

# Pre-Professional Curricula in the Health Sciences

**Dr. David W. Sammons**

**248 Brehm Hall**

**731-881-7171**

**fax 731-881-7187**

**dsammons@utm.edu**

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:

**Cytotechnology**

**Dental Hygiene**

**Dentistry**

**Health Information Management**

**Medical Technology**

**Medicine**

**Occupational Therapy**

**Optometry**

**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 Sciences 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 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-Dental (6041) Curriculum**

Admission to the UT Memphis College of Dentistry requires completion of a minimum of 90 semester hours of course work. However, preference is given to applicants who have earned a bachelor's degree. To be competitive applicants should have a minimum overall and science GPA of 3.00 and minimum DAT scores consistent with national means. Applications and DAT scores should be submitted to the UT Health Sciences Center in the fall and not later than December 31 of the year preceding the desired admission date.

Minimum academic requirements for entry into the UT Memphis College of Dentistry are listed below. Students should work closely with a pre-dental adviser in completing the requirements and choosing suitable elective courses. A minimum of 30 hours of volunteer or paid service in a dental office is required for admission to the UT Memphis College of Dentistry.

<b>COURSE REQUIREMENTS</b>	<b>Hours</b>
English 111-112 .....	6
Biology 110-120 .....	8
Chemistry 121-122 .....	8
Chemistry 341-342 .....	8
Mathematics 140, 160, or 185 (Note 1) .....	5/8
Physics 211-212 .....	8
Electives (Note 2) .....	47/50
<b>Total</b> .....	<b>90</b>

**NOTE 1:** Mathematics is a prerequisite to Physics 211 and 212.

**NOTE 2:** It is strongly recommended that elective courses be chosen to help prepare for the DAT and to further progress towards a bachelor's degree. Recommended courses include anatomy, biochemistry, cell biology, developmental biology, genetics, histology, microbiology, and molecular biology.

The above curriculum meets the **minimum** requirements to be eligible for admission to the UT Memphis 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 which follows in this section.

## Pre-Medical Curriculum (6043)

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 at Memphis 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 Sciences Programs.

The program outlined below meets the **minimum** requirements for admission to UT, TSU, ETSU, 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.

**Health Sciences Pre-professional Program**

<b>COURSE REQUIREMENTS</b>	<b>Hours</b>
English 111-112 .....	6
Communications 230 .....	3
Biology 110-120 .....	8
Chemistry 121-122 .....	8
Chemistry 341-342 .....	8
Mathematics 185 or two courses chosen from 140, 160, 210, 251, 252 (Note 1) .....	5-8
Physics 211-212 or 220-221 .....	8
Electives (Note 2) .....	41-44
<b>Total</b> .....	<b>90</b>

**NOTE 1:** Mathematics 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 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 which follows in this section.

## **Pre-Optometry Curriculum (6045)**

Most regional schools of optometry accept applications from students who have successfully completed the courses listed below. Although three years 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 a confirming score on the Optometry Admission Test, and participate in a personal interview.

<b>COURSE REQUIREMENTS</b>	<b>Hours</b>
English 111-112 .....	6
Biology 110-120 .....	8
Chemistry 121-122 .....	8
Chemistry 341-342 .....	8
Mathematics 140, 210 and 160 .....	9
Microbiology 251.....	4
Physics 211-212 .....	8
Zoology 251-252 (Note 1).....	8
Psychology 110 .....	3
Social Sciences .....	6
Electives (Note 2) .....	23
<b>Total</b> .....	<b>91</b>

**NOTE 1:** Strongly recommended, but not required.

**NOTE 2:** 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 in this section.

## **Pre-Pharmacy Curriculum (6047)**

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.

The curriculum of the UT College of Pharmacy at Memphis 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 three years 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 scaled score of 190 (with no individual subject area scaled score less than 180) on the Pharmacy College Admission Test (PCAT) are required for consideration. To be competitive, however, students should be well above these minimum values. Most students accepted in recent years have had GPAs above 3.20 and PCAT scores above 210. Students should complete the following minimum curriculum before admission.

<b>COURSE REQUIREMENTS</b>	<b>Hours</b>
English 111-112 .....	6
Communications 230 .....	3
Biology 110-120 .....	8
Zoology 251-252 .....	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
Mathemataics 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:** Minimum keyboard skills of 40 w.p.m. will be required of students prior to the third year of the professional curriculum.

The above curriculum meets the **minimum** requirements to be eligible for admission to the University of Tennessee College of Pharmacy at Memphis (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 in this section.

## **Pre-Cytotechnology Curriculum (6070)**

Students planning to seek admission to the Cytotechnology Program at the University of Tennessee Health Sciences 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 111-112 .....	6
English electives (Note 1).....	6
Biology 110-120 .....	8
Chemistry 121-122 .....	8
Mathematics 140 (or higher) .....	3
Microbiology 251.....	4
Advanced Biology (Note 2) .....	14
Social Science (Note 3).....	12
Electives .....	29
<b>Total (Note 4).....</b>	<b>90</b>

**NOTE 1:** Communications 230 strongly recommended as part of six hours of English electives.

**NOTE 2:** Must be at upper-division. Recommended courses include anatomy, cell biology, genetics, histology, immunology, and physiology.

**NOTE 3:** Courses in psychology, sociology, history, philosophy, political science, etc.

**NOTE 4:** At least 16 hours must be upper-division courses.

## **Pre-Dental Hygiene Curriculum (6071)**

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. 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 Memphis 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.

COURSE REQUIREMENTS	Hours
English 111-112 .....	6
English literature.....	3
Communications 230 .....	3
Biology 110 .....	4
Chemistry 121-122 .....	8
Psychology 110-120 (Note 1).....	6
Sociology 201-202 .....	6
Microbiology 251.....	4
Zoology 251-252 .....	8
Electives (Note 2) .....	16
<b>Total .....</b>	<b>64</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.

### Pre-Health Information Management Curriculum (6073)

The curriculum in Health Information Management at the University of Tennessee Health Sciences 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.

COURSE REQUIREMENTS	Hours
English 111-112 .....	6
Literature (Note 1) .....	6
Communications 230 .....	3
Business & Office Administration (Note 2).....	12
Zoology 251-252 .....	8
Mathematics 210 (Note 3) .....	3/6
Psychology.....	6
Social Science .....	6
Electives .....	37/40
<b>Total (Note 4).....</b>	<b>90</b>

**NOTE 1:** One course in speech may be substituted for one term of literature.

**NOTE 2:** Must include one course in principles of management. Accounting 201 and Economics 201 or 202 are prerequisites to Management 301.

**NOTE 3:** College algebra (Mathematics 140) is prerequisite to statistics (Mathematics 210).

**NOTE 4:** At least 15 hours must be at the upper-division level.

## Pre-Medical Technology Curriculum (6075)

Students planning to seek admission to the medical technology program at UT Health Sciences 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 Memphis is 21 months, leading to a bachelor's degree in Medical Technology.

<b>COURSE REQUIREMENTS</b>	<b>Hours</b>
English 111-112 .....	6
Chemistry 121-122 .....	8
Chemistry 341-342 (Note 1) .....	8
Biology 110-120 .....	8
Zoology 201 (Note 2) .....	4
Mathematics 140 (Note 3) .....	3/6
Electives (Note 4) .....	9
<b>Total</b> .....	<b>61/64</b>

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

**NOTE 2:** Zoology 251 may be substituted.

**NOTE 3:** Mathematics 160 recommended.

**NOTE 4:** Recommended courses include computer science, advanced biology, chemistry, foreign language, history, literature, music, and sociology.

## Pre-Occupational Therapy Curriculum (6076)

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 ninety semester hours of college work completed before matriculation. Applicants must complete the Graduate Record Examination (GRE) 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.

<b>COURSE REQUIREMENTS</b>	<b>Hours</b>
Biology 110-120 .....	8
Zoology 251-252 .....	8
Chemistry 100 or 121 .....	4
Physics 211 .....	4
English 111-112 .....	6
Communications 230 .....	3
Psychology 110, 120, 313, and 350.....	12
Sociology 201 and 202 or 208.....	6
Anthropology 300 .....	3
Mathematics 140 and 210 .....	6
Biology 300 .....	2
Foreign Language (Note 1) .....	8
General Electives (Note 2) .....	<u>20</u>
<b>Total</b> .....	<b>90</b>

**NOTE 1:** Foreign Language is not an absolute requirement. Spanish is highly recommended by the professional schools.

**NOTE 2:** One course in the humanities is required.

## **Pre-Physical Therapy Curriculum (6077)**

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 an direct observations as part of their pre-professional experiences. The minimum course requirements for the UT Memphis Physical Therapy Program are listed below. A grade of C or beter is required in each. applicants interested in physical therapy programs at other schools should contact those schools for their specific requirements.

**Health Sciences Pre-professional Program**

<b>COURSE REQUIREMENTS</b>	<b>Hours</b>
English 111-112 .....	6
Biology 110-120 .....	8
Mathematics 140 and 160 or 251 .....	4-6
Chemistry 121-122 .....	8
Psychology 110-120.....	6
Physics 211-212 .....	8
Zoology 251-252 .....	8
Social Sciences (Note 1) .....	9
Statistics (Mathematics 210 or Psychology 295) .....	3
Computer Science 201 .....	3
Humanities .....	3
Electives (Note 2) .....	<u>24</u>
<b>Total</b> .....	<b>90</b>

**NOTE 1:** Social Sciences: Such as Sociology 201 and 202.

**NOTE 2:** Suggested electives: Athletic Training 300, Biology 300, Biology 336, Communications 230, or Health 320. General education electives (Art, Foreign Language, History, Literature, Music, Philosophy, Psychology, and Religious Studies).

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

A student accepted into an accredited doctoral program or masters program in the health sciences (e.g. Medicine, Dentistry, Pharmacy, Optometry or Occupational Therapy), 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 masters or doctoral program of the professional school is satisfactorily completed.
- A minimum of 98 semester hours of college course work is completed, exclusive of those taken at the masters or doctoral granting institution.
- A minimum of 60 semester hours of course work is completed at UT Martin.
- All general education requirements for the B.S. degree are met.
- Application for the degree is made and approved by the College of Engineering and Natural Sciences Degrees Committee prior to graduation from the master's or doctoral granting institution.

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