre-professional, meaning that a graduate degree is necessary before a person is qualified for professional employment.

The primary purpose of the undergraduate program is to provide introductory level knowledge in the field of Speech Pathology and Audiology, within the context of a traditional liberal Arts and Sciences education, which prepares an individual for study in a professional graduate degree program. This liberal education is based on the philosophy that the individual with an educational foundation in the Arts and Sciences will have a broad appreciation for society and its values. Such a traditional undergraduate emphasis provides the needed foundation for the more narrowly focused professional education at the graduate level and is suitable for careers in other communication, education, and health-related professions besides speech-language pathology and audiology.

The undergraduate major in Speech Pathology and Audiology includes courses in the areas of normal speech production and development, disorders of speech, language and hearing, and methods of evaluation and therapy. Clinical practicum involves actual work with children and adults having speech/language/hearing problems under the direct supervision of certified speech-language pathologists and audiologists. This work is accomplished at the Marquette University Speech and Hearing Clinic.

Professional preparation occurs at the graduate level and is a prerequisite for certification/licensure as a professional speech-language pathologist or audiologist. Marquette University's M.S. Program in Speech-Language Pathology is accredited by the Council on Academic Accreditation of the American Speech-Language-Hearing Association (CAA-ASHA) and is directed towards preparing students for the Certificate of Clinical Competence in Speech-Language Pathology (CCC-SLP). The graduate curriculum offers advanced coursework and clinical practicum experiences in the nature, prevention, identification, evaluation and treatment of speech, language, hearing and related disorders in both children and adults. For students interested in licensure as a public school speech-language clinician, the curriculum meets the requirements of the Department of Public Instruction of the State of Wisconsin (WI-DPI) for licensure as a speech-language clinician.

INFORMATION REGARDING PROFESSIONAL CERTIFICATION AND LICENSURE

Students completing professional training in Speech-Language Pathology or Audiology become eligible for certification by the American Speech-Language-Hearing Association (ASHA). This Association awards the Certificate of Clinical Competence to educationally and professionally qualified applicants. The minimum academic requirement for this certification is completion of a graduate program accredited by the Council of Academic Accreditation of the American Speech-Language-Hearing Association (CAA-ASHA). Most employers of speech-language pathologists and audiologists require this certification.

Students wishing to work as a speech-language pathologist or audiologist in the public schools must qualify for licensure from the Department of Public Instruction in the State of Wisconsin (DPI-WI), as well as meet the additional requirements of any other state in which they wish to practice. In most states, the master's degree is the minimum requirement for licensure as a speech-language pathologist or audiologist clinician.

Finally, most states require speech-language pathologists and audiologists to hold a license from the state's department of regulation and licensing. Typically, individuals having met the certification requirements for ASHA will be eligible for state licensing.

The Speech Pathology and Audiology curriculum is specifically structured to facilitate eventual fulfillment of both ASHA certification and State of Wisconsin licensure requirements. In anticipation of meeting these requirements, specific course work in speech-language pathology and audiology as well as course work in related areas such as psychology, education, social science, natural science and math are included in the Speech Pathology and Audiology curriculum.

DEGREE OFFERED

The undergraduate curriculum in Speech Pathology and Audiology is a four-year program leading to a Bachelor of Science Degree. This program entails eight semesters of course work, and includes approximately 50 clock hours of clinical practicum associated with various professional courses. Marquette University requires 128 semester credits of course work for the Bachelor's Degree, and a student generally carries between 15 and 18 credits per semester. Since a B average or better is required for admission consideration by most graduate programs, it is

important that students majoring in Speech Pathology and Audiology work toward maintaining high academic achievement throughout their undergraduate program.

EARLY ADMISSION PROGRAM (EAP)

The Department of Speech Pathology and Audiology offers an Early Admission Program into its M.S. Program in Speech-Language Pathology. Marquette undergraduate students majoring in Speech Pathology and Audiology can apply for this program in the second semester of their junior year. Students accepted into this program are eligible to enroll in up to 12 credits of Speech Pathology and Audiology (SPPA) course work that carry graduate credit during their senior year. Credits obtained for these courses can be used to fulfill both undergraduate and graduate degree requirements. Once students inform the Graduate School of their completion of undergraduate degree requirements, their admission as a regular degree status (RDS) student in the graduate program is activated.

BILINGUAL ENGLISH-SPANISH CERTIFICATE (BIES)

The Department of Speech Pathology and Audiology offers a Bilingual English-Spanish Certificate (BIES) as part of its Master's Degree program in Speech-Language Pathology. The BIES program prepares speech-language pathology students who are proficient in Spanish to evaluate and treat speech, language and hearing problems in individuals who speak Spanish or are bilingual (Spanish-English) in educational or medical settings. This certificate program consists of four courses as well as clinical work specifically designed to meet guidelines suggested by the American Speech-Language-Hearing Association (ASHA) for bilingual speech-language pathologists. Two of these courses (SPAN 4120 – Phonetics and SPPA 4610 – Multicultural Issues for Speech-Language Pathologists) may be taken at the undergraduate level. Students who are Spanish-English bilingual and/or those who are considering a major or minor in Spanish are encouraged to meet with the Director of Graduate Studies in the Department of Speech Pathology and Audiology and an academic advisor in the Department of Foreign Languages and Literature for advising regarding potential admission to the BIES program at the graduate level.

STUDENTS WITH COMMUNICATIVE DISORDERS

The Department of Speech Pathology and Audiology at Marquette University is dedicated to graduating students with optimum preparation for successful careers in the profession of communication disorders. Since voice, fluency, articulation, language or hearing impairments may interfere with a clinician's ability to effectively treat persons with communication impairments, we encourage students in our program with such impairments to seek treatment.

ENGLISH PROFICIENCY

Our department supports the position of the American Speech-Language-Hearing Association in encouraging persons of diverse backgrounds to enter the field of communication disorders. All students in the Department of Speech Pathology and Audiology must provide evidence of adequate written and verbal communication skills in Standard American English necessary to meet academic and clinical requirements. Non-native speakers of English will work closely with their advisors throughout the course of their study toward establishing this proficiency prior to enrollment in clinical practicums. Students who speak with accents and/or dialects may seek assistance in improving these skills at the recommendation of department instructional staff.

ADMISSION REQUIREMENTS

Applicants to the Department of Speech Pathology and Audiology are expected to fulfill the admission requirements listed in the University section of this bulletin. Entering freshman are accepted for the fall term.

Admission into the undergraduate major in speech pathology and audiology qualifies a student for the bachelor of science program; it does not extend to the graduate (master's degree) level. Separate application to the graduate school must be made, usually during a student's senior year.

Students may enter the Department of Speech Pathology and Audiology as a freshman, or may transfer into the program from another university division or another institution later in their academic program. Applicants for advanced standing admission into the Speech Pathology and Audiology program should understand that a grade point average of 3.000 or better is required for admission consideration by most graduate programs.

Since admission requirements for master's degree programs may vary from one university to another, the applicant is responsible for meeting those requirements of the institution he or she desires to enter.

PROFESSIONAL STANDARDS

All papers produced by students in all classes under department jurisdiction are expected to conform to professional standards of lucidity, coherence, grammar, spelling, and punctuation. All oral presentations produced by students in all classes under department jurisdiction are expected to conform to professional standards of lucidity, coherence, and grammar. All instructors in all classes under department jurisdiction consider the factors listed above, as well as substance, in grading written and oral presentations.

CD AND D GRADES

Courses completed with a grade of CD or D do not count toward the total hour requirement for a major or minor but do fulfill the subject matter requirement and do count toward the total number of credit hours for graduation.

DEGREE REQUIREMENTS

Candidates for a Bachelor of Science degree must earn a minimum of 128 semester hours of credit. Students are required to have a GPA of 2.800 at the conclusion of their sophomore year to continue the program. Credits include the following requirements:

UCCS AND DEPARTMENT CURRICULUM REQUIREMENTS

Students majoring in Speech Pathology and Audiology must complete a minimum of 52 semester hours of core curriculum requirements. The University Core of Common Studies (UCCS) curriculum is included in the Speech Pathology and Audiology (SPPA) Core Curriculum requirements.

Rhetoric (R) **6 credits**

All students must complete ENGL 1001 – Expository Writing 1 and ENGL 1002 – Expository Writing 2 for a total of six credit hours in English Composition. Non-native speakers of English should consult the director of the English as a Second Language Program concerning concurrent registration in the appropriate ESLP course and the section of ENGL 1001 designated for non-native speakers.

Mathematical Reasoning (MR) **3 credits**

All students must complete MATH 1700 – Modern Elementary Statistics.

Diverse Cultures (DC) **3 credits**

All student must complete a course approved for inclusion in the UCCS curriculum.

Histories of Cultures and Societies (HCS) **6 credits**

All students must complete HIST 1001 – Growth of Western Civilization to 1715 and HIST 1002 – Growth of Western Civilization since 1715.

Individual and Social Behavior (ISB) **6 credits**

All students must take PSYC 1001 – General Psychology and PSYC 3101 – Developmental Psychology: Conception through Adolescence.

Literature and Performing Arts (LPA) **5-6 credits**

All students must take three credits in either English literature or foreign language literature (original or translation) and two to three credits in performing arts. Three of the 5-6 credits must be in a course approved for inclusion in the UCCS curriculum.

Science and Nature (SN) **7-9 credits**

All students must complete at least one of the following courses in the biological sciences: BISC 1015 – Principles of Human Anatomy or BIOL 1001– General Biology 1 AND complete PHYS 1001 – General Physics I.

Human Nature and Ethics (HNE)7-9 credits All students must complete PHIL 1001 – Philosophy of Human Nature, PHIL 2310 – Theory of Ethics and PHIL 4336 – Applied Ethics for the Heath Sciences (or other medical ethics course).

Theology (T) **6 credits**

All students must complete THEO 1001 – Introduction to Theology and another THEO course approved for inclusion in the UCCS curriculum.

Foreign Language0-8 credits

All students must demonstrate one-year college competency in a foreign language — foreign language 1-2. This may be accomplished by placement or course. Students who have never studied a foreign language or wish to pursue a new language must take levels 1 and 2 to complete the requirement. Students who have earned high school credit in French, German or Spanish, and who plan to continue with the study of that language must take the WebCAPE Placement Examination to determine placement in the appropriate course. On the basis of the achieved score, students will be placed in the appropriate language course. Students who are placed in 3 or higher are exempt from the foreign language requirement. For further details, see the University section on Placement Credit in Foreign Languages.

REQUIREMENTS FOR A SPPA MAJOR

The Speech Pathology and Audiology major consists of a minimum of 38 semester credits. The following courses constitute the Speech Pathology and Audiology major:

Required:

SPPA 1001	Introduction to Speech Language Pathology and Audiology (3 credits)
SPPA 1100	Anatomy and Physiology of the Speech and Hearing Mechanism (3 credits)
SPPA 2120	Phonetics and Phonology(3 credits)
SPPA 2130	Child Language Development (3 credits)
SPPA 2210	Child Language Disorders (3 credits)
SPPA 2220	Child Speech Sound Disorders (3 credits)
SPPA 3140	Speech Science (3 credits)
SPPA 3510	Introduction to Audiology (3 credits)
SPPA 3710	Intervention Methods in Speech-Language Pathology (3 credits)
SPPA 3964	Practicum in Speech-Language Pathology 1: Campus Clinic (1 credit)
SPPA 4230	Stuttering and Other Fluency Disorders (3 credits)

and an additional seven (7) semester credit hours in Speech Pathology and Audiology courses selected from:

SPPA 4310	Introduction to Neurological Disorders (3 credits)
SPPA 4520	Hearing Disorders (3 credits)
SPPA 4530	Audiological Rehabilitation (3 credits)
SPPA 4610	Multicultural Issues for Speech-Language Pathologists (3 credits)
SPPA 4720	Diagnostic Methods in Speech Pathology (3 credits)
SPPA 4964	Practicum in Speech-Language Pathology 2: Campus Clinic (1 credit)
SPPA 4965	Practicum in Audiology: Campus Clinic (1 credit)

REQUIREMENTS FOR A MINOR

A minor is not required of students majoring in speech pathology and audiology. If the student chooses to select a minor, an interdisciplinary minor of his or her choice may be formulated, or a minor may be selected in any department of the university. In the latter instance, the minor requirements are subject to the regulations of the department involved. Minors in psychology, foreign language (particularly Spanish) or family studies have been found to be particularly useful to students seeking a career in speech-language pathology or audiology. Students should consult with their academic advisor about pursuing a minor.

UNDERGRADUATE PRACTICUM IN SPEECH PATHOLOGY AND AUDIOLOGY

The student majoring in Speech Pathology and Audiology may complete approximately 50 clock hours of direct work with individuals with speech/language/hearing problems. This practicum experience is closely supervised by university personnel who hold the Certificate of Clinical Competence in Speech-Language Pathology or Audiology awarded by the American Speech-Language-Hearing Association. This practicum begins second semester of the junior year and is generally completed in two semesters.

SUPPLEMENTAL COURSEWORK

The selection of elective courses will be determined by the professional goals of the student. An academic advisor should be consulted for recommendations concerning the appropriate program to follow.

The student planning to continue graduate work in Speech-Language Pathology is advised to prepare for meeting requirements for licensure as a public school speech and language pathologist. This significantly broadens the scope of professional employment opportunities upon completion of training. Undergraduate courses recommended are:

PSYC 3130 The Psychology of the Exceptional Child (3)

SPPA 4610 Multicultural Issues for Speech-Language Pathologists (3 credits)

RELATED FIELDS

Students wishing to pursue graduate studies in Deaf Education, Learning Disabilities, Special Education, and other related areas may need to supplement their program of studies with additional course work. Students interested in these areas should consult institutions conferring such degrees for prerequisites and requirements.

LABORATORIES

The Marquette University Speech and Hearing Clinic serves as a working laboratory for students in the speech pathology and audiology program. The clinic has individual therapy rooms for adults and children, three diagnostic suites, a hearing testing suite and rooms designed for specialized speech/language therapy: child language room, adult language room, augmentative/alternate communication room and sensory integration room. Other speech pathology and audiology laboratories include child language, phonology and language analysis, bilingual language and literacy, speech and swallowing, neurolinguistics, dysphagia, and student computer room.

CURRICULA INFORMATION

TYPICAL PROGRAM FOR SPEECH PATHOLOGY AND AUDIOLOGY MAJORS

Freshman

FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
SPPA 1001	3	SPPA 1100	3
ENGL 1001 (R)	3	ENGL 1002 (R)	3
HIST 1001 (HCS)	3	UCCS (SN)	3-5
MATH 1700 (MR)	3	Foreign Language	3-4
Foreign Language	3-4	Elective	3
	15-16		15-18

Sophomore

FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
SPPA 2120	3	SPPA 2210	3
SPPA 2130	3	SPPA 2220	3
PHIL 1001 (HNE)	3	THEO 1001 (T)	3
PSYC 1001 (ISB)	3	UCCS (LPA)**	2-3
PHYS 1001	4	HIST 1002	3
		Elective	3
	16		17-18

Junior

FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
SPPA 3140	3	SPPA 4230	3
PSYC 3101	3	SPPA 3710	3
PHIL 2310 (HNE)	3	SPPA 3964	1
UCCS (T)	3	SPPA 3510	3
Fine Arts/Lit**	3	PSYC 3130 (recommended)	3
Elective	3	PHIL 4336	1
	18		14

Senior

FIRST TERM	SEM. HRS.	SECOND TERM	SEM. HRS.
SPPA Elective	1	SPPA Elective	3
SPPA Elective	3	UCCS (DC)	3
Elective	3	Elective	3
Elective	3	Elective	3
Elective	3	Elective	3
Elective	3		
	16		15

**Students must complete both a literature course and a fine arts/performing arts course. At least one of these two courses must fulfill the UCCS LPA requirement.

COURSE DESCRIPTIONS

HEALTH SCIENCES (HESC)

HESC 1931. Topics in Health Sciences 0-3 sem. hrs.

Selected topics in health sciences. Specific topics will be designated in the *Schedule of Classes*. 0 credit will be SNC/UNC grade assessment; 1-3 credits will be graded.

HESC 4995. Independent Study in Health Sciences 1-3 sem. hrs.

Prereq: Cons. of dept. ch. and cons. of assistant dean.

HESC 9042. College of Health Sciences Undergraduate International Study/ Consortium: Full-Time 0 sem. hrs.

A zero-credit, 12 credit hour equivalent course (full-time), designed to keep a student's record active while studying at an approved non-Marquette sponsored study abroad program. In order to participate, the student must have a consortium agreement with an institution that has been accredited in the United States, or by the Ministry of Education in the country in question and whose accreditation has been verified by Marquette's Office of International Education. Courses and/or credits that have been pre-approved by the student's college before study begins, will be transferable to the student's degree program. SNC/UNC grade assessment.

Prereq: Cons. of the College of Health Sciences.

BIOMEDICAL SCIENCES (BISC)

*Chairperson and Associate Professor: Mantsch
Associate Chairperson and
Associate Professor: Baker
Professor: Vaughn*

Associate Professor: Bell, Cullinan, Ghasemzadeh, Kos, Lobner, Peoples, Rajala, Siebenlist

Assistant Professor: Choi, Gasser, Roseberry

Clinical Assistant Professor: Carroll

Laboratory Supervisor: Franklin

Adjunct Professor: Raff

Adjunct Associate Professor: Biel

Adjunct Assistant Professor: Brophy, Cimrmanic, Crowe, Feldman, Jurken, Kirstbaum, Kurpad, Levene, Papanek, Petitjean, Roznik, Sischo, Shinnors, Troy, Zandoni

Adjunct Clinical Instructor: Wenninger

The department offers human-oriented courses in anatomy, biochemistry, microbiology, nutrition, pathology, pharmacology and physiology at the undergraduate, graduate and professional level. Courses available to undergraduates and professional students are described in this section.

BISC 1001. Contemporary Issues in Biomedical Sciences 1 sem. hr.

Introduction to the field of biomedical sciences with a special emphasis on current topics in health and medicine, development of critical thinking skills, and professional development. Offered fall term. S/U grading basis.

Prereq: BISC major with Freshman stndg.

▲ BISC 1010. Contemporary Issues in Nutrition 3 sem. hrs.

Personalized nutrition applications for health promotion designed for non-science majors. Topics include scientific methods, nutrients, life cycle nutrition, weight management, disordered eating, dietary supplements (including botanicals) and nutrition and fitness. Not to be taken for credit by students who have had HEAL 2045 or BISC 3110. Offered spring term.

▲ BISC 1015. Principles of Human Anatomy and Physiology 5 sem. hrs.

Principles of Human Anatomy and Physiology is an introduction to the structures and functions of the human body. Laboratory included. Offered spring term.

BISC 1030. Introduction to Dentistry 1 sem. hr.

An introduction to the diverse aspects of the dental profession, featuring guest speakers and hands-on laboratory techniques. Offered spring term. S/U grade assessment. *Prereq: Cons. of dept. ch.*

BISC 1060. Chemistry for the Health Professions 3 sem. hrs.

An introduction to general chemistry and organic chemistry stressing those aspects necessary for the health professions. *Prereq: NURS major.*

BISC 2050. Organic Chemistry for the Health Sciences 2 sem. hrs.

An introduction to organic chemistry, stressing the physical properties and representative reactions of the common organic functional groups. Offered fall term. *Prereq: CHEM 1001 and CHEM 1002.*

BISC 2070. Biochemistry for the Health Professions 3 sem. hrs.

Carbohydrates, lipids, proteins, enzymes, bioenergetics, metabolism of carbohydrates, lipids, proteins, and nucleotides. Emphasis placed on health and disease. Offered spring term.

Prereq: BISC 1060; or courses in general and organic chemistry; or cons. of instr.

BISC 2125. Human Microanatomy 4 sem. hrs.

A study of the microscopic structure of cells, tissues and organs of the human body. Emphasis is placed on structure-function relationships and on the interaction of various cell types, tissues and organ systems. Includes laboratory. Offered fall term.

BISC 2135. Human Anatomy 4 sem. hrs.

A regional approach to human anatomy where all body systems are integrated. Correlations between structure and function are emphasized. Laboratory included. Offered fall term.

BISC 2150. Social Justice Issues in Health Science 3 sem. hrs.

Current state of the US health care system, with an emphasis on the health care safety net and access to care issues; global health issues; comparison of international health plans and the bioethics of health care rationing. Community health care providers, administrators and political advocates guest lecture to provide first-hand knowledge of the current issues and potential solutions, and serve as models for careers that make a difference. Offered fall term. *Prereq: Soph. stndg.*

BISC 2173. Principles of Human Embryology 3 sem. hrs.

System by system approach to the understanding of the sequence of human embryonic and fetal development. Early events include gametogenesis, implantation and placentation are covered to give a foundation for discussing the development of major organ systems. Discusses the underlying causes of morphological errors in the development which lead to congenital malformations. Effects of harmful (teratogenic) substances early in the developmental period are stressed. Students given a basic understanding of early inductive influences on major organ systems. *Prereq: Soph. stndg.*

BISC 3110. Nutritional Aspects of Health 3 sem. hrs.

Basic principles and fundamentals of human nutrition. Nutrients are discussed in terms of sources, absorption, metabolism and utilization, deficiency, requirements, and assessment of status. Life cycle nutrition and nutrition in disease states. Offered fall term. Intended audience: future health care professionals. *Prereq: A course in Biochemistry and BISC major; or cons. of instr. Not to be taken for credit by students who have had BISC 1010 or HEAL 2045.*

BISC 3112. Head and Neck Anatomy 3 sem. hrs.

Comprehensive review of neuroanatomy, sensory systems and speech, muscular and vascular systems, and osteology of the head and neck. An emphasis is placed on functional anatomy and significant clinical correlates. Laboratory included. *Prereq: BISC 1015 or BISC 2135.*

BISC 3115. Human Microbiology 3 sem. hrs.

Cytology, physiology and genetics of bacteria, viruses, fungi and animal parasites of medical importance. Basic identification procedures. Control of microorganisms; sterilization/disinfection, chemotherapy, immunization, epidemiology. Host-parasite interactions. The nature and the responses of the immune system. Study of the major infectious diseases. Offered fall term.

Prereq: A Biochemistry course, which may be taken concurrently; or cons. of instr.

BISC 3136. Gross Anatomy for the Biomedical Sciences 2 sem. hrs.

This undergraduate human gross anatomy laboratory course takes a regional approach to the dissection of human cadaveric material and includes all body structures/systems. Space reserved for Biomedical Sciences majors in good standing. Enrollment is limited based upon specimen availability. Offered spring term.

Prereq: BISC 2135 and cons. of instr.

BISC 3150. General Pathology 3 sem. hrs.

The course begins with an overview of cellular degenerations, inflammation and neoplasia. Various organ systems and their primary disease states will then be presented. These systems include musculoskeletal, nervous, cardiovascular, pulmonary, reproductive, digestive, endocrine, and integument. This course is taught using lecture note handouts, Power Point, Web sites and examination objectives. Offered spring term.

Prereq: Courses in anatomy and physiology; or PHTH major; or PHAS major; or cons. of instr.

▲ Indicates UCCS courses

BISC 3213. Biochemistry 4 sem. hrs.

The chemistry of living cells in health and disease. The structure and function of proteins, carbohydrates, fats, nucleic acids, the metabolic regulation of human cells, and current techniques in molecular medicine are covered. Offered fall term.
Prereq: CHEM 2111 and CHEM 2112.

BISC 3859. Evolution 3 sem. hrs.

Evolution consists of describing its history and analyzing its causes and mechanisms. Emphasizes the general principles of evolution, the hypotheses about the causes of evolutionary change that apply to the most organisms, and the major patterns of change that have characterized many different groups.
Prereq: BIOL 1001 and BIOL 1002; or cons. of instr.

BISC 4120. Pharmacology 3 sem. hrs.

This course covers the fundamentals of human pharmacology and the basic principles dictating drug action within the human body. The course focuses on the therapeutic actions and clinical applications of various drug classes with emphasis on cellular mechanisms, physiological responses, adverse reactions, and clinical indications, accompanied by general discussion on the pathological conditions for which common therapeutic agents are used. Offered spring term only.
Prereq: A course in Biochemistry and BISC 1015; or a course in Biochemistry and BISC 4145.

BISC 4130. Human Gross Anatomy 5 sem. hrs.

A human gross anatomy course including lecture and a cadaver dissection laboratory. Anatomy of the limbs, back, thorax, abdomen, pelvis, and head and neck is approached on a regional basis. Functional aspects of musculoskeletal structures are emphasized. Offered fall term.
Prereq: PHTH major; or PHAS major 2.

BISC 4140. Functional Neuroanatomy 3 sem. hrs.

Examines the basic structure and function of the central nervous system from spinal cord to cerebral cortex. Material will be presented within both clinical and basic contexts. Based on the understanding of the normal circuitry and function of the brain, clinically relevant neurological disorders and basic neuroanatomical methods will also be explored. Laboratory included. Offered spring term.
Prereq: BISC 2135 or BISC 4130.

BISC 4145. Human Physiology 4 sem. hrs.

Human physiology including blood and circulation, muscular, neuronal and sensory systems, renal and respiratory systems, digestion, metabolism, reproduction, their control by the endocrine and central nervous systems, and clinical correlates. Offered spring term.
Prereq: BISC 2135; and a course in Biochemistry.

BISC 4160. Molecular Pathology 3 sem. hrs.

Cellular and molecular basis of human diseases, therapeutic interventions and current research efforts. Offered fall term.
Prereq: A course in biochemistry, which may be taken concurrently; cons. of instr.

BISC 4165. Microbiology Laboratory

1 sem. hr.

Introduction to various topics of microbiology laboratory including the isolation, cultivation, enumeration and characterization of bacteria of human medical importance. Brightfield, darkfield, and phase contrast microscopy are utilized. Specialized techniques include antibiotic susceptibility testing, anaerobic cultivation and immunological assays. Offered spring term. *Prereq: BISC 7410 which may be taken concurrently; or BISC 3115; cons. of instr.*

BISC 4931. Topics in Biomedical Sciences

1-3 sem. hrs.

Selected topics in biomedical sciences. Specific topics will be designated in the *Schedule of Classes*.

BISC 4986. Internship in Biomedical Sciences 1-3 sem. hrs.

Co-op or intern experience in the biomedical industry. Features educational activity and productive work related to health care delivery or industrial or administrative aspects of health care. S/U grade assessment. *Prereq: Cons. of dept. ch.; cons. of Internship Director.*

BISC 4995. Independent Study in Biomedical Sciences 1-6 sem. hrs.

Research on a selected topic under the direction of a faculty member of the Department of Biomedical Sciences. *Prereq: Cons. of dept. ch.*

BISC 7120. Medical Pharmacology 4 sem. hrs.

Fundamentals of human pharmacology and basic principles dictating drug actions within the human body with emphasis on applications in general medicine. Focuses on the therapeutic actions and clinical applications of various drug classes. Topics include: cellular mechanisms, physiological responses, adverse reactions, drug-drug interactions, and clinical indications, accompanied by discussion on the pathological conditions for which common therapeutic agents are used. Applications of pharmacology commonly encountered by physician assistants are presented and are reinforced through interactive clinically correlated lectures presented by practicing physicians and physician assistants.
Prereq: BISC 3213, BISC 4145 and PHAS major.

BISC 7410. Microbiology 4 sem. hrs.

This course focuses on infectious agents of human medical importance and on the host pathogen interaction. Topic areas include the general characteristics of bacteria, viruses, fungi and parasites as well as the etiology, pathogenesis, laboratory identification, and epidemiology of selected diseases. Control of microorganisms is discussed in terms of sterilization, disinfection, chemotherapy and immunization. The immune system and the immune response are discussed. Offered spring term. *Prereq: BISC 7513 or BISC 3213; School of Dentistry or PHAS major 2 only.*

BISC 7513. Human Biochemistry 4 sem. hrs.

Biochemistry of human cells is examined. The chemistry of proteins, carbohydrates, lipids and nucleic acids, metabolic regulation of human cells as well as changes in diseases are discussed. When necessary, it is compared and contrasted with bacterial cells. Offered fall term.
Prereq: School of Dentistry only.

BISC 7514. General Histology 4 sem. hrs.

This course is a study of the normal microscopic structure and function of human cells, tissues and organs. The structural basis for various physiological and pathological processes such as inflammation and endocrine cycles is presented. The student is also introduced to tissues of the oral region that are studied in detail in DENT 7121. Laboratory exercises promote visual identification of structure. Offered fall term. *Prereq: School of Dentistry only.*

BISC 7515. Biomedical Systems 1 3 sem. hrs.

Module 1 of a systems-based course integrating anatomy, physiology and pathology including dental clinical correlates. Offered spring term.
Prereq: School of Dentistry.

BISC 7516. Biomedical Systems 2 3 sem. hrs.

Module 2 of systems-based course integrating anatomy, physiology and pathology including dental clinical correlates. Offered spring term.
Prereq: School of Dentistry.

BISC 7517. Biomedical Systems 3 4 sem. hrs.

Module 3 of a systems-based course integrating anatomy, physiology and pathology including dental clinical correlates. Offered fall term.
Prereq: School of Dentistry.

BISC 7518. Biomedical Systems 4 4 sem. hrs.

Module 4 of a systems-based course integrating anatomy, physiology and pathology including dental clinical correlates. Offered fall term.
Prereq: School of Dentistry.

BISC 7520. Dental Pharmacology 4 sem. hrs.

Fundamentals of human pharmacology and basic principles dictating drug actions within the human body with emphasis on applications in dentistry. Focuses on the therapeutic actions and clinical applications of various drug classes. Topics include: cellular mechanisms, physiological responses, adverse reactions, drug-drug interactions, and clinical indications, accompanied by discussion on the pathological conditions for which common therapeutic agents are used. Applications of pharmacology commonly encountered by dentists are presented and are reinforced through interactive clinically correlated lectures presented by dental professionals.
Prereq: Enrolled in Dentistry.

BISC 7550. Remediation 0-6 sem. hrs.

Variable credits. Variable titles. 0 credit will be SNC/UNC grade assessment; 1-6 credits will be graded.

BISC 7995. Independent Study in Biomedical Sciences 1-6 sem. hrs.

Prereq: Cons. of dept. ch.

CLINICAL LABORATORY SCIENCE (CLLS)

Chairperson and Associate Professor: Laatsch
Assistant Professor: Harkins, Hou
Clinical Instructor: Landin
Adjunct (clinical) Assistant Professor: Maticek, Schmus
Medical Adviser: Dunn

These courses are open to students enrolled in the Department of Clinical Laboratory Science, and to others by special permission of the department chairperson. Successful completion of individual courses does not qualify persons to work in a medical laboratory. For a description of courses in the major which are offered in the Klingler College of Arts and Sciences, see the Klingler College of Arts and Sciences section of this bulletin.

Courses listed as "coreq" must be taken concurrently.

CLLS 1001. Introduction to Clinical Laboratory Methods 1 sem. hr.

Fundamental concepts in laboratory analysis and data correlation. Topics limited to specific disease entities. Laboratory exercises include certain aspects of clinical chemistry, clinical hematology and clinical microbiology. (Saturdays).

Prereq: Enrolled in *CLLS Young Scholar Program*.

CLLS 1010. Concepts in Clinical Laboratory Medicine 3 sem. hrs.

Introduction to pathophysiology and the basic laboratory techniques of clinical pathology. Lecture and laboratory sessions limited to selected topics in hematology, immunohematology and clinical chemistry. Offered fall term. *Prereq:* *CLLS major and BIOL 1001, which may be taken concurrently; and CHEM 1001, which may be taken concurrently; High school chemistry and biology with laboratory.*

CLLS 1100. Guided Study in Clinical Laboratory Science 0-2 sem. hrs.

Analysis of selected topics under faculty supervision. Primarily for undergraduate students who wish to enhance their knowledge in selected disciplines through guided study. 0 credit will be SNC/UNC grade assessment; 1-2 credits will be graded. *Prereq:* *CLLS major; or cons. of dept. ch.*

CLLS 2050. Forensic Science 3 sem. hrs.

An introduction to the principles of forensic science. An overview of criminal law, the crime scene, evidence collection and processing, forensic medicine (pathology) drugs and toxins, firearms, questioned documents, trace evidence, fingerprints and DNA as evidence. Emphasis on the investigatory role of the forensic scientist. Laboratory sessions reinforce information from lectures and provide hands-on experiences, including homicide scene investigation techniques, molecular biology procedures. Offered annually.

CLLS 2060. Public Health 3 sem. hrs.

An exploration and overview of public health medicine and its contribution to prevention and control of disease. Provides familiarization with epidemiology surveillance and investigation methods, including statistical tools. Included is an introduction to the following components of public health medicine: communicable and non-communicable disease diagnosis and monitoring, environmental and food-borne health concerns, social and behavioral health issues, community health services, and the bioterrorism response network.

CLLS 3124. Medical Bacteriology 4 sem. hrs. Emphasis on the theoretical foundations and methodologies needed in a medical bacteriology laboratory. Topics include cultivation, isolation, microscopy, and antibiotic susceptibility testing. Morphological, cultural, biochemical, and immunological characteristics of bacteria examined as a basis for their differentiation and identification. Epidemiology, pathogenicity, and treatment of bacterial infections explored. Concepts of the humoral immune response included. Offered every fall. *Prereq:* *CLLS major and Biochemistry, which may be taken concurrently.*

CLLS 3127. Medical Microbiology 4 sem. hrs. Study of the identification and differentiation of pathogens and normal flora of humans based upon correlation of morphological, biochemical, immunological, and molecular characteristics. Epidemiology, pathogenicity, and treatment modalities are also investigated. Fungi, parasites, viruses, and bacteria are studied along with concepts of the cellular immune response. Laboratory involves isolation and identification of medically important microorganisms, including proper patient specimen processing. Offered every spring. *Prereq:* *CLLS major and CLLS 3124.*

CLLS 3140. Laboratory Instrumentation 3 sem. hrs.

Application of the principles of basic electronics, spectrophotometry, flurometry, electrochemistry, flame emission and atomic absorption to laboratory instruments used in diagnostic and research laboratories. Selected laboratory experiments investigate these applications as related to clinical chemistry and hematology. Background in quality assurance is provided. Focuses on team problem-solving and instrument trouble-shooting. Offered every spring. *Prereq:* *CLLS major.*

CLLS 3160. Molecular Diagnostics: Laboratory Techniques 3 sem. hrs.

Medical and forensic molecular biology, including a review of DNA/RNA structure and function, will be covered. Relevant laboratory techniques include isolation of genomic DNA from various tissue samples, PCR RFLP, molecular diagnosis of cancer, detection of infectious agents and identification of inherited diseases. *Prereq:* *BIOL 4101 or BISC 2070 or BISC 3213. Can be taken concurrently.*

CLLS 3173. Analytical and Clinical Chemistry 4 sem. hrs.

Concepts of analytical chemistry including mathematical treatment of data, chemical and acid-base equilibria, buffers and electrochemistry. Application of theoretical aspects to measurement and evaluation of acid-base and electrolyte balance in the human body. Principles and application of electrophoretic and chromatographic analysis of clinical specimens. The components of blood and body fluids and their chemical analysis in disease states. Selected laboratory exercises emphasize quality assurance and integration of automated and manual clinical methods. Offered annually. *Prereq:* *Jr. stndg. and CLLS major.*

CLLS 3174. Clinical Hematology 1 4 sem. hrs.

Study of identification and differentiation of blood and bone marrow cells with emphasis on morphology, function and pathology of these cells. Included is the study of blood parasites. Principles of methodologies used and their relationship to diagnosis and treatment of disease. Laboratory provides experience in identification of cellular elements in normal and disease states. Offered spring term. *Prereq:* *CLLS major.*

CLLS 4180. Basic Concepts in Clinical Education Methods and Practicum 1 sem. hr.

Educational concepts especially appropriate to instruction in a clinical setting using clinical materials. The concepts discussed include: writing learning objectives, learning styles, testing and evaluation methods and use of audio-visuals. Offered annually. *Prereq:* *Sr. stndg. and CLLS major; individual assignments to clinical laboratory affiliations.*

CLLS 4181. Modern Management Concepts for the Clinical Laboratory and Practicum 1 sem. hr.

Comparison of management theories and styles for effective leadership. Principles and methods of communication essential to the delivery of quality health care. Strategic financial planning ensuring cost effectiveness in the diagnostic laboratory. Statistical analysis comparing alternative methodologies for selection of reliable laboratory procedures. Selected projects relating managerial practices to clinical laboratory organization and use of laboratory data systems for health care delivery. Offered annually. *Prereq:* *Sr. stndg. and CLLS major; individual assignments to clinical laboratory affiliations.*

CLLS 4183. Clinical Chemistry and Practicum 6 sem. hrs.

The chemical constituents of blood and other body fluids in health and disease. Principles of the methods used in qualitative and quantitative determination of these constituents. Treatment of the theoretical aspects of instrumentation used in these determinations. Offered annually. *Prereq:* *Sr. stndg. and CLLS major; individual assignments to clinical laboratory affiliations.*

CLLS 4184. Clinical Hematology 2 and Practicum 4 sem. hrs.

Quantitative and qualitative study of blood, bone marrow and body fluid cells and alterations present in disease. Principles of procedures used. Methods of obtaining and preserving blood specimens with consideration of the theory and practice of aseptic technique. Offered annually. *Prereq:* *Sr. stndg. and CLLS major; individual assignments to clinical laboratory affiliations.*

CLLS 4185. Clinical Hemostasis and Practicum 3 sem. hrs.

The components in the blood related to the hemostatic mechanisms, the principles of the procedures involved and their relationship to the diagnosis and treatment of disease. Offered annually. *Prereq:* *Sr. stndg. and CLLS major; individual assignments to clinical laboratory affiliations.*

CLLS 4186. Clinical Immunohematology and Practicum 6 sem. hrs.

Therapeutic and diagnostic aspects of immunohematology. Aspects of blood transfusion and of methods used in preservation and selection of properly matched blood for transfusion. Offered annually. *Prereq:* *Sr. stndg. and CLLS major; individual assignments to clinical laboratory affiliations.*

CLLS 4187. Clinical Immunology and Serology and Practicum 2 sem. hrs.

The mechanisms of resistance to disease, especially the antigen-antibody reactions and the diagnostic procedures used in determining this resistance. *Prereq:* *Sr. stndg. and CLLS major; individual assignments to clinical laboratory affiliations.*

CLLS 4188. Clinical Microbiology and Practicum 6 sem. hrs.

Advanced study of pathogenic and normal flora microorganisms having medical importance. Includes methods for obtaining and handling specimens for culture as well as principles of current instrumentation. Identification protocol include cultural, morphological, biochemical, immunological, and molecular characteristics. Pathophysiology of infectious diseases caused by bacteria, fungi, parasites and viruses is examined.
Prereq: Sr. stndg. and CLLS major; individual assignments to clinical laboratory affiliations.

CLLS 4189. Clinical Urinology and Practicum 2 sem. hrs.

Physical, chemical and microscopic study of urine with emphasis on the changes exhibited in disease with related physiology.
Prereq: Sr. stndg. and CLLS major; individual assignments to clinical laboratory affiliations.

CLLS 4931. Topics in Clinical Laboratory Science 1-4 sem. hrs.

Selected topics in clinical laboratory science. Specific topics determined each term. Offered annually.

CLLS 4995. Independent Study in Clinical Laboratory Studies 1-4 sem. hrs.

Prereq: Cons. of dept. ch.

PHYSICAL THERAPY (PHTH) / ATHLETIC TRAINING (ATTR) EXERCISE SCIENCE (EXSC)

Chairperson, Department of Physical Therapy and Program in Exercise Science and Professor: L. Pan Director of Exercise Science and Associate Professor: Papanek

Professor: Kloth (Emeritus), Neumann, Simoneau Associate Professor: Hunter, Ng, Rajala, Sobush Adjunct Associate Professor: Aubert Assistant Professor: Ebben, Hoeger-Bement, Hyngstrom, Schindler-Ivens Clinical Associate Professor, Kontney, C. Simenz, Stoeckmann

Clinical Assistant Professor: C. Geiser, Leigh, Parker, Starsky, Vanden Noven

Clinical Instructors: Bielefeld, Boissonnault, M. Diamond, M. Geiser, Millington, Olsen, Olson, J. Pan, Uhrich, Wenninger, Wilk

PHYSICAL THERAPY

PHTH 1001. Introduction to Physical Therapy 1 sem. hr.

Lecture course with two components. The first will focus on medical terminology pertinent to the health care professions. The second will provide career exposure to physical therapy and include current topics of interest in the field.

Prereq: Second year Direct-Admit PT students and others by cons. of instr.

▲ PHTH 4512. Culture and Disability 3 sem. hrs.

The culture of disability, as a product of intrinsic factors of the person (spiritual beliefs and cultural practices) and those extrinsic factors in society (prejudice, stigma and discrimination) and the environment (architectural barriers) will be examined. The human

dignity and civil rights of persons with disability, especially for the ever-expanding population of persons aged 65 and older, will be emphasized. Students will reflect on their own values, beliefs, and guiding life principles (Vocational Discernment) which shape their interactions and behaviors as professional health-care providers. The role of positive emotions, having choices, hope, and spiritual resolve as a foundation for the developing field of rehabilitation medicine called "Cardio-Psycho-Neuro-Immunology" will be a focus in this course.
Prereq: Cons. of instr.

PHTH 7503. Patient Management 1 3 sem. hrs. Lecture/laboratory course simulating patient interactions and discussing learning units that enforce application of course work to clinical practice.
Prereq: PHTH major.

PHTH 7504. Patient Management 2 2 sem. hrs. Lecture/laboratory course simulating patient interactions and discussing learning units that enforce application of course work to clinical practice.
Prereq: PHTH major.

PHTH 7505. Patient Management 3 2 sem. hrs. Lecture/laboratory course simulating patient interactions and discussing learning units that enforce application of course work to clinical practice.
Prereq: PHTH major; and concurrent enrollment in PHTH 7986.

PHTH 7512. Culture and Disability 3 sem. hrs. The culture of disability, as a product of intrinsic factors of the person (spiritual beliefs and cultural practices) and those extrinsic factors in society (prejudice, stigma and discrimination) and the environment (architectural barriers) will be examined. The human dignity and civil rights of persons with disability, especially for the ever-expanding population of persons aged 65 and older, will be emphasized. Students will reflect on their own values, beliefs, and guiding life principles (Vocational Discernment) which shape their interactions and behaviors as professional health-care providers. The role of positive emotions, having choices, hope, and spiritual resolve as a foundation for the developing field of rehabilitation medicine called "Cardio-Psycho-Neuro-Immunology" will be a focus in this course.
Prereq: PHTH major; or cons. of instr.

PHTH 7513. Health Care Policy/Management 3 sem. hrs.

Contemporary Issues and Management Principles in physical therapy practice. Discussions of recent historical and current external environmental factors affecting the delivery of health care services are interwoven with discussions of business, management, and supervisor/leadership principles applicable to the health care service industry. Particular attention is focused on the delivery of physical therapy services under changing environmental conditions. 7000 level course contains enhanced content. Open to practicing Physical Therapists.
Prereq: PHTH major; or cons. of instr.

PHTH 7515. Pathophysiology and Aging 4 sem. hrs.

Lecture/clinical observations course will present the pathophysiology of cardiovascular, respiratory, renal, endocrine and immune system disorders. Course details background information on the aging process. Age-related and pathological changes which occur in the major physiological systems over time are compared and contrasted. Modes of providing service to aged clients is explored.
Prereq: Physiology; and current enrollment in BISC 3150.

PHTH 7518. Physiology of Activity 3 sem. hrs. This lecture/laboratory course will concentrate on the assessment of activity tolerance in, and basic principles of, exercise prescriptions for normal healthy individuals through the life span who are either trained or untrained. A functional approach will be emphasized and factors that enhance or impede performance will be examined. Various training strategies will be introduced.
Prereq: PHTH major and PHTH 7515; or enrolled in Health Sciences – Professional and PHTH 7515; and current certification in CPR for the health care provider.

PHTH 7522. Introduction to Evidence Based Decision Making in Clinical Practice 2 sem. hrs.

Teaches physical therapy students how to provide the best possible care for patients according to an evidence based practice model, which integrates clinical experience, external evidence, and patient expectations. Students will learn how to formulate answerable clinical questions, use online databases to access research evidence, critically evaluate clinical and scientific literature related to patient care, integrate and apply the best evidence for practice, and use these skills to become life long learners. Instruction methods include lectures, in class discussions, hands on activities, and student presentations.
Prereq: Major in Physical Therapy

PHTH 7523. Applied Evidence Based Decision Making 1 sem. hr.

Evidence-based practice applied to clinical content areas, including orthopedics. Web based assignments. Students will complete individual projects and present their work.
Prereq: PHTH major and PHTH 7522; and concurrent enrollment in PHTH 7532.

PHTH 7525. Kinesiology 1: The Upper Extremity 3 sem. hrs.

Anatomy of the muscular and joint systems in normal and abnormal conditions in the upper extremities. Course includes surface anatomy, the biomechanics of normal and abnormal muscle and joint action. Lecture, demonstration and laboratory practice.
Prereq: PHTH major.

PHTH 7526. Kinesiology 2: The Spine and Lower Extremity 3 sem. hrs.

Continuation of PHTH 7525 with emphasis on head, trunk and lower extremities, including an introduction to normal gait, posture, and surface anatomy. Lecture, demonstration and laboratory practice.
Prereq: PHTH 7525.

PHTH 7528. Physical Therapy Evaluation, Tests and Measures 2 sem. hrs.

Lecture and clinical laboratory course. The students will learn the general concepts and specific techniques of Physical Therapy evaluation including tests and measures including range of motion, flexibility and strength using diverse instrumentation.
Prereq: PHTH major and BISC 4130 or BISC 2135 and BISC 2136.

PHTH 7530. Pain Mechanisms and Treatment
2 sem. hrs.

Lecture and clinical laboratory course (based on research evidence and/or best practice) that presents the principles and methods that lead to clinical outcomes related to pain conditions including the theoretical models for understanding the basis for pain. Content will include pain mechanisms, assessment and physical therapy management.

Prereq: PHTH Major.

PHTH 7532. Orthopedics 1 4 sem. hrs.

Lecture, demonstration and laboratory experiences. The elements of patient/client management (examination; evaluation; diagnosis; prognosis; and intervention) are applied to musculoskeletal conditions.

Prereq: PHTH major and PHTH 7525; and concurrent enrollment in PHTH 7526.

PHTH 7533. Orthopedics 2 4 sem. hrs.

Continuation of PHTH 7532 with an emphasis on the evaluation and treatment of specific musculoskeletal injuries/dysfunctions. Includes surgical, non-surgical, traumatic, chronic and sports-related conditions. 7000 level course contains enhanced content.

Prereq: PHTH 7532 and PHTH 7526.

PHTH 7539. Diagnostic Imaging Testing
3 sem. hrs.

Study of diagnostic imaging techniques as they relate to physical therapy practice areas. Includes study of common medical tests.

PHTH 7549. Differential Diagnosis of Disease
2 sem. hrs.

Lecture course focusing on a broad range of medical diseases and their various clinical presentations. The focus is on the use of clinical decision making skills when analyzing a patient's medical history intake and the review of systems. The course addresses screening, to include referral for conditions or diseases that are not within a physical therapist's scope of practice.

Prereq: PHTH major.

PHTH 7555. Life Span Development
2 sem. hrs.

Lecture/discussion/lab. Normal growth and motor development from prenatal development to motor adaptation and functional changes in adult years. Special focus on motor behaviors across the life span and implications for the physical therapist, as well as potential influence of motor development in the presence of injury, disease, and disability. Opportunity for interaction with infants, toddlers, children, teens and adults.

Prereq: PHTH major and BISC 4130.

PHTH 7558. Neuroanatomy 4 sem. hrs.

Structure and function of the central nervous system (CNS). Lecture, clinical correlations, clinical problem solving to predict signs and symptoms in patients with PNS and CNS lesions.

Prereq: PHTH major or PHAS major.

**PHTH 7560. Physical Technologies/
Electrotherapy/Electrophysiological
Testing** 4 sem. hrs.

Lecture and clinical laboratory course (based on research evidence and/or best practice) that presents the physical and physiological basis and the principles and methods that lead to: 1) clinical outcomes following the therapeutic application of thermotherapy, cryotherapy, actinotherapy and mechanotherapy in the treatment of disorders involving the

musculoskeletal, neuromuscular, cardiovascular and integumentary systems; and 2) for electrotherapeutic interventions for clinical treatment of individuals with musculoskeletal dysfunction, motor control deficits, acute and chronic pain, and other selected conditions. Electrophysiological testing will include electromyography and nerve conduction velocity evaluation.

Prereq: PHTH major.

**PHTH 7570. Advanced Biomechanics and
Kinesiology** 4 sem. hrs.

Advanced analysis of human movement including gait, orthotics and prosthetics. Rehabilitation focuses on physical therapy interventions for patient/clients with chronic diseases and other conditions necessitating long-term therapeutic intervention.

Prereq: PHTH major.

**PHTH 7577. Wound/Integumentary Physical
Therapy** 2 sem. hrs.

Lecture and clinical laboratory course (based on research evidence and/or best practice) that presents the physical and physiological basis and the principles and methods that lead to clinical outcomes related to the integumentary system. Content will include pathophysiology, diagnosis and management of chronic wounds, management of thermal injuries and edema. The course will also include infection control and aseptic technique.

Prereq: PHTH major.

PHTH 7667. Neurological Rehabilitation 1
2 sem. hrs.

Lecture and discussion-based course covering the pathology, etiology, and epidemiology of common neurological diseases. Clinical presentation, differential diagnosis, evaluation, and medical/surgical interventions for the diseases are the focus of the first of a 2 part course series.

Prereq: PHTH major and successful completion or concurrent enrollment in PHTH 7558.

PHTH 7668. Neurological Rehabilitation 2
4 sem. hrs.

Continuation of Neurological Rehabilitation 1. Lectures and labs focus on physical therapy interventions for specific impairments, disease-specific conditions, and overall function. Evidence-based practice guidelines are utilized when available, objective tests and measures are emphasized, and case studies are utilized to integrate and apply information.

Prereq: PHTH major, successful completion of PHTH 7667 and PHTH 7558.

**PHTH 7674. Critically Appraising and
Contributing to the Evidence for
Clinical Practice** 3 sem. hrs.

Course is a culmination of the skills and knowledge obtained in PHTH 7522 and 7523 and prepares students for leadership roles in physical therapy. Students hone their skills at reading and critically evaluating the clinical and scientific literature. In so doing, student become familiar with the evidence for practice in several emerging areas of physical therapy. Students also learn to lead and participate in journal clubs, provide effective peer review, contribute to the evidence for practice, and communicate novel ideas to the physical therapy community. Instruction methods include lectures, journal clubs, and writing workshops. As a capstone project students will author papers comparable to those seen in the journal of the American Physical Therapy Association and present their work to the physical therapy community.

Prereq: PHTH major and successful completion of Introduction to Evidence Based Decision Making in Clinical Practice, PHTH 7522.

**PHTH 7675. Pediatric Disorders and
Intervention Strategies** 4 sem. hrs.

Lecture/lab/discussion on developmental disabilities and other selected pediatric disorders. Concepts of physical therapy evaluation, assessment, goal setting and treatment of the pediatric patient; common treatment theories and techniques and their application to children. Current cultural, ethical, and legal issues related to health care and children.

Prereq: Must be a 6th year PHTH major.

**PHTH 7682. Cardiovascular and Pulmonary
Physical Therapy** 3 sem. hrs.

Lecture/laboratory course will focus on recuperative/restorative management of clients having primary or secondary involvement of the cardiovascular and/or pulmonary systems. A total gas delivery approach will be emphasized through case presentations. Clinical skills to be taught will be consistent with nationally published Clinical Practice Guidelines that are evidence-based. 7000 level course contains enhanced content.

Prereq: PHTH major; certification in Basic Life Support (CPR).

**PHTH 7684. Clinical Issues and Decision
Making** 2 sem. hrs.

Lecture course with occasional joint labs with the DPT-5 students during class time. The emphasis of this course is to examine and discuss current issues and trends in physical therapy practice, and to mentor DPT-5 students. Topics include patient and professional advocacy, autonomous practice, ethics, jurisprudence, reimbursement, applying the Guide to Physical Therapist Practice to a complex multi-system patient case, resume writing, interview skills, and assessment for learning. Additionally, a representative from the Department of Regulation and Licensing will address the licensing process.

Prereq: PHTH 7523.

**PHTH 7932. Advanced Topics in Physical
Therapy** 0-4 sem. hrs.

Advanced clinical electives in specific areas of physical therapy practice.

Prereq: PHTH major; or cons. of instr. 0 credit will be SNC/UNC grade assessment; 1-4 credits will be graded.

PHTH 7986. Internship in Physical Therapy
4-10 sem. hrs.

Prereq: PHTH major; must be taken in PHTH course sequence.

**PHTH 7995. Independent Study in Physical
Therapy** 1-3 sem. hrs.

Independent study and research in special areas of interest in physical therapy under faculty supervision. Offered every term. No mid-term assessment assigned.

Prereq: PHTH major, cons. of instr., and cons. of dept. chair.

ATHLETIC TRAINING

ATTR 1020. Prevention and Care of Athletic Injuries 2 sem. hrs.

Lecture/lab. Common athletic injuries and illnesses will be presented with emphasis on prevention and care. Principles and techniques of athletic taping and bracing as well as equipment fitting, blister and wound care will be discussed.

Prereq: ATTR major; or EXSC major; or cons. of instr.

ATTR 2130. Athletic Training Evaluation 1 3 sem. hrs.

Lecture/lab. Pre-season screening and evaluation procedures will be discussed. Concepts of evaluation will be emphasized. Common medical diagnostic procedures will be reviewed and evaluation of the lower extremity will be introduced. Includes screening of internal injuries in athletic participation.

Anatomy and physiology. *Prereq: EXSC 2115, which may be taken concurrently, and cons. of instr.*

ATTR 2131. Athletic Training Evaluation 2 3 sem. hrs.

Lecture/lab. This course is a continuation of Evaluation 1 and includes assessment of the trunk, back, neck, head and upper extremity.

Prereq: ATTR 2130 and cons. of instr.

ATTR 2150. Therapeutic Modalities 2 sem. hrs.

Lecture/lab. This course will present current concepts in the use of modalities in the treatment of athletic injuries and the pathophysiology of tissue injury and healing. *Prereq: ATTR 2131 and cons. of instr.*

ATTR 2931. Topics in Athletic Training 1-4 sem. hrs.

Selected topics, not a part of the regular course work taught because of a special need, interest or opportunity. *Prereq: Jr. stndg. and EXSC major; or Sr. stndg. and EXSC major; or Jr. stndg. and ATTR major; or Sr. stndg. and ATTR major; or cons. of instr.*

ATTR 2981. Clinical Proficiencies in Athletic Training 1 1 sem. hr.

Clinical psychomotor skills related to emergency care, taping, equipment fitting and prevention of injury will be assessed in the clinical environment. S/U grade assessment. *Prereq: ATTR 1020.*

ATTR 2982. Clinical Proficiencies in Athletic Training 2 1 sem. hr.

Clinical psychomotor skills related to evaluation of the lower extremity will be assessed in the clinical environment. S/U grade assessment.

Prereq: ATTR 2981 and ATTR 2130.

ATTR 3160. Rehabilitative/Therapeutic Exercise in Athletic Training 2 sem. hrs.

Lecture/lab. This course will present current concepts in the design and administration of rehabilitative/therapeutic exercise in the treatment of athletic injuries. *Prereq: ATTR 2131.*

ATTR 3170. General Medicine in Athletic Training 3 sem. hrs.

Lecture/lab. This course is designed to describe and assess common general medical conditions seen in athletics and includes: common ear and mouth pathologies, description of and assessment of respiratory conditions, common conditions such as diabetes mellitus, urinary tract infections, reproductive abnormalities and viral/infective disorders will be discussed. Common clinical skills (auscultation, vital signs, otoscope, chemstrips, ocular motor function spirometry) will be demonstrated and mastered.

Prereq: ATTR 2131; or ATTR 2150; or cons. of instr.

ATTR 3983. Clinical Proficiencies in Athletic Training 3 1 sem. hr.

Clinical psychomotor skills related to evaluation of the upper extremity, spine, and those relating to the application of the therapeutic modalities will be assessed in the clinical environment. S/U grade assessment.

Prereq: ATTR 2982 and ATTR 2131 and ATTR 2150.

ATTR 3984. Clinical Proficiencies in Athletic Training 4 1 sem. hr.

Clinical psychomotor skills related to therapeutic exercise will be assessed in the clinical environment. S/U grade assessment.

Prereq: ATTR 3983 and ATTR 3160.

ATTR 3985. Clinical Proficiencies in Athletic Training 5 1 sem. hr.

Clinical psychomotor skills related to general medical principles, psychosocial intervention, health care administration, exercise program management, and selected special topics will be assessed in the clinical environment. S/U grade assessment.

Prereq: ATTR 3170 and ATTR 3984.

ATTR 4986. Practicum in Athletic Training 7-16 sem. hrs.

Students will experience field work, hands on clinical experience, event coverage and preparation over an entire semester. Injury assessment, use of modalities, evaluation and rehabilitation skills will be strengthened. Practicum will be under the direct supervision of a certified athletic trainer. Current CPR and First Aid certifications. S/U grade assessment. *Prereq: Sr. stndg., ATTR major, cons. of dept. ch., and cons. of program director.*

ATTR 4995. Independent Study in Athletic Training 1-4 sem. hrs.

Independent Study. *Prereq: Cons. of instr.*

EXERCISE SCIENCE

EXSC 1001. Introduction to Exercise Science 2 sem. hrs.

Exposure to the fields of exercise science. Current topics of interest including certification requirements and professional development.

EXSC 1010. Emergency Care, CPR and AED 2 sem. hrs.

Lecture/lab. An overview of principles and techniques of first aid, emergency care and cardiopulmonary resuscitation. Competency in skills leads to American Heart Association Health Care Provider CPR and first aid certification.

Prereq: EXSC major; or ATTR major; or cons. of instr.

EXSC 1050. Surface Anatomy and Palpation 1 sem. hr.

Laboratory course designed to define and analyze the forces influencing movements, describe body planes and axes, and identify anatomical structures (muscles and joints) through palpation.

Prereq: EXSC Major; or ATTR Major; or cons. of instr.; anatomy and physiology or concurrent with anatomy and physiology.

EXSC 2106. Cognitive and Motor Learning 3 sem. hrs.

Lecture/lab. A study of the principles of human motor learning development from infancy through adulthood. Instructional emphasis is given to those factors which have implications for exercise and training.

EXSC 2110. Kinesiology/Biomechanics 4 sem. hrs.

Lecture/lab. Study of human motion emphasizing skeletal structure. Mechanical principles which influence human exercise are examined. Identification of the origin, insertion and function of major muscles is included along with surface anatomy. *Prereq: EXSC 1050, EXSC 2115, and BISC 1015 must be completed with a grade of C or better prior to enrolling in this course.*

EXSC 2115. Exercise Physiology and Bioenergetics 5 sem. hrs.

Lecture/lab. Protein, carbohydrate and lipid metabolism in relation to energy production including anaerobic and oxidative pathways with an emphasis on exercise and health. A study of the effects of exercise on the major systems of the human body, including the cardiorespiratory and neuromuscular systems. *Prereq: BISC 1015 and CHEM 1001 and CHEM 1002 which may be taken concurrently.*

EXSC 2190. Scientific Principles of Strength and Conditioning 3 sem. hrs.

Lecture/lab. This course reviews the research and applications of disciplines such as physiology and biomechanics. Specific topics include program design, exercise techniques, strength, power, speed and flexibility development, physical testing, and training adaptations. *Prereq: EXSC 2115.*

EXSC 2931. Topics in Exercise Science 1-4 sem. hrs.

Selected topics, not a part of the regular course work taught because of a special need, interest, or opportunity. *Prereq: Jr. stndg. and EXSC major; or Jr. stndg. and ATTR major; or Sr. stndg. and EXSC major; or Sr. stndg. and ATTR major; or cons. of instr.*

EXSC 3100. Exercise Leadership 3 sem. hrs.

Lecture/lab. A study of the necessary leadership qualities and skills expected for leading exercise activities. Will develop expertise in the instruction of a wide variety of fitness related programs.

Prereq: EXSC 2110 and EXSC 2115; and a course in anatomy and physiology.

EXSC 3170. Exercise Program Management 3 sem. hrs.

Study of the strategies and considerations involved in the successful management of a fitness facility. Areas include program planning, budgeting, facility design and organization.

EXSC 3180. Exercise Testing, Prescription and EKG 4 sem. hrs.

Lecture/lab. Practical experience in fitness testing/assessment, program design and instruction in a wide variety of fitness related programs. Emphasis on test protocols for evaluating health related components of physical fitness. *Prereq: EXSC 2115.*

EXSC 3187. Exercise Science for Special Populations 3 sem. hrs.

Lecture. A study of program modifications and techniques for various populations; which may include for example exercise prescription throughout the life span. *Prereq: EXSC 2115 and EXSC 3180.*

EXSC 3189. Nutrition and Exercise Performance 3-4 sem. hrs.

Lecture. A study of the basic nutritional concepts, principles and current issues. Emphasis on nutrition for training and conditioning related to health and wellness, including ergogenic aids. *Prereq: EXSC 2115.*

EXSC 3986. Exercise Science Practicum 1
2 sem. hrs.

Work experience in approved fitness-related agencies. Experience may include fitness testing, evaluation, exercise prescription, instruction, leadership or management in different settings. May be dependent on space. Current CPR and First Aid certifications. S/U grade assessment.

Prereq: Jr. stdng., EXSC major, EXSC 3100, which may be taken concurrently, EXSC 2110, EXSC 2115, and EXSC 2190, which may be taken concurrently.

EXSC 4190. Advanced Strength and Conditioning 3 sem. hrs.

Covers advanced strength and conditioning topics including: plyometrics, speed and agility development, testing, program design, linear and non-linear periodization and potentiation phenomenon.

Prereq: EXSC 2115, EXSC 2190 and cons. of instr.

EXSC 4192. Advanced Exercise Physiology
4 sem. hrs.

Lecture/lab. Advanced course in the study of the body's response to physical activity. Focus is on laboratory techniques standard in exercise physiology research.

Prereq: Sr. stdng., EXSC major, EXSC 2115, and anatomy and physiology BISC 1015; or cons. of instr.

EXSC 4986. Exercise Science Practicum 2
7-16 sem. hrs.

Work experience in approved fitness-related agencies. Experience may include fitness testing, evaluation, exercise prescription, instruction. Leadership or management in different settings. May be dependent on space. S/U grade assessment.

Prereq: Cons. of program dir.; Sr. stdng; EXSC major; current CPR and First Aid certifications; satisfactory completion of all EXSC major course work with a grade of C or better.

EXSC 4995. Independent Study in Exercise Science 1-4 sem. hrs.

Independent study under the direction of faculty.

Prereq: Cons. of instr.

PHYSICIAN ASSISTANT STUDIES (PHAS)

Chairperson and Clinical Assistant Professor:
Wiemiller

Clinical Assistant Professor: Bril, Ceelen, Fischer, Loftis, Paxton, Smith

Clinical Instructor: Knox
Medical Director: Coogan, M.D.

NOTE: PHAS courses may only be taken by PHAS majors admitted to the professional phase of Physician Assistant Studies.

▲PHAS 4117. Cultural Diversity in Health Care

3 sem. hrs.

Introduction to health care delivery to diverse patient populations. Explores various culturally influenced perspectives on health and illness as well as identifying health disparities among certain cultural groups and minority populations. Students work toward becoming culturally competent practitioners by exploring their personal reactions to culturally based medical scenarios.

PHAS 7040. Medical Terminology 1 sem. hr.

Introduction to the medical language, including diagnostics and pharmacology. *Prereq: Admission to professional phase of Physician Assistant Studies.*

PHAS 7050. Introduction to Medical History and Physical Examination 4 sem. hrs.

Consists of two phases. The first portion of the course develops the student's interviewing skills eliciting a complete medical history. The second portion of the course instructs the student in the methods and modalities to complete an entire adult wellness exam. At the conclusion of the course, the student is expected to be competent in eliciting a complete medical history and physical exam, appropriately documenting the exam including all positive and negative findings. Medical terminology is reviewed throughout the course.

Prereq: PHAS major; admitted to professional phase of Physician Assistant Studies.

PHAS 7080. Evidence-Based Medicine

2 sem. hrs.

Provides a practical approach to making sound medical decisions based on current evidence in medical literature. Using a series of didactic presentations, group exercises, independent inquiry and reading, students learn the basic principles of evidence-based medicine. Basic skills in accessing MEDLINE and other medical databases will be emphasized and practiced. Research principles, research ethics, and basic statistical analysis are introduced. Students use their foundation in EBM throughout their didactic and clinical education. Skills learned will be essential in formulating and completing the capstone project in the 3rd professional year.

Prereq: PHAS major; admitted to professional phase of Physician Assistant Studies.

PHAS 7090. Introduction to Clinical Medicine

3 sem. hrs.

Introduction to preventative medicine health care with focus on screening guidelines and treatment protocols throughout the life cycle. Emphasis on disease prevention with attention given to the unique needs of diverse and underserved patient populations. Clinical genetics and immunogenetics are introduced linking current research to practical clinical medicine in advancing the understanding of the molecular basis of genetic concepts to practical clinical application. Introduction to oncology, it's clinical presentation, diagnostics, and therapeutics, as well as the role of preventative medicine in cancer, is addressed incorporating basic knowledge of gene expression and genetic patterns.

Prereq: PHAS major; admitted to professional phase of physician assistant program.

PHAS 7110. Clinical Medicine 1 6 sem. hrs.

Provides a comprehensive presentation of the various disease processes commonly encountered in primary care across the spectrum of clinical medicine. Employs a system-oriented, problem based approach and clinical information is presented in conjunction with appropriate, correlative lectures or labs in anatomy, physiology, pharmacology, pathology, radiology, laboratory diagnostics, and nutrition. Students acquire basic life support certification (CPR). *Prereq: PHAS major; admitted to professional phase of Physician Assistant Studies.*

PHAS 7111. Clinical Medicine 2 4 sem. hrs.

Continuation of PHAS 7110. Provides a comprehensive presentation of the various disease processes commonly encountered in primary care across the spectrum of clinical medicine. Employs a system-oriented, problem based approach and clinical information is presented in conjunction with appropriated, correlative lectures or labs in anatomy, physiology, pharmacology, pathology, radiology, laboratory diagnostics, nutrition, and preventative approaches.

Prereq: PHAS major; admitted to professional phase of Physician Assistant Studies.

PHAS 7115. Clinical Decision Making 1

4 sem. hrs.

Designed to expand the student's medical knowledge base and facilitate critical thinking and diagnostic skills. Students develop differential diagnoses and order and interpret appropriate laboratory and imaging studies. Finally, students demonstrate the ability to succinctly present a working diagnosis, treatment plan, and prognosis.

Prereq: PHAS major; admitted to professional phase of Physician Assistant Studies.

PHAS 7116. Clinical Decision Making 2

1 sem. hr.

A 1-credit semester continuation of PHAS 7115 that focuses on application and further development of the student's approach to working-up and solving medical problems. Intended to build upon, refine and integrate basic clinical skills and competencies that students have acquired in previous coursework. Provides an opportunity for students to interact with patients in the clinical setting, and document and present the case to faculty and peers. Bridges the transition between academic learning and clinical practice during the clerkship year.

Prereq: PHAS major; admitted to professional phase of Physician Assistant Studies.

PHAS 7117. Cultural Diversity in Health Care

1-3 sem. hrs.

Introduction to health care delivery to diverse patient populations. Explores various culturally influenced perspectives on health and illness as well as identifying health disparities among certain cultural groups and minority populations. Students work toward becoming culturally competent practitioners by exploring their personal reactions to culturally based medical scenarios.

Prereq: PHAS major; admitted to professional phase of Physician Assistant Studies.

PHAS 7200. Interpersonal Communication

1 sem. hr.

A 1-credit semester course intended to build upon basic interviewing skills that were introduced in PHAS 7050. Consists of a series of patient-encounters, classroom discussions and readings relevant to working constructively with problems in clinician/patient communications. Common types of difficult patient interactions will be addressed. Self-awareness is emphasized as the basis upon which clinicians develop an enhanced capacity for empathic listening and responsiveness.

Prereq: PHAS major; admitted to professional phase of Physician Assistant Studies.

PHAS 7220. Clinical Pharmacotherapeutics
3 sem. hrs.

A focused clinical pharmacology course designed specifically to develop an extensive understanding of the medications routinely used in inpatient and outpatient care. Presented in a case study format using patient scenarios to develop clinical pharmacology knowledge.

Prereq: PHAS major, BISC 7120, and admitted to the professional phase of Physician Assistant Studies.

PHAS 7230. Geriatric Medicine 2 sem. hrs.

An introduction into the biological aspects of aging, latency of disease, clinical geriatric syndromes, atypical disease presentations, drug prescribing and long term care of the elderly. Students develop an understanding of the special considerations and knowledge needed for clinical assessment and management of this special patient population.

Prereq: PHAS major; Admitted to professional phase of Physician Assistant Studies.

PHAS 7235. Emergency Medicine 4 sem. hrs.

Provides a comprehensive introduction to diagnosis and treatment of common and life-threatening patient presentations in the Emergency Department.

Prereq: PHAS major; admitted to professional phase of Physician Assistant Studies.

PHAS 7245. Professional and Ethical Issues
2 sem. hrs.

Emphasizes current issues facing the profession, including legal and ethical problems, and the unique place of PAs within the health care system. Familiarizes students with the history and traditions of the PA profession. Complemented by information about certification, licensure, employment, professional organizations and political/legislative topics. A significant portion of the course confronts ethical issues facing today's Physician Assistants.

Prereq: PHAS major; admitted to professional phase of Physician Assistant Studies.

PHAS 7250. Surgical Principles and Procedures 4 sem. hrs.

An introduction to the role of the physician assistant in surgery and surgical procedures commonly performed in post-operative care. Employs a system-oriented, problem based approach and clinical information is presented in conjunction with appropriate, correlative lectures or labs in anatomy, physiology, pharmacology, pathology, radiology, laboratory diagnostics, and nutrition. *Prereq: PHAS major; admitted to professional phase of Physician Assistant Studies.*

PHAS 7255. Women's Health 2 sem. hrs.

Provides practical information on routine gynecologic and obstetric care for women. It explores various gynecological diseases, obstetric complications, and preventative care for women of all ages. Employs a system-oriented, problem based approach in which clinical information is presented to include basic anatomy, physiology, pharmacology, pathology, radiology, and laboratory diagnostics. Includes a physical exam lab practicum.

Prereq: PHAS major; admitted to professional phase of Physician Assistant Studies.

PHAS 7260. Pediatric Medicine 3 sem. hrs.

An introductory pediatrics course which covers well child and common problems. Employs a system-oriented, problem based approach and clinical information is presented in conjunction with appropriate, correlative lectures or labs in anatomy, physiology, pharmacology, pathology, radiology, laboratory diagnostics, and nutrition. *Prereq: PHAS major; admitted to professional phase of Physician Assistant Studies.*

PHAS 7265. Medical Coding and Health Care Systems 1 sem. hr.

Begins with and in-depth look at the medical coding system and teaches the students how and why to code properly. Students are familiarized with the Typhon system of patient documentation and practice using it in conjunction with cases done in PHAS 7115. The remainder of the course focuses on the ever changing health care marketplace. Various health care system models and reimbursement methods will be compared and contrasted. Students research and present various topics to include more information on specific local and regional programs influencing health care delivery.

Prereq: PHAS major; admitted to professional phase of Physician Assistant Studies.

PHAS 7270. Diagnostics Technology

4 sem. hrs.

Consists of three distinct class sections: a 12-Lead ECG interpretation section, a radiology section, and a laboratory section. Provides a broad introduction to these topics that are expanded upon in PHAS 7110, 7111, and 7115. The ECG interpretation section will provide students with a systematic methods of interpreting a 12-Lead ECG with respect to rate, rhythm and blocks, electrical axis determination, hypertrophy (atria and ventricles), ischemia/injury/infarction, and miscellaneous drug, electrolyte, disease, and pacemaker effects. The radiology section will provide students with a systematic method of interpreting common radiographic studies seen in primary care. The laboratory section emphasizes the utilization of laboratory methods for the diagnosis and treatment of disease. The content focuses on those aspects pertinent to the provision of ambulatory primary care. *Prereq: PHAS major; admitted to professional phase of Physician Assistant Studies.*

PHAS 7931. Special Topics in Physician Assistant Studies 1-6 sem. hrs.

Used for special topics course

PHAS 7986. Internship in Physician Assistant Studies 3-6 sem. hrs.

Prereq: PHAS major; admitted to professional phase of Physician Assistant Studies.

PHAS 7995. Independent Study in Physician Assistant Studies 1-6 sem. hrs.

Prereq: Admitted to professional phase of Physician Assistant Studies.

PHAS 7997. Master's Capstone Project

0-6 sem. hrs.

A unique course executed throughout the final year of the professional PA curriculum (Clinical Year) which provides the program with a final evaluation of the readiness and eligibility of every student to graduate. This on-going assessment process encompasses multiple components including: Observed Simulated Patient Examination (OSCEs), Case Presentations, a comprehensive summative examination, and the completion of a master's paper and presentation. The 0 credit course in the summer and fall terms will be SNC/UNC grade assessment. The 6 credit course in the spring term will be graded. *Prereq: PHAS major; admitted to professional phase of Physician Assistant Studies.*

SPEECH PATHOLOGY AND AUDIOLOGY (SPPA)

Chairperson and Associate Professor: Korabic
Associate Professor Emerita: Moller
Associate Professor: Bhatnagar, Long
Assistant Professor: Berry, Gorman, Moyle
Clinical Instructors: Berman, Brueck, Erdman, Krueger, Puglisi-Creegan
Coordinator of Clinical Services: Podewils
Director of M.S. Program: Long

SPPA 1001. Introduction to Speech-Language Pathology and Audiology
3 sem. hrs.

An introduction to the disorders of speech, language, and hearing with emphasis on types, etiology, and symptoms. Offered every term.

SPPA 1100. Anatomy and Physiology of the Speech Mechanism 3 sem. hrs.

Anatomy and physiology of the speech production mechanism, including bases for phonation, articulation, breathing, and neural control.

Prereq: SPPA major; or SPPA minor; or SPLA major; or cons. of dept. ch.

SPPA 2120. Phonetics and Phonology
3 sem. hrs.

Introduction to the study of speech sound production. Descriptive systems for characterizing production of speech sounds and speech errors. Phonetic transcription of normal and disordered speech. Phonetic variation associated with dialects of English. Manual and computerized methods of phonological analysis. Offered fall term.

Prereq: SPPA major; or SPPA minor; or SPLA major; or cons. of dept. ch.

SPPA 2130. Child Language Development
3 sem. hrs.

Overview of general linguistic concepts and their application to the acquisition of language by young children. Stages of language development from infancy to early school age. Contributions of biological, social, linguistic, and cognitive factors to language learning. The role of input from conversation and media sources. Offered fall term.

Prereq: SPPA major; or SPLA major; or cons. of dept. ch.

SPPA 2210. Child Language Disorders
3 sem. hrs.

Survey of the linguistic and developmental characteristics of children with special needs who have primary or secondary difficulties acquiring their native language. An overview of descriptive assessment of language profiles, and language intervention issues. Multicultural issues related to child language differences and disorders also are studied. Offered spring term. *Prereq: SPPA major and SPPA 1001 and SPPA 2130; or SPLA major and SPPA 1001 and SPPA 2130; or cons. of dept. ch.*

SPPA 2220. Child Speech and Sound Disorders 3 sem. hrs.

Overview of normal speech sound development and characterization of children with speech sound disorders. Introduction to methods of standardized testing, linguistic assessment, and treatment of speech sound disorders. Dialectal variation and its effect on clinical procedures. Offered spring term.

Prereq: SPPA major and SPPA 1001 and SPPA 2120 and SPPA 1100; or SPLA major and SPPA 1001 and SPPA 2120 and SPPA 1100; or cons. of dept. ch.

SPPA 3140. Speech Science 3 sem. hrs.

Study of the speech code. Linguistic, physiological, and acoustical components of the code are considered in relation to both speech production and recognition. Instrumentation useful in the clinical and laboratory analysis of speech is considered. Offered fall term. *Prereq: SPPA major and SPPA 1100; or SPLA major and SPPA 1100; or cons. of dept. ch.*

SPPA 3510. Introduction to Audiology

3 sem. hrs.

Principles and techniques of audiometric testing; study of basic acoustics; review of anatomy and physiology of the hearing mechanism; introduction to pathologic conditions of the hearing mechanism; laboratory work in basic audiometric test procedures. Offered spring term.

Prereq: SPPA major and SPPA 1100 and SPPA 3140; or SPLA major and SPPA 1100 and SPPA 3140; or cons. of dept. ch.

SPPA 3710. Intervention Methods in Speech-Language Pathology 3 sem. hrs.

Clinical procedures and management techniques for diagnosis and remediation of clients in a variety of clinical settings are taught. Topic areas include issues and ethics in serving birth to three, multicultural and developmentally disabled populations. Other topics include report writing/documentation, quality assurance, private practice and professional organizations. Offered every other term.

Prereq: Cons. of dept. ch.; and SPPA major and SPPA 2220; or SPLA major and SPPA 2220; SPPA 3964 must be taken concurrently.

SPPA 3964. Practicum in Speech-Language Pathology 1: Campus Clinic 1 sem. hr.

Offered every term. S/U grade assessment.

Prereq: SPPA major; or SPLA major; or cons. of dept. ch.; SPPA 3710 must be taken concurrently.

SPPA 4230. Stuttering and Other Fluency Disorders 3 sem. hrs.

Introduction to the symptomatology, phenomenology, etiology, assessment and management of stuttering and other fluency disorders in children and adults. Offered spring term.

Prereq: SPPA major and SPPA 1001; or SPLA major and SPPA 1001; or cons. of dept. ch.

SPPA 4310. Introduction to Neurological Disorders 3 sem. hrs.

The basics of neurology and an overview of common neurogenic disorders of communication including aphasia, apraxia, dysarthria, dementia and linguistic sequela of traumatic brain injuries will be presented. Offered spring term.

Prereq: SPPA major and SPPA 1100; or SPLA major and SPPA 1100; or cons. of dept. ch.

SPPA 4520. Hearing Disorders 3 sem. hrs.

Extensive study of hearing disorders and the psychological and social implications of hearing impairment. Habilitation/rehabilitation strategies are discussed. Offered fall term.

Prereq: SPPA major and SPPA 3510; or SPLA major and SPPA 3510; or cons. of dept. ch.

SPPA 4530. Audiological Rehabilitation

3 sem. hrs.

An in-depth look at the process of adult aural rehabilitation and how amplification, assistive listening devices, sensory aids, visual communication training, auditory training and counseling contribute to that process. Offered spring term. *Prereq: SPPA major and SPPA 4520; or SPLA major and SPPA 4520; or cons. of instr. and cons. of dept. ch.*

SPPA 4610. Multicultural Issues for Speech-Language Pathologists 3 sem. hrs.

Offered for undergraduate or graduate credit. The study of culture and communication in linguistically diverse populations [i.e., Non-Standard American English speakers, Native Americans, (with emphasis on Wisconsin Native tribes) Asians, and Latinos].

The course will include L1 and L2 acquisition profiles and information pertaining to service delivery with non-native English speakers. The U.S. Latino population will be emphasized. Students' knowledge and understanding of racism will be explored. This course will meet the multicultural requirements for the Wisconsin Department of Public Instruction licensing in speech-language pathology. Offered annually. *Prereq: Jr. stndg.*

SPPA 4720. Diagnostic Methods in Speech-Language Pathology 3 sem. hrs.

The purpose of this course is to provide the students with an understanding of the components inherent in the diagnostic process. These include but are not limited to: a) an overview of diagnostic models, b) sources of delays and disorders, c) purposes of assessment, d) interviewing techniques, e) testing and measurement caveats, f) framework for analysis of the data, g) interpretation of results to families or referral sources, and h) report writing.

Prereq: SPLA student standing or cons. of dept. ch.

SPPA 4961. Special Institute/Workshop/Project 1-3 sem. hrs.

Project 1-3 sem. hrs.

SPPA 4964. Practicum in Speech-Language Pathology 2: Campus Clinic 1 sem. hr.

Offered every term. S/U grade assessment.

Prereq: SPPA major and SPPA 3964; or SPLA major and SPPA 3964; or SPPA 3964 and cons. of dept. ch.

SPPA 4965. Practicum in Audiology: Campus Clinic 1 sem. hr.

Supervised clinical experience with hearing-impaired individuals both on campus and in off-campus affiliated centers. May be repeated up to a maximum of three credits. Offered every term. S/U grade assessment.

Prereq: SPPA major and SPPA 3510 and cons. of instr.; or SPLA major and SPPA 3510 and cons. of instr.; or cons. of instr. and cons. of dept. ch.

SPPA 4995. Independent Study in Speech-Language Pathology and Audiology 1-3 sem. hrs.

Prereq: Cons. of dept. ch.

SPPA 4999. Senior Thesis 1-3 sem. hrs.

The application of rigorous methodology in developing and writing a thesis under the direction of an adviser. Offered every term.

Prereq: Cons. of dept. ch.