

# Pre-Professional Curricula in the Health Sciences

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The University of Tennessee at Martin does not offer professional degrees in any of the health sciences. It does, however, provide training which will prepare students for admission to the following professional programs:

Clinical Laboratory Science	Medical Technology
Cytotechnology	Medicine
Dental Hygiene	Occupational Therapy
Dentistry	Optometry
Health Informatics and Information Management	Pharmacy
	Physical Therapy

Professional programs in Dentistry, Medicine, Optometry, Pharmacy and Physical Therapy normally lead to a doctoral degree, while those in the other health sciences listed above generally lead to a bachelor's or master's degree.

Minimum requirements for admission to degree programs at The University of Tennessee Health Science Center at Memphis in each of the above fields are outlined in the following sections. While the admission requirements at Memphis are typical of professional schools in the health sciences, a student planning to apply at another school should see the Health Professions Coordinator and contact that school directly regarding specific entrance requirements. A student in any of the pre-professional programs in the health sciences should be aware that careful sequencing of courses is necessary to complete the required course work in a timely fashion and should work closely with his/her adviser in planning his/her individual curriculum.

A student in any pre-professional program planning to graduate from UT Martin must satisfy all requirements for the bachelor's degree, including the general education requirements, as well as meet the admission requirements of the particular professional school.

## Pre-Clinical Laboratory Science Curriculum

This program is designed for applicants that have a Bachelor of Science degree in Biology, Chemistry or Microbiology and want to work in the healthcare field. Applicants apply to the B.S. Program in Medical Technology at UT Memphis. Application deadline is December 1. The program is for full-time students and begins each September. Students must complete 44 semester hours of undergraduate medical technology courses with a GPA of 3.0 or higher. At that time, they can be considered for entry into the Master of Science in Clinical Laboratory Science Program. CLS professionals work in hospital laboratories, forensic and research laboratories, public health, biotechnology and many other fields. The undergraduate courses required before entry to the Medical Technology and Clinical Laboratory Science Programs at UT Health Science Center are as follows:

### COURSE REQUIREMENTS

	Hours
English and/or Communications Skills.....	6
General Chemistry .....	8
Organic Chemistry .....	8

General Biology or Zoology .....	8
Anatomy and Physiology or Human Physiology .....	3
College Algebra .....	3
Electives .....	25
<b>Total</b> .....	<b>61</b>

## Pre-Cytotechnology Curriculum

Students planning to seek admission to the Cytotechnology Program at The University of Tennessee Health Science Center must complete a total of 90 semester hours in academic subject areas. To be competitive, applicants should have a minimum overall and science GPA of 2.50. One class (currently 10 students) is admitted in July of each year. Knowledge of the profession and a personal interview are a part of the admission process. Applications should be submitted no later than February 1 of the enrollment year. The Cytotechnology Program at UT Memphis is a 12-month program leading to a B.S. in Cytotechnology.

<b>COURSE REQUIREMENTS</b>	<b>Hours</b>
English 110 or 111, 112, Communications 230 .....	9
Biology 130-140 .....	8
Chemistry 121-122 .....	8
Mathematics 140 (or higher) .....	3
Advanced Biology (Note 1) .....	15
Social Science (Note 2) .....	12
Electives .....	30
<b>Total (Note 3)</b> .....	<b>85</b>

**Note 1:** Must be an upper-division class. Recommended courses include anatomy and physiology, cell biology, genetics, histology and immunology.

**Note 2:** Courses in psychology, sociology, history, philosophy, political science, etc.

**Note 3:** At least 14 hours must be upper-division courses.

## Pre-Dental Curriculum

Admission to the UT Health Science Center College of Dentistry requires completion of a minimum of 100 semester hours of course work. However, preference is given to applicants who have earned a bachelor's degree. Minimum academic requirements for entry into the UT Health Science Center Dentistry program are listed below. Students should work closely with a pre-dental adviser in completing the requirements and choosing suitable elective courses.

<b>COURSE REQUIREMENTS</b>	<b>Hours</b>
English Composition .....	8
Biology (General) .....	8
General Chemistry (Lecture and Lab) .....	8
Organic Chemistry (Lecture and Lab) .....	8
Biochemistry (Lecture and Lab) .....	4
Physics (Lecture and Lab) .....	8
Other Biology	
Histology or Microbiology or Comparative Anatomy .....	4
Electives .....	52
<b>Total</b> .....	<b>100</b>

Elective courses can be chosen from the following: genetics, comparative anatomy, developmental biology, cell biology, histology, microbiology, molecular biology, physiology and neurobiology.

A minimum grade point average of 2.75 is expected in all required subjects attempted and in cumulative course work. Due to the competition among applicants, classes are filled with those who have higher academic averages. Prospective applicants should strive to maintain a prescribed and cumulative grade point average well above 3.00.

All dental school applicants must take the Dental Admissions Test (DAT) no later than November 30 proceeding the year of desired admission. An applicant with at least 130 points and a 2.75 science GPA or better may be considered for an interview. Please be aware that the DAT can be taken only three times.

The above curriculum meets the minimum requirements to be eligible for admission to the UT Health Science Center College of Dentistry; it does not, however, fulfill the requirements for a baccalaureate degree at UT Martin. Students admitted to dental school prior to completing requirements for a baccalaureate degree may still earn the Bachelor of Science degree with a major in Health Science from UT Martin. Requirements for this degree are outlined in the Bachelor of Science Degree with a Major in Health Science paragraph that appears at the end of this Pre-Professional Health Sciences section.

## Pre-Dental Hygiene Curriculum

Students planning to seek admission to the dental hygiene program at The University of Tennessee Health Science Center, College of Allied Health Sciences must complete 64 semester hours of college coursework. A minimum grade of C must be made in all required courses. In addition, students are expected to be active in school-related activities and have some dentistry-related work experience. The dental hygiene program at UT Health Science Center is designed as the third and fourth years of a baccalaureate degree program. Students will enroll in September with graduation two years later in the spring. Applications should be submitted no later than February 15 of the enrollment year.

<b>COURSE REQUIREMENTS</b>	<b>Hours</b>
English 110 or 111, 112, Communications .....	9
English Literature .....	3
Biology 140 .....	4
Chemistry 121-122 .....	8
Psychology 110-120 (Note 1) .....	6
Sociology 201-202.....	6
Microbiology 251 .....	4
Zoology 251, 352 .....	8
Electives (Note 2 and 3) .....	10
<b>Total</b>	<b>58</b>

**Note 1:** Psychology 110, 120 or any other psychology course.

**Note 2:** Recommended electives include Computer Science 200; Mathematics 140, 160, 210; Biology 120, 336, 430, 431; Health 111; Nutrition 100; Microbiology 311; Spanish.

**Note 3:** Unacceptable electives are Physical Education, Music, Art, Military Science.

## Pre-Health Informatics and Information Management Curriculum

The curriculum in Health Information Management at The University of Tennessee Health Science Center is designed as the fourth year of a baccalaureate degree program. After successful completion of the 12-month

program, the student is awarded a Bachelor of Science degree in Health Information Management and is eligible to take the national examination to become a Registered Record Administrator (RRA). One class is admitted in September of each year. Applications should be submitted no later than March 1 of the enrollment year. The three-year pre-health information management program consists of the following courses.

<b>COURSE REQUIREMENTS</b>	<b>Hours</b>
English 110 or 111, 112, Communications 230 .....	9
English Literature .....	3
Management 300 .....	3
Zoology 251, 352 .....	8
Mathematics 210 (Note 1) or Psychology 318 .....	3
Social Science.....	6
Electives .....	40
<b>Total .....</b>	<b>72</b>

**Note 1:** College algebra (Mathematics 140) is prerequisite to statistics (Mathematics 210).

## Pre-Medical Curriculum

Most medical schools accept applications from students after the completion of a minimum of 90 semester hours of course work. However, preference is given to applicants who have earned a bachelor's degree. Most students planning on medical school select majors and minors from the sciences, but this is not a requirement of the medical schools. Any major may be acceptable if the required science courses are successfully completed. A minimum overall and science GPA of 3.00 and grades of at least C in all required science courses are generally needed to be a competitive applicant. Satisfactory scores on the Medical College Admission Test are also required. A personal interview is a part of the admissions process at most medical schools. Most medical schools, including The University of Tennessee Health Science Center and East Tennessee State University, admit one class each fall. Applications should be submitted directly to each medical school or through the American Medical College Application Service (AMCAS) in the fall of the year preceding the desired admission date. Students should familiarize themselves with the AMCAS Service through the Coordinator of Pre-Health Science Programs and the Pre-Health Science Website.

The program outlined below meets the minimum requirements for admission to UT Health Science Center, Tennessee State University, East Tennessee State University and most other medical schools. Students should work closely with a pre-medical adviser to choose elective courses which will prepare them for medical school (including meeting additional entrance requirements for specific medical schools) and which will meet requirements for a bachelor's degree.

<b>COURSE REQUIREMENTS</b>	<b>Hours</b>
English 110 or 111, 112 .....	6
Biology 130-140 .....	8
Chemistry 121-122 .....	8
Chemistry 341-342 .....	8
Mathematics 140 or higher (Note 1) .....	3
Physics 211-212 or 220-221 .....	8
Electives (Note 2) .....	49
<b>Total .....</b>	<b>90</b>

**Note 1:** Mathematics 140 is a prerequisite to physics. For qualified students, calculus is strongly recommended.

**Note 2:** Electives should be chosen from among those needed to satisfy the general education requirements for a bachelor of science degree (listed previously). Additional courses in analytical chemistry, biochemistry, cell biology, genetics, molecular biology and physical chemistry are also recommended.

The above curriculum meets the minimum requirements to be eligible for admission to the UT Health Science Center College of Medicine (and at most other medical schools); it does not, however, fulfill the requirements for a bachelor's degree at UT Martin. Students admitted to medical school prior to completing requirements for a bachelor's degree may still earn the Bachelor of Science degree with a major in Health Science from UT Martin. Requirements for this degree are outlined in the Bachelor of Science Degree with a Major in Health Science paragraph appears at the end of this Pre-Professional Health Sciences section.

## Pre-Medical Technology Curriculum

Students planning to seek admission to the medical technology program at UT Health Science Center must complete 61 semester hours in academic subject areas. To be competitive, applicants should have a minimum overall and science GPA of 2.50. One class is admitted in September of each year. Applications should be submitted no later than December 1 of the year preceding the desired admission date. The length of the medical technology program at UT Health Science Center is 21 months, leading to a bachelor's degree in Medical Technology.

<b>COURSE REQUIREMENTS</b>	<b>Hours</b>
English 110 or 111, 112 .....	6
Chemistry 121-122 .....	8
Chemistry 341-342 (Note 1) .....	8
Biology 130-140 .....	8
Zoology 251 (Note 2) .....	3
Mathematics 140 .....	3
Electives (Note 3) .....	25
<b>Total</b> .....	<b>61</b>

**Note 1:** Or 4 hours of organic chemistry and 4 hours of biochemistry.

**Note 2:** Zoology 201 may be substituted.

**Note 3:** Recommended courses include computer science, advanced biology, chemistry, foreign language, history, literature, music and sociology. Communications 230 is a required elective.

## Pre-Occupational Therapy Curriculum

Occupational Therapy is the use of occupation to promote health and wellness. Occupational therapists are health professionals who use occupation and meaningful activities with specific goals to help people of all ages prevent, lessen, or adapt to disabilities. The activities may be as basic as bathing, or dressing, or as complex as operating a computer with modified controls. Today's occupational therapists are working in clinical practice, community outreach, education, research, private practice and other diverse areas.

Persons going into occupational therapy need to possess excellent interpersonal and communication skills, flexibility, initiative, empathy, creativity, integrity and a desire to learn, grow and contribute professionally throughout one's career. Career opportunities include positions in school systems, nursing homes, mental health centers, home health agencies, rehabilitation centers, hospitals, health clinics, community agencies and industry.

The Occupational Therapy program is a Master's program consisting of three years (90 semester hours) of pre-professional courses plus 24 months of professional training in a professional school such as The University of Tennessee Health Science Center in Memphis. Application may be made prior to May 1 for entering class in January of the next calendar year.

Admission to the professional school requires 90 semester hours of college work completed before matriculation. Applicants must complete the Graduate Record Examination (GRE) Writing Assessment within the previous 5 years and meet the minimum technical skills as defined by the professional school. The prerequisite courses for entry into the professional school are listed below. A grade of C or better is required in each and a GPA of 2.5 is required to be considered.

<b>COURSE REQUIREMENTS</b>	<b>Hours</b>
English 110 or 111, 112, Communications 230 .....	9
Biology 130-140 .....	8
Biology 300 .....	2
Mathematics 210 (Note 1) .....	3
Chemistry 121 .....	4
Psychology 110, 350 and Child and Family Studies 100 .....	9
Zoology 251, 352 .....	8
Computer Science 201 .....	3
Any Sociology, Anthropology, or Social Science .....	9
Any Physics with lab (Note 2) .....	4
Humanities .....	9
General Electives (Note 3) .....	22
<b>Total</b> .....	<b>90</b>

**Note 1:** Mathematics 140 is a prerequisite for Mathematics 210.

**Note 2:** Credit will not be given for Physics 150 or below if the student pursues a B.S. degree since it is not a Lab sequence course. See section on Bachelor of Science General Education requirements.

**Note 3:** Spanish is highly recommended by the professional schools as an elective.

## Pre-Optometry Curriculum

Most regional schools of optometry accept applications from students who have successfully completed the courses listed below. Although 90 semester hours of college work is a minimum requirement for admission, preference is given to applicants with a bachelor's or higher degree. Four years of study at a college of optometry are required to obtain the Doctor of Optometry degree. When selecting the elective courses, students should remember that they are preparing for rigorous training in anatomy, physiology, psychology and optical physics. Military science and physical education courses are excluded as electives. A successful applicant must achieve a competitive academic record, make an acceptable score on the Optometry Admission Test and participate in a personal interview.

<b>COURSE REQUIREMENTS</b>	<b>Hours</b>
English 110 or 111, 112 .....	6
Biology 130-140 .....	8
Chemistry 121-122 .....	8
Chemistry 341-342 .....	8
Mathematics 140, 210 and 160 (Note 1) .....	9
Microbiology 251 .....	4

Physics 211-212 .....	8
Biochemistry (Note 2) .....	8
Psychology 110 .....	3
Social Sciences .....	6
Electives (Note 3 and 4) .....	22
<b>Total</b> .....	<b>90</b>

**Note 1:** Mathematics 140 is a prerequisite for Mathematics 160 and 210.

**Note 2:** Molecular Biology is the only course than can be substituted for Biochemistry.

**Note 3:** Zoology 251 and 352 are strongly recommended as electives but not required.

**Note 4:** Advanced courses in Physics to include optics and/or light and in Psychology to include perception and learning will be helpful.

The above curriculum meets the minimum requirements to be eligible for admission to the Southern College of Optometry; it does not, however, fulfill the requirements for a baccalaureate degree at UT Martin. Students admitted to optometry school prior to completing requirements for a bachelor's degree may still earn the Bachelor of Science degree with a major in Health Science from UT Martin. Requirements for this degree are outlined in the Bachelor of Science Degree with a Major in Health Science paragraph which follows at the end of this Pre-Professional Health Sciences section.

## Pre-Pharmacy Curriculum

The pre-pharmacy curriculum for most schools of pharmacy is very similar to that listed below. However, students should obtain specific information from the school they plan to attend and provide a copy of the information to their faculty adviser and the Pre-Health Science Coordinator.

The curriculum of the UT Health Science Center College of Pharmacy leads to the degree of Doctor of Pharmacy. Students may enter the College of Pharmacy in August only and applications should be submitted no later than February 1. Although 90 semester hours of college work is a minimum requirement for admission, preference is given to applicants with a bachelor's degree. A minimum overall GPA of 2.50 and a minimum composite score of 40th percentile (with no individual subject area score less than 25th percentile) on the Pharmacy College Admission Test (PCAT) are required for consideration. To be competitive, however, students should be well above these minimum values. The entering class for the fall of 2004 had an average GPA of 3.4 for an average 110 semester hours of course work and 75% had completed a B.S. degree. The class beginning in 2004 had an average composite PCAT score of 80th percentile.

<b>COURSE REQUIREMENTS</b>	<b>Hours</b>
English 110 or 111, 112 .....	6
Communications 230 .....	3
Biology 130-140 .....	8
Zoology 251, 352 .....	8
Microbiology 251 or 310 .....	4
Microbiology 401 .....	3
Chemistry 121-122 .....	8
Chemistry 341-342 .....	8
Biochemistry 411-412 (Note 1) .....	6
Physics (1 semester) .....	4
Mathematics 160 or 251 .....	3
Mathematics 210 .....	3
Social Science Electives .....	6

Humanities Electives .....	6
General Electives (Note 2) .....	14
<b>Total</b> .....	<b>90</b>

**Note 1:** Biochemistry Lab is recommended

**Note 2:** Unacceptable electives include ROTC, Participatory PE/sports, or musical performance courses (for example, choir or band).

The above curriculum meets the minimum requirements to be eligible for admission to the UT Health Science Center College of Pharmacy (and at most other pharmacy schools); it does not, however, fulfill the requirements for the bachelor's degree at UT Martin. Students admitted to pharmacy college prior to completing requirements for a bachelor's degree may still earn a Bachelor of Science degree with a major in Health Science from UT Martin. Requirements for this degree are outlined in the Bachelor of Science Degree with a Major in Health Science paragraph which follows at the end of this Pre-Professional Health Sciences section.

## Pre-Physical Therapy Curriculum

The UT Martin Pre-Physical Therapy Curriculum is designed to ensure completion of all prerequisite courses for entry into the doctoral Physical Therapy program. This curriculum must be incorporated into a baccalaureate degree program at UT Martin. Students must complete all requirements for the Bachelor of Science degree before entry into the professional doctoral program. To be competitive, applicants should have a GPA above 3.00.

One class is admitted each year to the professional schools. Applicants must demonstrate that all required course work will be completed by the time their applications are considered. Applicants must complete the Graduate Record Examination (GRE) and meet the technical skills as defined by the professional school. A personal interview with all qualified applicants is required at UT Martin as part of the recommendation process. Applicants are expected to have some knowledge of physical therapy from direct observations as part of their pre-professional experiences. The minimum course requirements for the UT Health Science Center Physical Therapy program are listed below. A grade of C or better is required in each. Applicants interested in physical therapy programs at other schools should see the Pre-Health Science Coordinator and contact those schools for their specific requirements.

<b>COURSE REQUIREMENTS</b>	<b>Hours</b>
English 110 or 111, 112 .....	6
Biology 130-140 .....	8
Mathematics 140, 160, or 251.....	3
Chemistry 121-122 .....	8
Psychology 110-120 .....	6
Physics 211-212 .....	8
Zoology 251, 352 .....	8
Social Sciences (Note 1).....	9
Statistics (Mathematics 210 or Psychology 318) .....	3
Computer Science 201 (Note 2) .....	3
Humanities .....	3
Electives .....	25
<b>Total</b> .....	<b>90</b>

**Note 1:** Social Sciences such as Sociology 201 and 202.

**Note 2:** Knowledge of word processing, spreadsheet and slide presentation programs can substitute for Computer Science 201 if Biology 336, 391, or 411-412 are taken.

\*This degree may be combined with the Doctor of Chiropractic by adding an additional year of study.

## **Bachelor of Science Degree With a Major in Health Science**

A student accepted into an accredited doctoral program or master's program in the health sciences prior to completing requirements for a bachelor's degree at UT Martin may receive the Bachelor of Science degree with a major in Health Science (6040) from UT Martin if the following requirements are met:

- the first year of study in the master's or doctoral program of the professional school is satisfactorily completed.
- a minimum of 90 semester hours of college course work is completed, exclusive of those taken at the master's or doctoral granting institution.
- a minimum of 60 semester hours of coursework is completed at an accredited four-year institution, exclusive of those taken at the master's or doctoral granting institution. At least 25% of semester hours must be completed at UT Martin.
- all general education requirements for the B.S. degree are met.
- application for the major is submitted through the Pre-Health Office to the Dean of the College of Engineering and Natural Sciences and approved by the Degrees Committee of that college.

No minor is required for the B.S. degree.