Pre-Professional Health Sciences Program List

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Welcome to the Pre-Professional Health Sciences Program at Tennessee Tech!

Students who wish to pursue healthcare careers in fields such as medicine, dentistry, pharmacy, and physical therapy, etc. follow a General Curriculum Track with a Pre-Professional Health Sciences Focus for the first two years at Tech. Pre-Professional Health students must take certain courses required by the professional schools while at Tech, but they can do so while pursuing almost any major. Students are advised to declare their BA or BS degree-granting major prior to earning 60 credits.

The purpose of this handbook is to be a resource for you during SOAR, UNPP 1020 and throughout your time as a Tech Pre-Professional Health Sciences student!

Helpful Tips for New Freshmen:

- Familiarize yourself with our program website www.tntech.edu/cas/healthsciences
- Check your Tech email **daily**
- Make appointments with your advisors and with tutors using TechConnect
- Get involved, especially with the Chem Med Club
- Study every day for your classes
- Form study groups
- Visit Faculty/Advisor office hours

TIMELINE
For Pre-Professional Health Sciences Students

There are 3 essential areas that pre-professional students must address before applying to professional school:

1. **Academic Excellence**
2. **Health Care Experience**
3. **Extra-Curricular, Service, and Leadership Activities**

To prepare for admissions into a health sciences professional program, one should consult the following timeline during each stage of their undergraduate career:

FRESHMAN YEAR:

- Academic Excellence:
  - Join the pre-health listserv for information from the pre-professional health sciences advisors.
  - Begin the coursework for your area of health sciences interest.
  - Begin thinking about majors that would lead to a Bachelor's degree. Be ready to declare your major prior to earning 60 credit hours.
  - Establish good study habits. Academics come first!
  - Interact with the pre-professional advisors and guest speakers during UNPP 1020 in the fall.
  - Get to know your professors. Sit in the front of class, ask questions, and go to office hours. You will need to get good, strong letters of recommendations for professional school.
  - Get advised for your upcoming semester's classes in a timely manner.
  - READ! Extensive reading in both science and non-science areas will help to develop your vocabulary, speed, and comprehension.

- Health Care Experience:
  - Gather information on all health-care professions. www.ExploreHealthCareers.org is a great resource.
  - Consider health care-related experience such as volunteer work or job shadowing.
  - The summer can be an excellent time to begin or continue to get meaningful health care experience. Volunteer, job shadow, or consider an EMT training course, etc.
  - Keep a diary of your health profession and related activities.

- Extra-Curricular, Service, and Leadership Activities
  - Begin attending Chem Med Club meetings on the 1st and 3rd Tuesdays of each month in FH 233 at 11 am. The club invites guest speakers from all different areas of the health sciences.
  - Attend visits from health professional program admissions staff hosted by the pre-professional advisors. This is your chance to network with members of the admissions committees at the professional schools.
  - Participate in activities that you enjoy and are meaningful to you. This can include clubs, sports, community service activities, hobbies, etc.
  - Fine-tune your time management and interpersonal skills by getting involved and learning to balance your academic and non-academic activities.

SOPHOMORE YEAR:

- Academic Excellence:

  - Continue taking the pre-requisites for your health sciences program while deciding on a bachelor's degree program.
  - Declare a major in a degree-granting program prior to earning 60 credit hours.
  - Work on study habits and time-management skills that will allow your grades to improve even as courses get more challenging.
  - Research health professional programs to learn about specific requirements.
  - Continue to interact with the pre-professional advisors during Chem Med Club meetings, and advisement sessions. Continue to establish professional relationships with your professors.
  - Continue building professional relationships with your faculty as you will need good, strong letters of reference from them when you apply to professional school.
  - Begin to put together a resume if you don't have one already. Career Services can be a great resource for resume writing.
  - Begin to explore research opportunities, especially if MD/Ph.D. is an interest.
  - Continue to read! This will help you to prepare for the MCAT, PCAT, DAT, GRE, etc.

- Health Care Experience:

  - Continue to gain meaningful health care experience. Experiences that allow for direct patient contact tend to be most meaningful.
  - Investigate opportunities for health care programs in the summer and on breaks from school.
  - Think Quality over Quantity during the school year. Job shadow a local pharmacist or dental hygienist for a few afternoons (or more) during the semester.

- Extra-Curricular, Service, and Leadership Activities:

  - Continue attending Chem Med Club meetings and professional school visits.
  - Expand your involvement with student clubs and groups and community service or volunteer programs.
  - Regular participation in extra-curricular activities shows commitment, and these activities will help you develop good time management and interpersonal skills.
  - Take on a small leadership role within a club or group to increase your involvement.

JUNIOR YEAR:

- Academic Excellence:
  - Continue to excel in your academic coursework.
  - In the fall or spring, visit Foster Hall 205 to learn about the process to be interviewed and evaluated by the pre-health advisory committee.
  - Discuss letters of recommendation with faculty who know you well.
  - Prepare a study plan for your MCAT, PCAT, DAT, OAT, or GRE.
  - Plan to take the MCAT, PCAT, DAT, OAT, or GRE as early as the spring of junior year.
  - Draft, revise, and edit your personal statement.

- Health Care Experience:
  - Continue and expand your involvement in healthcare related activities. Professional schools are looking for students with a depth and breadth of experience in healthcare.
  - Seek out a part-time job in a healthcare setting.

- Extra-Curricular, Service, and Leadership Activities:
  - Continue attending Chem Med Club meetings and professional school visits.
  - Continue and expand your involvement with student groups and community service and volunteer programs.
  - Consider a larger leadership role within a group or organization.

SUMMER BETWEEN JUNIOR AND SENIOR YEAR:

- Begin primary applications to professional schools. Most health professions have a common application online. Applications generally open in May, June, or July.
- Perfect your personal statement.
- Complete secondary applications and have letters of recommendation sent.

SENIOR YEAR:

- Fine-tune your interviewing skills.
- Go on professional school interviews.
- Graduate!

Note: This general timeline is set up for students who plan to complete their Bachelor's degree and matriculate directly to a health professional school the fall semester after they graduate from Tech. You may need to adjust your timeline if you plan to apply to professional school prior to completing your bachelor's degree, generally after sophomore or junior year (normally for pharmacy, dental hygiene, or medical technology).

PRE-PROFESSIONAL HEALTH SCIENCES PROGRAM CURRICULUM GUIDES

Pre-professional programs are designed to satisfy minimum requirements for admission to professional schools. Some students complete only these minimum course requirements prior to seeking admission to the professional school. The majority of students enroll in degree programs such as biology, chemistry, engineering, psychology, or others, and also take courses to complete the minimum professional school requirements. Students are advised to declare a degree-granting major prior to earning 60 credit hours. Many courses satisfy requirements in both the pre-professional and bachelor's degree programs. Check the Undergraduate Catalog online for full details and curricula.

Professional school requirements may change from time to time. Check with specific schools and with your pre-professional advisor to stay up to date with specific requirements.

Application to health professional school is VERY competitive. Completion of the pre-requisite coursework alone DOES NOT guarantee admission to professional school.

PRE-MEDICINE

Freshman Year

First Semester

- BIOL 1113 - General Biology I Cr: 4.
- CHEM 1110 - General Chemistry I Cr: 4.
- Elective Cr: 3.
- ENGL 1010 - English Composition I Cr: 3.
- UNPP 1020 - University Pre-Professional, First-Year Interactions and Advisement Cr: 1.

Total: 15

Second Semester

- BIOL 1123 - General Biology II Cr: 4.
- CHEM 1120 - General Chemistry II Cr: 4.
- ENGL 1020 - English Composition II Cr: 3.
- PSY 1030 - Introduction to Psychology Cr: 3.
- SOC 1010 - Introduction to Sociology Cr: 3.

Total: 17

Sophomore Year

First Semester

- CHEM 3010 - Organic Chemistry I Cr: 4.
- Electives (Humanities - 3 hours) Cr: 3.
- ENGL 2130 - Topics in American Lit Cr: 3. or
- ENGL 2235 - Topics in British Lit Cr: 3. or
- ENGL 2330 - Topics in World Lit Cr: 3.
- MATH 3070 - Statistical Methods I Cr: 3. or MATH 1530 – Introductory Statistics Cr: 3
- PHYS 2010 - Algebra-based Physics I Cr: 4.

Total: 17

Second Semester

- CHEM 3020 - Organic Chemistry II Cr: 4.
- Electives Cr: 7.
- PHYS 2020 - Algebra-based Physics II Cr: 4.

Total: 15

Junior Year

First Semester

- BIOL Elective Cr: 4.
- CHEM 4610 (5610) - General Biochemistry I Cr: 3.
- Electives Cr: 9.

Total: 16

Second Semester

- CHEM 4620 (5620) -General Biochemistry II Cr: 3.
- Electives Cr: 9.

Total: 12

Senior Year:

- Complete Gen Ed Core Classes.
- Complete Bachelor's Degree Requirements for selected major (i.e. Biology, Chemistry, etc.).
- A Minimum of 120 credits is required for Graduation.

PRE-PHARMACY

Freshman Year

First Semester

- BIOL 1113 - General Biology I Cr: 4.
- CHEM 1110 - General Chemistry I Cr: 4.
- ENGL 1010 - English Composition I Cr: 3.
- MATH 1530 - Introductory Statistics Cr: 3. or
- MATH 3070 Statistical Methods I Cr: 3.
- UNPP 1020 - University Pre-Professional, First-Year Interactions & Advisement Cr: 1.

Total: 15

Second Semester

- BIOL 1123 - General Biology II Cr: 4.
- CHEM 1120 - General Chemistry II Cr: 4.
- ENGL 1020 - English Composition II Cr: 3.
- MATH 1830 - Applied Calculus Cr: 3. or MATH 1910 - Calculus I Cr: 4.

Total: 14-15

Sophomore Year

First Semester

- CHEM 3010 - Organic Chemistry I Cr: 4.
- ENGL 2130 - Topics in American Lit Cr: 3. or
- ENGL 2235 - Topics in British Lit Cr: 3. or
- ENGL 2330 - Topics in World Lit Cr: 3.
- PHYS 2010 - Algebra-based Physics I Cr: 4.
- Social/Behavioral Science Elective Cr: 3.

Total: 14

Second Semester

- BIOL 3230 - Health Sci Microbiology Cr: 4.
- CHEM 3020 - Organic Chemistry II Cr: 4.
- ECON 2010 - Prin of Microeconomics Cr: 3.
- Humanities/Fine Arts Elective Cr: 3.
- Social/Behavioral Science Elective Cr: 3.

Total: 17

Junior Year

First Semester

- BIOL 2010 -Human Anatomy & Physio I Cr: 4.
- COMM 2025 - Fundamentals of Comm. Cr: 3.
- Electives (may include a 2nd communication skills course) Cr: 6.[1]
- Humanities/Fine Arts Elective Cr: 3.

Total: 16

Second Semester

- BIOL 2020 -Human Anatomy & Physiology II Cr 4.
- Electives Cr: 6.
- Social/Behavioral Science Elective Cr: 3.

Total: 13

NOTES: The pre-pharmacy requirements at most pharmacy schools may be completed in two to three years. Many students elect to apply to pharmacy school after completing three years of prerequisite coursework in order to improve their science background, maturity and competitiveness. Others complete a bachelor's degree before matriculating to pharmacy school. Students with an interest in chemistry may elect to follow the first three years of coursework towards the Applied Chemistry major (see pages 24-27) and earn a Bachelor of Science Degree with a major in Chemistry from Tech after completing their first year of coursework from an accredited pharmacy school.

[1]Beginning Fall 2018, Belmont University College of Pharmacy requires a second communication skills course for applicants without a Bachelor's Degree. This course should be designed to improve communication skills and may include a third writing course.

PRE-DENTISTRY

Freshman Year

First Semester

- BIOL 1113 - General Biology I Cr: 4.
- CHEM 1110 - General Chemistry I Cr: 4.
- ENGL 1010 - English Composition I Cr: 3.
- MATH Cr: 3. [1]
- UNPP 1020 - University Pre-Professional, First-Year Interactions and Advisement Cr: 1.

Total: 15

Second Semester

- BIOL 1123 - General Biology II Cr: 4.
- CHEM 1120 - General Chemistry II Cr: 4.
- Electives Cr: 3.
- ENGL 1020 - English Composition II Cr: 3.
- MATH Cr: 3. [1]

Total: 17

Sophomore Year

First Semester

- CHEM 3010 - Organic Chemistry I Cr: 4.
- Electives (Humanities-3 hours) Cr: 4.
- ENGL 2130 - Topics in American Literature Cr: 3.
  or ENGL 2235 - Topics in British Literature Cr: 3.
  or ENGL 2330 - Topics in World Literature Cr: 3.
- PHYS 2010 - Algebra-based Physics I Cr: 4.

Total: 15

Second Semester

- CHEM 3020 - Organic Chemistry II Cr: 4.
- Electives Cr: 9.
- PHYS 2020 - Algebra-based Physics II Cr: 4.

Total: 17

Junior Year

First Semester

- BIOL Elective Cr: 4.
- CHEM 4610 (5610) - General Biochemistry I Cr: 3.
- Electives Cr: 8.

Total: 15

Second Semester

- BIOL 3230 - Health Science Microbiology Cr: 4.
- CHEM 4620 (5620) -General Biochemistry II Cr: 3.
- Electives Cr: 6.

Total: 13

Senior Year

- Complete Gen Ed Core Classes.
- Complete Bachelor's Degree Requirements for selected major (i.e. Biology, Chemistry, etc.).
- A Minimum of 120 credits is required for Graduation.

Note: [1] A course in calculus and a course in statistics are recommended.

PRE-OPTOMETRY

Freshman Year

First Semester

- BIOL 1113 - General Biology I Cr: 4.
- CHEM 1110 - General Chemistry I Cr: 4.
- ENGL 1010 - English Composition I Cr: 3.
- MATH 1730 - Pre-calculus Mathematics Cr: 5.
- UNPP 1020 - University Pre-Professional, First-Year Interactions and Advisement Cr: 1.

Total: 17

Second Semester

- BIOL 1123 - General Biology II Cr: 4.
- CHEM 1120 - General Chemistry II Cr: 4.
- ENGL 1020 - English Composition II Cr: 3.
- MATH 1910 - Calculus I Cr: 4.

Total: 15

Sophomore Year

First Semester

- CHEM 3010 - Organic Chemistry I Cr: 4.
- Elective Cr: 3.
- ENGL 2130 - Topics in American Literature Cr: 3. or ENGL 2235 - Topics in British Literature Cr: 3. or ENGL 2330 - Topics in World Literature Cr: 3.
- MATH 1530 - Introductory Statistics Cr: 3. or MATH 3070 Statistical Methods I Cr: 3.
- PHYS 2010 - Algebra-based Physics I Cr: 4.

Total: 17

Second Semester

- CHEM 3020 - Organic Chemistry II Cr: 4.
- Elective Cr: 3.
- Humanities/Fine Arts Elective Cr: 3.
- PHYS 2020 - Algebra-based Physics II Cr: 4.

Total: 14

Junior Year

First Semester

- CHEM 4610 (5610) - General Biochemistry I Cr: 3.
- General Education Core or Major Cr: 9.
- PSY 1030 - Introduction to Psychology Cr: 3.

Total: 15

Second Semester

- BIOL 3230 - Health Science Microbiology Cr: 4.
- Social Science Cr: 6.
- General Education Core or Major Cr: 3.

Total: 13

Senior Year

- Complete Gen Ed Core Classes.
- Complete Bachelor's Degree Requirements for selected major (i.e. Biology, Chemistry, etc.).
- A Minimum of 120 credits is required for Graduation.

Note: BIOL 2010 - Human Anatomy & Physiology I, BIOL 2020 - Human Anatomy & Physiology II, and BIOL 3140 - Cellular Biology are highly recommended at some optometry schools.

PRE-PHYSICIAN ASSISTANT

Freshman Year

First Semester

- BIOL 1113 - General Biology I Cr: 4.
- CHEM 1110 - General Chemistry I Cr: 4.
- ENGL 1010 - English Composition I Cr: 3.
- MATH Elective Cr: 3.[1]
- UNPP 1020 - University Pre-Professional, First-Year Interactions and Advisement Cr: 1.

Total: 15

Second Semester

- BIOL 1123 - General Biology II Cr: 4.
- ENGL 1020 - English Composition II Cr: 3.
- CHEM 1120 - General Chemistry II Cr: 4.
- MATH Elective Cr: 3.[1]
- PSY 1030 - Introduction to Psychology Cr: 3.

Total: 17

Sophomore Year

First Semester

- BIOL 2010 -Human Anatomy & Physiology I Cr: 4.
- General Education Core or Major Cr: 3.
- CHEM 3010 - Organic Chemistry I Cr: 4.
- ENGL 2130 - Topics in American Literature Cr: 3.
  or ENGL 2235 - Topics in British Literature Cr: 3.
  or ENGL 2330 - Topics in World Literature Cr: 3.
- PSY 2130 - Life Span Develop. Psychology Cr: 3.

Total: 17

Second Semester

- BIOL 2020 -Human Anatomy & Physiology II Cr 4.
- CHEM 3020 - Organic Chemistry II Cr: 4.
- General Education Core or Major Cr: 3.
- Humanities/Fine Arts Elective Cr: 3.

Total: 14

Junior Year

First Semester

- BIOL 3810 - General Genetics Cr: 4.
- CHEM 4610 (5610) - General Biochemistry I Cr: 3.
- General Education Core or Major Cr: 6.
- HEC 2220 - Medical Terminology for the Human Sciences Cr: 1. or
  HIMT 1300 Medical Terminology Cr: 3.

Total: 14-16

Second Semester

- BIOL 3230 - Health Science Microbiology Cr: 4.
- COMM 2025 - Funds of Communication Cr: 3.
- General Education Core or Major Cr: 4-6.
- PSY 4160 (5160) - Abnormal Psychology Cr: 3.

Total: 14-16

Senior Year

- Complete Gen Ed Core Classes.
- Complete Bachelor's Degree Requirements for selected major (i.e. Biology, Chemistry, etc.)
- A Minimum of 120 credits is required for Graduation.

Note: [1] A course in College Algebra (MATH 1130) or higher and a course in Statistics fulfills the math requirements at most PA schools.

PRE-PHYSICAL THERAPY

Freshman Year

First Semester

- BIOL 1113 - General Biology I Cr: 4.
- CHEM 1110 - General Chemistry I Cr: 4.
- ENGL 1010 - English Composition I Cr: 3.
- MATH 1130 - College Algebra Cr: 3. or
- MATH 1710 - Pre-calculus Algebra Cr: 3.
- UNPP 1020 - University Pre-Professional, First-Year Interactions and Advisement Cr: 1.

Total: 15

Second Semester

- BIOL 1123 - General Biology II Cr: 4.
- CHEM 1120 - General Chemistry II Cr: 4.
- ENGL 1020 - English Composition II Cr: 3.
- Humanities/Fine Arts Elective Cr: 3.

Total: 14

Sophomore Year

First Semester

- BIOL 2010 -Human Anatomy & Physiology I Cr: 4.
- ENGL 2130 - Topics in American Literature Cr: 3.
  or ENGL 2235 - Topics in British Literature Cr: 3.
  or ENGL 2330 - Topics in World Literature Cr: 3.
- PHYS 2010 - Algebra-based Physics I Cr: 4.
- PSY 1030 - Introduction to Psychology Cr: 3.
- Elective Cr: 3.

Total: 17

Second Semester

- BIOL 2020 -Human Anatomy & Physiology II Cr 4.
- PHYS 2020 - Algebra-based Physics II Cr: 4.
- PSY 2130 - Life Span Develop. Psychology Cr: 3.
- Elective Cr: 3.

Total: 14

Junior Year

First Semester

- Electives Cr: 10.
- EXPW 4440 - Physiology of Exercise Cr: 3.
- MATH 1530 - Introductory Statistics Cr: 3. [1]

Total: 16

Second Semester

- Electives Cr: 15.

Total: 15

Senior Year

- Complete Gen Ed Core Classes.
- Complete Bachelor's Degree Requirements for selected major (i.e. Biology, Psychology, etc.).
- A Minimum of 120 credits is required for Graduation.

[1]Note: DPT programs generally require a statistics course; courses from various departments may satisfy this requirement

PRE-OCCUPATIONAL THERAPY

Freshman Year

First Semester

- BIOL 1113 - General Biology I Cr: 4.
- CHEM 1110 - General Chemistry I Cr: 4.
- ENGL 1010 - English Composition I Cr: 3.
- Humanities/Fine Arts Elective Cr: 3.
- UNPP 1020 - University Pre-Professional, First-Year Interactions and Advisement Cr: 1.

Total: 15

Second Semester

- BIOL 1123 - General Biology II Cr: 4.
- ENGL 1020 - English Composition II Cr: 3.
- Humanities/Fine Arts Elective Cr: 3.
- PSY 1030 - Introduction to Psychology Cr: 3.
- SOC 1010 - Introduction to Sociology Cr: 3.

Total: 16

Sophomore Year

First Semester

- BIOL 2010 -Human Anatomy & Physiology I Cr: 4.
- ENGL 2130 - Topics in American Literature Cr: 3.
  or ENGL 2235 - Topics in British Literature Cr: 3.
  or ENGL 2330 - Topics in World Literature Cr: 3.
- PHYS 2010 - Algebra-based Physics I Cr: 4.
- PSY 2130 - Life Span Develop. Psychology Cr: 3.

Total: 14

Second Semester

- BIOL 2020 -Human Anatomy & Physiology II Cr 4.
- COMM 2025 - Funds. of Communication Cr: 3.
- Elective Cr: 3.
- PSY 4160 (5160) - Abnormal Psychology Cr: 3.
- PSY 4300 (5300) - Adult Psychology Cr: 3.

Total: 16

Junior Year

First Semester

- Electives Cr: 9.
- EXPW 4420 - Kinesiology Cr: 3.
- MATH 1530 - Introductory Statistics Cr: 3. [1]

Total: 15

Second Semester

- Electives Cr: 12-14.
- HEC 2220 - Medical Terminology for the Human Sciences Cr: 1. or
  HIMT 1300 Medical Terminology Cr: 3.

Total: 13-15

Senior Year

- Complete Gen Ed Core Classes.
- Complete Bachelor's Degree Requirements for selected major (i.e. Biology, Psychology, etc.).
- A Minimum of 120 credits is required for Graduation.

[1]Note: OTD/MS programs generally require a statistics course; courses from various departments may satisfy this requirement.

PRE-DENTAL HYGIENE

Freshman Year

First Semester

- BIOL 1113 - General Biology I Cr: 4.
- CHEM 1010 - Introductory Chemistry I Cr: 4. or
- CHEM 1110 - General Chemistry I Cr: 4.
- ENGL 1010 - English Composition I Cr: 3.
- MATH 1130 - College Algebra Cr: 3. [1]
- UNPP 1020 - University Pre-Professional, First-Year Interactions and Advisement Cr: 1.

Total: 15

Second Semester

- CHEM 1020 - Introductory Chemistry II Cr: 4. or
- CHEM 1120 - General Chemistry II Cr: 4.
- ENGL 1020 - English Composition II Cr: 3.
- MATH 1530 - Introductory Statistics Cr: 3. [1]
- PSY 1030 - Introduction to Psychology Cr: 3.
- SOC 1010 - Introduction to Sociology Cr: 3.

Total: 16

Sophomore Year

First Semester

- BIOL 2010 -Human Anatomy & Physiology I Cr: 4.
- BIOL 3230 - Health Science Microbiology Cr: 4.
- COMM 2025 – Funds. of Communication Cr: 3.
- Elective Cr: 3. [2]
- ENGL 2130 - Topics in American Literature Cr: 3. or ENGL 2235 - Topics in British Literature Cr: 3. or ENGL 2330 - Topics in World Literature Cr: 3.

Total: 17

Second Semester

- BIOL 2020 -Human Anatomy & Physiology II Cr 4.
- Elective Cr: 3. [2]
- HEC 2020 - Nutrition for Health Sciences Cr: 3.
- HIMT 1300 Medical Terminology Cr: 3.

Total: 13

NOTES:

[1] ETSU requires MATH 1530 - Introductory Statistics ; UTHSC requires MATH 1130 - College Algebra .

[2] For students intending to earn a Bachelor's degree before entering professional school, it is recommended that elective courses be taken from core requirements or a selected degree program. HIST 2010 - Early United States History and HIST 2020 - Modern United States History are required pre-requisites at some dental hygiene programs. University of Louisville Bachelor of Science in Dental Hygiene Program requires 3 credits in Western Civilization, 6 credits in Arts and Humanities, and 6 credits in Cultural Diversity.

PRE-MEDICAL TECHNOLOGY

Freshman Year

First Semester

- BIOL 1113 - General Biology I Cr: 4.
- CHEM 1110 - General Chemistry I Cr: 4.
- ENGL 1010 - English Composition I Cr: 3.
- MATH 1130 - College Algebra Cr: 3.
- UNPP 1020 - University Pre-Professional, First-Year Interactions and Advisement Cr: 1.

Total: 15

Second Semester

- BIOL 1123 - General Biology II Cr: 4.
- CHEM 1120 - General Chemistry II Cr: 4.
- ENGL 1020 - English Composition II Cr: 3.
- Humanities/Fine Arts Electives Cr: 3.
- PSY 1030 - Introduction to Psychology Cr: 3.

Total: 17

Sophomore Year

First Semester

- BIOL 2010 -Human Anatomy & Physiology I Cr: 4.
- CHEM 3010 - Organic Chemistry I Cr: 4.
- COMM 2025 – Funds. of Communication Cr: 3.
- ENGL 2130 - Topics in American Literature Cr: 3.
  or ENGL 2235 - Topics in British Literature Cr: 3.
  or ENGL 2330 - Topics in World Literature Cr: 3.

Total: 14

Second Semester

- BIOL 3230 - Health Science Microbiology Cr: 4.
- CHEM 3020 - Organic Chemistry II Cr: 4.
- Electives Cr: 7. [1]

Total: 15

Junior Year

First Semester

- BIOL 4040 (5040) - Immunology Cr: 3.
- Electives Cr: 12. [1]

Total: 15

Second Semester

- Electives Cr: 15. [1]

Total: 15

NOTE:

[1]For students intending to earn a Bachelor's degree before entering professional school, it is recommended that elective courses be taken from general education core requirements, a selected degree program, or the following recommended electives: HIST 2010, HIST 2020, BIOL 2020, BIOL 3810, CHEM 3410, CHEM 4610 (5610) or CHEM 4500, and CHEM 3420.

PRE-HEALTH INFORMATION MANAGEMENT

Freshman Year

First Semester

- Electives Cr: 6. [1]
- ENGL 1010 - English Composition I Cr: 3.
- MATH 1530 - Introductory Statistics Cr: 3.
- Social/Behavioral Sciences Elective Cr: 3.
- UNPP 1020 - University Pre-Professional, First-Year Interactions and Advisement Cr: 1.

Total: 16

Second Semester

- Electives Cr: 9. [1]
- ENGL 1020 - English Composition II Cr: 3.
- Social/Behavioral Sciences Elective Cr: 3.

Total: 15

Sophomore Year

First Semester

- BIOL 2010 -Human Anatomy & Physiology I Cr: 4.
- COMM 2025 – Funds. of Communication Cr: 3.
- Elective Cr: 6. [1]
- ENGL 2130 - Topics in American Literature Cr: 3.
  or ENGL 2235 - Topics in British Literature Cr: 3.
  or ENGL 2330 - Topics in World Literature Cr: 3.

Total: 16

Second Semester

- BIOL 2020 -Human Anatomy & Physiology II Cr 4.
- DS 2810 -Computer Applications in Business Cr: 3.
- Electives Cr: 8. [1]

Total: 15

Junior Year

First Semester

- BMGT 3510 - Management and Organization Behavior Cr: 3.
- DS 3860 - Business Database Management Cr: 3.
- Electives Cr: 6. [1]
- HIMT 1300 Medical Terminology Cr: 3.

Total: 15

Second Semester

- BMGT 3630 - Human Resource Management Cr: 3.
- DS 4330 (5330) - Management Information Systems Analysis and Design Cr: 3.
- Electives Cr: 9. [1]

Total: 15

Senior Year

- Complete Gen Ed Core Classes.
- Complete Bachelor's Degree Requirements for selected major (i.e. Biology, Business, Exercise Science, etc.).
- A Minimum of 120 credits is required for Graduation.

Note: The University of Tennessee Health Science Center's (UTHSC) entry-level Master of Health Informatics and Information Management (MHIIM) program requires a baccalaureate degree and completion of prerequisite courses (above). It is recommended that elective hours be taken from general education core requirements, a selected degree program, and the following suggested electives: ACCT 2110, FIN 3210, LAW 2810 or LAW 4720. 12 credits of electives must be at the 3000-4000 level. The entry-level MHIIM program at UTHSC is online.

COMMON MAJORS

While the choice of major is entirely up to the individual student, many pre-professional students choose to major in one of the following B.S. granting degree programs:

- **Biology (Cellular and Molecular Biology Concentration)**
- **Biology (Health Sciences Concentration)**
- **Biology (Biology Concentration, Microbiology Option)**
- **Chemistry (Biochemistry Concentration)**
- **Chemistry (Applied, Health Sciences Concentration)**
- **Chemistry (Applied, Forensic Science Concentration)**

Students should meet with the faculty advisor in the academic department of your intended major very early on in your college career. Students are advised to declare their degree-granting major prior to earning 60 credit hours.

BIOLOGY, CELLULAR & MOLECULAR

Freshman Year

- BIOL 1000 - Introduction to Biological Methods Credit: 1.
- BIOL 1113 - General Biology I Credit: 4.
- BIOL 1123 - General Biology II Credit: 4.
- BIOL 2310 - General Botany Credit: 4.
- ENGL 1010 - English Composition I Credit: 3.
- ENGL 1020 - English Composition II Credit: 3.
- CHEM 1110 - General Chemistry I Credit: 4.
- CHEM 1120 - General Chemistry II Credit: 4.
- MATH Credit 6. [1]

Total: 33

Sophomore Year

- HIST 2010 - Early United States History Credit: 3.
- HIST 2020 - Modern United States History Credit: 3.
- PHYS 2010 - Algebra-based Physics I Credit: 4.
- PHYS 2020 - Algebra-based Physics II Credit: 4.
- Humanities/Fine Arts Electives Credit 6.
- ENGL 2130 - Topics in American Literature Credit: 3. or
- ENGL 2235 - Topics in British Literature Credit: 3. or
- ENGL 2330 - Topics in World Literature Credit: 3.
- PC 2500 - Communicating in the Professions Credit: 3. or
- COMM 2025 – Fundamentals of Communication Credit: 3.
- MATH Credit 3. [1]

Total: 29

Junior Year

- BIOL 3120 - General Ecology Credit: 3. or
- BIOL 3130 - General Ecology Credit: 4.
- BIOL 3140 - Cellular Biology Credit: 4.
- BIOL 3200 - General Microbiology Credit: 4.
- BIOL 3810 - General Genetics Credit: 4.
- BIOL 3920 - Biological Communication Skills Credit: 3.
- CHEM 3010 - Organic Chemistry I Credit: 4.
- CHEM 3020 - Organic Chemistry II Credit: 4.
- Social/Behavioral Science Elective Credit 3.

Total: 29-30

Senior Year

- BIOL 4150 (5150) - Molecular Genetics Credit: 3.
- BIOL 4160 (5160) - Genetic Engineering Laboratory Credit: 2.
- BIOL 4320 (5320) - Plant Physiology Credit: 3. or
- BIOL 3530 - Animal Physiology Credit: 3.
- BIOL 4040 (5040) - Immunology Credit: 3. or
- BIOL 4060 (5060) - Hormones and Chemical Communication Credit: 3. or
- BIOL 4850 (5850) - Applied Microbiology Credit: 3.
- CHEM 4610 (5610) - General Biochemistry Credit: 3.
- CHEM 4620 (5620) - General Biochemistry Credit: 3.
- CHEM 4650 (5650) - General Biochemistry Laboratory Credit: 2.
- Social/Behavioral Science Elective Credit 3.
- Electives Credit 6-7.

Total: 28-29

Note:

[1] Three math/statistics courses are required, one each from the following pairs of courses: either MATH 1130 or MATH 1710 , either MATH 1530 or MATH 1830 , and either MATH 3070 or BIOL 4220 (5220) /WFS 4220 (5220) .

BIOLOGY, HEALTH SCIENCES

Freshman Year

- BIOL 1000 - Introduction to Biological Methods Credit: 1.
- BIOL 1113 - General Biology I Credit: 4.
- BIOL 1123 - General Biology II Credit: 4.
- BIOL 2310 - General Botany Credit: 4.
- ENGL 1010 - English Composition I Credit: 3.
- ENGL 1020 - English Composition II Credit: 3.
- CHEM 1110 - General Chemistry I Credit: 4.
- CHEM 1120 - General Chemistry II Credit: 4.
- MATH Credit 6. [1]

Total: 33

Sophomore Year

- BIOL 2010 - Human Anatomy and Physiology I Credit: 4.
- BIOL 2020 - Human Anatomy and Physiology II Credit: 4.
- ENGL 2130 - Topics in American Literature Credit: 3. or
- ENGL 2235 - Topics in British Literature Credit: 3. or
- ENGL 2330 - Topics in World Literature Credit: 3.
- PHYS 2010 - Algebra-based Physics I Credit: 4.
- PHYS 2020 - Algebra-based Physics II Credit: 4.
- Humanities/Fine Arts Electives Credit 6.
- MATH Credit 3. [1]

Total: 28

Junior Year

- BIOL 3120 – General Ecology Credit: 3. or
- BIOL 3130 - General Ecology Credit: 4.
- BIOL 3140 - Cellular Biology Credit: 4.
- BIOL 3230 - Health Science Microbiology Credit: 4.
- BIOL 3810 - General Genetics Credit: 4.
- BIOL 3920 - Biological Communication Skills Credit: 3.
- CHEM 3010 - Organic Chemistry I Credit: 4.
- CHEM 3020 - Organic Chemistry II Credit: 4.
- PC 2500 - Communicating in the Professions Credit: 3. or
- COMM 2025 – Fundamentals of Communication Credit: 3.

Total: 29-30

Senior Year

- Biology Directed Electives Credit 9-12.[2]
- HIST 2010 - Early United States History Credit: 3.
- HIST 2020 - Modern United States History Credit: 3.
- PSY 1030 - Introduction to Psychology Credit: 3.
- Social/Behavioral Science Elective Credit 3.
- Electives Credit 7-9.

Total: 29-30

Notes:

[1] Three math/statistics courses are required, one each from the following pairs of courses: either MATH 1130 or MATH 1710 , either MATH 1530 or MATH 1830 , and either MATH 3070 or BIOL 4220 (5220) /WFS 4220 (5220) .

[2] Choose three courses from: BIOL 3040, BIOL 3060, BIOL 4000 (5000), BIOL 4040 (5040), BIOL 4060 (5060), BIOL 4140 (5140), BIOL 4150 (5150), BIOL 4750 (5750), and CHEM 4610 (5610).

BIOLOGY, BIOLOGY CONCENTRATION MICROBIOLOGY OPTION

Freshman Year

- BIOL 1000 - Introduction to Biological Methods Credit: 1.
- BIOL 1113 - General Biology I Credit: 4.
- BIOL 1123 - General Biology II Credit: 4.
- BIOL 2310 - General Botany Credit: 4.
- ENGL 1010 - English Composition I Credit: 3.
- ENGL 1020 - English Composition II Credit: 3.
- CHEM 1110 - General Chemistry I Credit: 4.
- CHEM 1120 - General Chemistry II Credit: 4.
- MATH Credit: 6. [1]

Total: 33

Sophomore Year

- GEOL 1040 - Physical Geology Credit 4. and
- GEOL 1045 – Earth Environment, Resources and Society Credit: 4. or

- GEOL 1040 - Physical Geology Credit 4. and
- GEOL 2000 - Earth Evolution and Life History Credit: 3. or

- **PHYS 2010 - Algebra-based Physics I Credit: 4. and**
- **PHYS 2020 - Algebra-based Physics II Credit: 4.**
- HIST 2010 - Early United States History Credit: 3.
- HIST 2020 - Modern United States History Credit: 3.
- Humanities/Fine Arts Electives Credit: 6.
- ENGL 2130 - Topics in American Literature Credit: 3. or
- ENGL 2235 - Topics in British Literature Credit: 3. or
- ENGL 2330 - Topics in World Literature Credit: 3.
- MATH Credit: 3. [1]
- PC 2500 - Communicating in the Professions Credit: 3. or
- COMM 2025 - Fundamentals of Communication Credit: 3.

Total: 28-29

Junior Year

- BIOL 3120 - General Ecology Credit: 3. [2] or
- BIOL 3130 - General Ecology Credit: 4.
- BIOL 3140 - Cellular Biology Credit: 4.
- BIOL 3200 - General Microbiology Credit: 4.
- BIOL 3810 - General Genetics Credit: 4.
- BIOL 3920 - Biological Communication Skills Credit: 3.
- CHEM 3005 - Elementary Organic Chemistry Credit: 4. (**see additional note below**)
- Social/Behavioral Sciences Electives Credit: 6.

Total: 29-30

Senior Year

- Approved Biology and Chemistry Courses Credit: 13-24. [3]
- Electives Credit: 5-18.

Total: 29-30

Notes:

[1] Three math/statistics courses are required, one each from the following pairs of courses: either MATH 1130 or MATH 1710 , either MATH 1530 or MATH 1830 , and either MATH 3070 or BIOL 4220 (5220) /WFS 4220 (5220) .

[2] Students following the Microbiology option may choose between BIOL 3120 or BIOL 3130 .

[3] Microbiology Option: (18-24 hours)

1. BIOL 4130 (5130), BIOL 4150 (5150) BIOL 4750 (5750); and
2. CHEM 4610 (5610), CHEM 4620 (5620); and
3. Choose two courses from: BIOL 4000 (5000), BIOL 4040 (5040), BIOL 4120 (5120), BIOL 4140 (5140) , BIOL 4160 (5160), BIOL 4780 (5780) or BIOL 4850 (5850).

or

1. BIOL 4130 (5130), BIOL 4150 (5150), BIOL 4750 (5750); and
2. CHEM 4500; and
3. Choose two courses from: BIOL 4000 (5000), BIOL 4040 (5040), BIOL 4120 (5120), BIOL 4140 (5140), BIOL 4160 (5160), BIOL 4780 (5780) or BIOL 4850 (5850).

Note regarding organic chemistry: Many health professional programs require CHEM 3010 and 3020 and not simply CHEM 3005. See a biology faculty advisor for information regarding your organic chemistry options.

BIOCHEMISTRY

Freshman Year

- BIOL 1113 - General Biology I Credit: 4.
- BIOL 1123 - General Biology II Credit: 4.
- CHEM 1110 - General Chemistry I Credit: 4.
- CHEM 1120 - General Chemistry II Credit: 4.
- ENGL 1010 - English Composition I Credit: 3.
- ENGL 1020 - English Composition II Credit: 3.
- MATH 1910 - Calculus I Credit: 4.
- Social/Behavioral Science Elective Credit 3.
- CHEM 1500 - First Year Interactions and Advisement Credit: 1.

Total: 30

Sophomore Year

- CHEM 3410 - Quantitative Analysis Credit: 4.
- CHEM 3420 - Analytical Applications Credit: 3.
- BIOL 3140 - Cellular Biology Credit: 4.
- BIOL 3230 - Health Science Microbiology Credit: 4.
- PHYS 2010 - Algebra-based Physics I Credit: 4.
- PHYS 2020 - Algebra-based Physics II Credit: 4.
- Humanities/Fine Arts Electives Credit 6.

Total: 29

Junior Year

- CHEM 3010 - Organic Chemistry I Credit: 4.
- CHEM 3020 - Organic Chemistry II Credit: 4.
- CHEM 3500 - Elements of Physical Chemistry Credit: 3.
- BIOL 3810 - General Genetics Credit: 4.
- HIST 2010 - Early United States History Credit: 3.
- HIST 2020 - Modern United States History Credit: 3.
- COMM 2025 – Fundamentals of Communication Credit: 3. or
- PC 2500 - Communicating in the Professions Credit: 3.
- Humanities/Fine Arts Electives Credit 3.
- Social/Behavioral Science Elective Credit 3.

Total: 30

Senior Year

- CHEM 4610 (5610) - General Biochemistry Credit: 3.
- CHEM 4620 (5620) - General Biochemistry Credit: 3.
- CHEM 4650 (5650) - General Biochemistry Laboratory Credit: 2.
- CHEM 4910 - Chemistry Seminar Credit: 2.
- BIOL 4150 (5150) - Molecular Genetics Credit: 3.
- BIOL Elective Credit 3. [1]
- MATH 3070 - Statistical Methods I Credit: 3.
- Electives Credit 12.

Total: 31

Note:

[1] Choose from BIOL 4040 (5040) Immunology or BIOL 4060 (5060) Hormones and Chemical Communication.

APPLIED CHEMISTRY, HEALTH SCIENCES

Freshman Year

- BIOL 1113 - General Biology I Credit: 4.
- BIOL 1123 - General Biology II Credit: 4.
- CHEM 1110 - General Chemistry I Credit: 4.
- CHEM 1120 - General Chemistry II Credit: 4.
- MATH 1530 - Introductory Statistics Credit: 3.
- ENGL 1010 - English Composition I Credit: 3.
- ENGL 1020 - English Composition II Credit: 3.
- Humanities/Fine Arts Elective Credit 3.
- CHEM 1500 - First Year Interactions and Advisement Credit: 1.

Total: 29

Sophomore Year

- CHEM 2010 - Introduction to Inorganic Chemistry Credit: 3.
- CHEM 3410 - Quantitative Analysis Credit: 4.
- CHEM 3420 - Analytical Applications Credit: 3.
- MATH 1910 - Calculus I Credit: 4.
- PHYS 2010 - Algebra-based Physics I Credit: 4.
- PHYS 2020 - Algebra-based Physics II Credit: 4.
- Social/Behavioral Science Electives Credit 6.
- Technical Electives Credit 3. [1]

Total: 31

Junior Year

- CHEM 3500 - Elements of Physical Chemistry Credit: 3.
- CHEM 3010 - Organic Chemistry I Credit: 4.
- CHEM 3020 - Organic Chemistry II Credit: 4.
- ENGL 2130 - Topics in American Literature Credit: 3. or
- ENGL 2235 - Topics in British Literature Credit: 3. or
- ENGL 2330 - Topics in World Literature Credit: 3.
- HIST 2010 - Early United States History Credit: 3.
- HIST 2020 - Modern United States History Credit: 3.
- COMM 2025 – Fundamentals of Communication Credit: 3. or
- PC 2500 - Communicating in the Professions Credit: 3.
- Technical Electives Credit 7. [1]

Total: 30

Senior Year

- CHEM 4910 - Chemistry Seminar Credit: 2.
- Advanced CHEM Courses Credit 9. [2]
- Humanities/Fine Arts Elective Credit 3.
- Technical Electives Credit 3-5. [1]
- Electives Credit 11-12.

Total: 30

Note:

Health Science Chemistry:

[1] Technical Electives: BIOL 2010 (Human Anatomy and Physiology I), BIOL 2020 (Human Anatomy and Physiology II), BIOL 3230 (Health Science Microbiology), plus 3 hours chosen from BIOL 3810 (General Genetics), BIOL 4040 (Immunology), BIOL 4060 (5060) (Hormones and Chemical Communication), and BIOL 4150 (Molecular Genetics).

[2] Advanced CHEM Courses: CHEM 4610 (5610) General Biochemistry, and CHEM 4620 (5620) General Biochemistry plus 3 hours of advanced chemistry approved by the chemistry advisor.

APPLIED CHEMISTRY, FORENSIC SCIENCE

Freshman Year

- BIOL 1113 - General Biology I Credit: 4.
- BIOL 1123 - General Biology II Credit: 4.
- CHEM 1110 - General Chemistry I Credit: 4.
- CHEM 1120 - General Chemistry II Credit: 4.
- MATH 1530 - Introductory Statistics Credit: 3.
- ENGL 1010 - English Composition I Credit: 3.
- ENGL 1020 - English Composition II Credit: 3.
- Humanities/Fine Arts Elective Credit 3.
- CHEM 1500 - First Year Interactions and Advisement Credit: 1.

Total: 29

Sophomore Year

- CHEM 2010 - Introduction to Inorganic Chemistry Credit: 3.
- CHEM 3410 - Quantitative Analysis Credit: 4.
- CHEM 3420 - Analytical Applications Credit: 3.
- MATH 1910 - Calculus I Credit: 4.
- PHYS 2010 - Algebra-based Physics I Credit: 4.
- PHYS 2020 - Algebra-based Physics II Credit: 4.
- Social/Behavioral Science Electives Credit 6.
- Technical Electives Credit 3. [1]

Total: 31

Junior Year

- CHEM 3500 - Elements of Physical Chemistry Credit: 3.
- CHEM 3010 - Organic Chemistry I Credit: 4.
- CHEM 3020 - Organic Chemistry II Credit: 4.
- ENGL 2130 - Topics in American Literature Credit: 3. or
- ENGL 2235 - Topics in British Literature Credit: 3. or
- ENGL 2330 - Topics in World Literature Credit: 3.
- HIST 2010 - Early United States History Credit: 3.
- HIST 2020 - Modern United States History Credit: 3.
- COMM 2025 – Fundamentals of Communication Credit: 3. or
- PC 2500 - Communicating in the Professions Credit: 3.
- Technical Electives Credit 7. [1]

Total: 30

Senior Year

- CHEM 4910 - Chemistry Seminar Credit: 2.
- Advanced CHEM Courses Credit 9. [2]
- Humanities/Fine Arts Elective Credit 3.
- Technical Electives Credit 3-5. [1]
- Electives Credit 11-12.

Total: 30

Note:

[1] Forensic Chemistry:

[1] Technical Electives: BIOL 3330 (Entomology), BIOL 3810 (General Genetics), BIOL 4150 (5150) (Molecular Genetics), CJ 2660 (Criminology), CJ 4250 (5250) (Drugs and Behavioral Pharmacology).

[2] Advanced CHEM Courses: CHEM 4410 (5410) (Forensic Chemistry), CHEM 4610 (5610) (General Biochemistry) and CHEM 4650 (5650) (General Biochemistry Laboratory).

41-Hour General Education Core

Communication – 9 hours

6 hours in English composition

ENGL 1010	English Composition I	3
ENGL 1020	English Composition II	3

3 hours in English oral presentational communication

COMM 2025	Fundamentals of Communication	3
PC 2500	Communicating in the Professions	3

Mathematics – 3 hours

MATH 1010	Math for General Studies	3
MATH 1130	College Algebra	3
MATH 1420	Geometry Concepts for Teachers (ElEd only)	3
MATH 1530	Introductory Statistics	3
MATH 1630	Finite Mathematics	3
MATH 1710	Pre-Calculus Algebra	3
MATH 1720	Pre-Calculus Trigonometry	3
MATH 1730	Pre-Calculus Mathematics	5
MATH 1830	Applied Calculus	3
MATH 1910	Calculus I	4

History – 6 hours

HIST 2010	Early United States History	3
HIST 2020	Modern United States History	3

Humanities and/or Fine Arts – 9 hours

At least one course in literature, selected from those marked with an asterisk (*) must be included in the 9 hours

ART 1035	Introduction to Art	3
*ENGL 2130	Topics in American Literature	3
*ENGL 2235	Topics in British Literature	3
*ENGL 2330	Topics in World Literature	3
FLST 2520 (3520)	The Cultures and Peoples of North Africa	3
FREN 2510	French Culture and Civilization	3
GERM 2520	German Culture and Civilization	3
HIST 2210	Early Western Civilization	3
HIST 2220	Modern Western Civilization	3
HIST 2310	Early World History	3
HIST 2320	Modern World History	3
HIST 1310	Science and World Cultures	3
MUS 1030	Music Appreciation	3
PHIL1030	Introduction to Philosophy	3
RELS 2010	Introduction to Religious Studies	3
SPAN 2510	Spanish Culture and Civilization	3
SPAN 2550	Latin American Culture and Civilization	3
THEA 1030	Introduction to Theater	3

Social/Behavioral Sciences – 6 hours

AGBE 2010	World Food and Society	3
ANTH 1100	Introduction to Anthropology	3
ECON 2010	Microeconomics	3
ECON 2020	Macroeconomics	3
ESS 1100	Introduction to Environmental Studies	3
EXPW 2015	Concepts of Health and Wellness	3
GEOG 1012	Cultural Geography	3
GEOG 1130	Geography of Natural Hazards	3
POLS 1030	American Government	3
PSY 1030	Introduction to Psychology	3
SOC 1010	Introduction to Sociology	3
WGS 2010	Women and Gender Studies	3

Natural Sciences – 8 hours

ASTR 1010	Introduction to Modern Astronomy	4
ASTR 1020	Introduction to Modern Astronomy	4
BIOL 1010	Introduction to Biology	4
BIOL 1020	Diversity of Life	4
BIOL 1113	General Biology I	4
BIOL 1123	General Biology II	4
BIOL 2310	General Botany	4
BIOL 1080	Concepts of Biology	4
BIOL 2010	Human Anatomy and Physiology I	4
BIOL 2020	Human Anatomy and Physiology II	4
CHEM 1010	Introduction to Chemistry I	4
CHEM 1020	Introduction to Chemistry II	4
CHEM 1110	General Chemistry I	4
CHEM 1120	General Chemistry II	4
CHEM 1310	Concepts of Chemistry	3
GEOG 2100	Introduction to Meteorology	4
GEOL 1040	Physical Geology	4
GEOL 1045	Earth Environment, Resources and Society	4
GEOL 1070	Concepts of Geology	3
PHYS 1310	Concepts of Physics	3
PHYS 2010	Algebra-based Physics I	4
PHYS 2020	Algebra-based Physics II	4
PHYS 2110	Calculus-based Physics I	4
PHYS 2120	Calculus-based Physics II	4

MATH PLACEMENT

TENNESSEE TECH MATH PLACEMENT by Tenn. Tech Mathematics Department

QAS – Quantitative Reasoning, Algebra, and Statistics
AAF - Advanced Algebra and Function

Revised 12-13-18

ACT Math	OLD SAT Math Before 3/2016	NEW SAT Math	DSPM	Next Gen. ACCUPLACER Test		Course
				QAS (C34)	AAF (C35)	
<15	<350	<380	1	≤224	N/A	Remedial/Retest
15-16 **Engr. must take Math 1000-L**	350-390	380-450	2	225-237	N/A	Math 1000-L 1010-L, 1530-L
Non-Engr. 17-18	400-450	460-490	3	238-249	N/A	Math 1000, 1010-L, 1530-L
Non-Engr. SAILS	N/A	N/A	4	N/A	N/A	Math 1010, 1410, 1530
Non-Engr. (by discretion of Math Dept.) 17-18 or SAILS	400-450	460-490	3	238-249	N/A	Math 1130-L
Non-Engr. 19+ or SAILS+	460+	510+	4	250-300	N/A	Math 1010, 1130, 1410, 1530, 1630
Engineering 17-21 or SAILS	400-510	460-530	3/4	238-300	N/A	Math 1000
Branch to AAF at QAS score of 255				**≤230**	**Place by QAS Score**	
22-24 or SAILS+	520-560	540-580	N/A	N/A	231-250	Math 1710 & 1720
25-26	570-600	590-620	N/A	N/A	251-259	Math 1730
Non-Engr. 25	570-580	590-600	N/A	N/A	251	Math 1830
27+	610+	630+	N/A	N/A	260-300	Math 1910

TYPICAL FRESHMAN SCHEDULE

FALL	Credits	SPRING	Credits
CHEM 1110	4	CHEM 1120	4
BIOL 1113	4	BIOL 1123	4
*ENGL 1010	3	*ENGL 1020	3
**Math (or Gen Ed Core)	3-4	**Math (or Gen Ed Core)	3-4
UNPP 1020	1	Elective/Gen Ed Core	1-3
Elective	0-1		
***TOTAL	16	***TOTAL	15-17

* If advanced credit (AP, dual enrollment, etc.) has been awarded for ENG 1010 and/or ENG 1020, courses should be selected from the Gen Ed Core list towards meeting the requirements for a B.S. degree.

** Regarding Math Courses: Students should take into consideration both pre-professional program requirements and B.S. major requirements when registering for math classes. Students should strongly consider taking a math course their first semester and continue taking math courses until their math requirements are fulfilled.

*** For lottery scholarship purposes, total credit load each semester should probably be at least 16 credit hours.

REGISTRATION BRAINSTORMING WORKSHEET
Eagle Online: www.tntech.edu/eagleonline

Use the area below to list ideas about which classes you would like to take and to take notes.

CLASS SCHEDULE IDEAS						
CRN #	**Course**	**Number**	**Section**	**Days**	**Time**	**Cr Hrs.**
Lect. 81259	CHEM	1110	001	MWF	8-8:55 am	4
Lab 82697	CHEM	1110	125	R	12-12:55 pm 1-2:50 pm	0

Notes:

Scheduling Scratch Paper

Last Name	First	Middle	email :

Class Meeting Times	List Course (Ex. ENGL 1010) for each period				
	MON	TUE	WED	THUR	FRI
8:00-8:55		8:00			
9:05-10:00		9:00 9:30			
10:10-11:05		10:00			
11:15-12:10		11:00 Dead Hour		Dead Hour	
12:20-1:15		12:00			
1:25-2:20		1:00 1:30			
2:30-3:25		2:00			
3:35-4:30		3:00			
4:40-5:35		4:00 4:30			
		5:00			
6:00-6:50					
7:00-7:50					
8:00-8:50					

COURSE DESCRIPTIONS

Below are descriptions for some common courses that most pre-professional students take. The entire Tech "Course Description" index is available at http://catalog.tntech.edu/index.php

BIOL 1113 – General Biology I Lec. 3. Lab. 2. Credit 4.
A basic foundation in biological principles common to all organisms with an emphasis on molecules, cells and organelles, respiration, photosynthesis, metabolism and enzymatic function, genetics and inheritance, cellular reproduction, evolution, and speciation. Credit will not be given for both BIOL 1113 and BIOL 1010.

BIOL 1123 - General Biology II (Formerly BIOL 1114, 1110, 1115) Lec. 3. Lab. 2. Credit 4.
Prerequisite: BIOL 1113 is highly recommended. Introduction to the principles of zoology.

BIOL 2010 - Human Anatomy and Physiology I Lec. 3. Lab. 2. Credit 4.
Structure and function of the human body for nursing and other majors requiring a detailed examination of the topic. First course in a two course sequence. (See BIOL 2020).

BIOL 2020 - Human Anatomy and Physiology II Lec. 3. Lab. 2. Credit 4.
Prerequisite: BIOL 2010. Continuation of BIOL 2010.

BIOL 3140 - Cellular Biology Lec. 3. Lab. 2. Credit 4.
Prerequisite: BIOL 1123. An introduction to structure and function of cells.

BIOL 3230 - Health Science Microbiology Lec. 3. Lab. 3. Credit 4.
Prerequisite: Sophomore standing. Introduction to microbiology. Intended for students majoring in nursing or other pre-professional programs. Credit will not be given for both BIOL 3200 and BIOL 3230.

BIOL 4040 (5040) – Immunology Lec. 3. Credit 3.
Prerequisite: Junior standing. Introduction to basic principles of cellular and molecular immunology.

BIOL 4220 (5220) – Biostatistics Lec. 3. Credit 3.
Prerequisite: MATH 1530 or MATH 1830. Probability and frequency distribution; statistical populations and samples; and tests of hypotheses used in biological research.

CHEM 1010 - Introductory Chemistry I Lec. 3. Lab. 3. Credit 4.
Prerequisite: CHEM 1010 is prerequisite to CHEM 1020. Overview of chemical principles and applications. Laboratories emphasize general principles of chemistry.

CHEM 1020 - Introductory Chemistry II Lec. 3. Lab. 3. Credit 4.
Prerequisite: CHEM 1010 is prerequisite to 1020. Overview of chemical principles and applications. Laboratories emphasize general principles of chemistry.

CHEM 1110 - General Chemistry I Lec. 3. Lab. 3. Credit 4.
Prerequisite: CHEM 1110 is prerequisite to CHEM 1120. Basic course in general chemistry for curricula requiring more than one year of chemistry. Laboratory includes qualitative analysis procedures.

CHEM 1120 - General Chemistry II Lec. 3. Lab. 3. Credit 4.
Prerequisite: CHEM 1110 with a grade of C or better. Basic course in general chemistry for curricula requiring more than one year of chemistry. Laboratory includes qualitative analysis procedures.

CHEM 3010 - Organic Chemistry I Lec. 3. Lab. 3. Credit 4.
Prerequisite: CHEM 1120 with a grade of C or better. Study of carbon-containing compounds using the functional group approach and an emphasis in simple mechanisms of aliphatic and aromatic compounds.

CHEM 3020 - Organic Chemistry II Lec. 3. Lab. 3. Credit 4.
Prerequisite: CHEM 3010 with a grade of C or better. Study of carbon-containing compounds using the functional group approach and an emphasis in simple mechanisms of aliphatic and aromatic compounds.

CHEM 4610 (5610) - General Biochemistry Lec. 3. Credit 3.
Prerequisite: CHEM 3010 and CHEM 3020. Chemistry of amino acids, proteins, lipids, carbohydrates, membranes and nucleic acids. Includes study of pH, enzyme kinetics, three-dimensional structure and biochemical separation methods and analysis.

CHEM 4620 (5620) - General Biochemistry Lec. 3. Credit 3.
Prerequisite: CHEM 4610 (5610). Intermediary metabolism and its regulation, bioenergetics and photosynthesis, biosynthesis of proteins and nucleic acids.

COMM 2025 – Fundamentals of Communication Lec. 3. Credit 3.
Introduction to the communication process, interpersonal communication, group discussion, and public speaking. Students are required to prepare and deliver speeches.

ECON 2010 - Principles of Microeconomics Lec. 3. Credit 3.
Supply and demand, theory of demand, principles of production, pricing, and distribution. Output market structures, labor markets and issues, and international trade.

ENGL 1010 - English Composition I Lec. 3. Credit 3.
Introduces students to expressive, expository and persuasive writing. Assignments are based on personal experience and research. Student must earn a grade of C or better to pass.

ENGL 1020 - English Composition II Lec. 3. Credit 3.
Prerequisite: ENGL 1010. Builds on writing and research processes taught in ENGL 1010; emphasizes critical reading, critical thinking, and critical writing (persuasion) about a variety of written texts and other media. Student must earn a grade of C or better to pass.

ENGL 2130 - Topics in American Literature Lec. 3. Credit 3.
Prerequisite: ENGL 1020. Not for ENG or SEEN majors. Representative authors, periods, or themes from the colonial period to the present.

ENGL 2235 - Topics in British Literature Lec. 3. Credit 3.
Prerequisite: ENGL 1020. Not for ENG majors. Representative authors, periods, or themes Old English to present.

ENGL 2330 - Topics in World Literature Lec. 3. Credit 3.
Prerequisite: ENGL 1020. Representative authors, periods, or themes from various world literary cultures.

HEC 2020 - Nutrition for Health Sciences Lec. 3. Credit 3.
Prerequisite: Completion of 15 credit hours. Principles of nutrition. Emphasis upon the function, food sources, recommended intake and assimilation of each of the six nutrient classes. HEC 1030 cannot be substituted for HEC 2020.

HEC 2220 - Medical Terminology for the Human Sciences Credit 1.
Prerequisite: Anatomy & Physiology course. This course provides students with an understanding of the terminology used in health care and wellness programs.

MATH 1000 – Transitional Algebra Rec 3. Credit 3. Exponents and roots; polynomials, rational, radical, and absolute value expressions; factoring; linear equations and inequalities; quadratic equations, graphing; functions.

MATH 1130 - College Algebra Lec. 3. Credit 3.
Review of algebra and coordinate geometry; functions; polynomial, rational, exponential, and logarithmic functions; systems of equations; binomial formula; counting (multiplication principle, permutations, and combinations); and conics. Credit towards graduation will not be given for MATH 1130 and MATH 1710 or for MATH 1130 and MATH 1730.

MATH 1530 - Introductory Statistics Lec. 3. Credit 3.
Descriptive statistics including measures of central location and variation, frequency distributions, histograms, and frequency polygons. Probability relating to elementary sample spaces, events, conditional probability, discrete and continuous type random variables, mathematical expectation, and the normal probability. Inferential statistics relating to the confidence intervals and hypothesis test related to the mean and proportion.

MATH 1710 - Pre-calculus Algebra Lec. 3. Credit 3.
Prerequisite: ACT Math score of 22 or higher, or equivalent placement exam score or C or better in MATH 1000. Review of algebra; relations and functions and their graphs, including polynomial and rational functions; conic sections; inequalities, arithmetic, and geometric sequences and series. Credit will not be given for both MATH 1710 and MATH 1130 or for MATH 1710 and MATH 1730.

MATH 1720 - Pre-calculus Trigonometry Lec. 3. Credit 3.
Prerequisite: ACT Math score of 22 or higher, or equivalent COMPASS score, or C or better in MATH 1000. Circular functions and radian measure, graphs of the trigonometric functions, trigonometric identities, and equations, the inverse trigonometric functions, polar coordinates. Applications involving triangles, vectors in the plane, and complex numbers. Credit will not be given for both MATH 1720 and MATH 1730.

MATH 1730 - Pre-Calculus Mathematics Lec. 5. Credit 5.
Prerequisite: ACT Math score of 25 or higher or equivalent COMPASS score, Two years of high school algebra, one year of high school geometry, and 12 weeks of trigonometry. Review of algebra and trigonometry; relations and functions and their graphs, including polynomial and rational functions; conic sections; inequalities; polar coordinates; complex numbers; and advanced topics in algebra. Credit will not be given for both MATH 1730 and any of MATH 1130, 1710 and 1720.

MATH 1830 - Applied Calculus Lec. 3. Credit 3.
Prerequisite: ACT mathematics score of 25 or above and three years of high school mathematics, including algebra and geometry; or, special permission of the Mathematics Department; or, C or better in MATH 1130 or MATH 1710 or equivalent. A survey of limits, continuity, and the differential and integral calculus with applications in business, economics and the life sciences.

MATH 1910 - Calculus I Lec. 4. Credit 4.
Prerequisite: ACT mathematics score of 27 or above and four years of high school mathematics, including algebra, geometry, trigonometry, and advanced or pre-calculus mathematics, or special permission of the Mathematics Department; or C or better in MATH 1730 ; or C or better in MATH 1720 and MATH 1710 ; or equivalent. Limits, continuity, and derivatives of functions of one variable. Applications of differentiation and introduction to the definite integral.

MATH 3070 - Statistical Methods I Lec. 3. Credit 3.
Prerequisite: Recommended C or better in MATH 1130. Introduction to parametric statistical methods with some non-parametric alternatives, sampling, probability, Type I and Type II error, sample size estimation, confidence interval estimation, test of hypotheses using normal, Student's t, Snedecor's F, Chi-square and the binomial distributions, linear regression, analysis of variance, and data analysis utilizing statistical software.

PC 2500 - Communicating in the Professions Lec. 3. Credit 3.
Prerequisite: ENGL 1020 or concurrent enrollment in ENGL 1020. Overview of skills and principles related to oral communications in various professions.

PHYS 2010 - Algebra-based Physics I Lec. 3. Lab. 3. Credit 4.
Prerequisite: Background knowledge of high school algebra and geometry. Basic laws of classical mechanics, waves and heat with elementary applications to familiar phenomena. A student may not earn credit in both PHYS 2010 and any of PHYS 1310, PHYS 2109, PHYS 2110.

PHYS 2020 - Algebra-based Physics II Lec. 3. Lab. 3. Credit 4.
Prerequisite: PHYS 2010. Basic laws of electromagnetism and light with elementary applications and brief introduction to modern physics. A student may not earn credit in both PHYS 2020 and any of PHYS 1310, PHYS 2119, PHYS 2120.

PSY 1030 – Introduction to Psychology Lec. 3. Credit 3.
Introduction to methods and findings of contemporary psychology. Emphasis on psychological basis for understanding human behavior. Consideration of maturation, learning, thinking, motivation, emotion, sensation, perception, and personality.

PSY 2130 – Life Span Developmental Psychology Lec. 3. Credit 3.
Developmental aspects of psychological functioning from the prenatal period to adulthood with emphasis on individual differences.

PSY 4160 (5160) - Abnormal Psychology Lec. 3. Credit 3.
Prerequisite: PSY 1030 and 3 additional PSY credits. Nature of abnormal behavior, etiology, symptomatology and treatment.

SOC 1010 - Introduction to Sociology Lec. 3. Credit 3.
Fundamental concepts and basic principles underlying human social relations.

UNPP 1020 - University Pre-Professional, First-Year Interactions and Advisement Credit 1.
This course engages the student in meaningful classroom and out-of-classroom activities. This is intended for pre-professional health science students. It emphasizes information, activities, and requirements important to becoming competitive in a professional school application pool.

UNPP 2020 - Special Topics Lec. 1-3. Credit 1-3.
Lower Division level study in a specific topic not commonly found in a discipline on campus, not to include work experience. May be repeated if topic is different. No more than a combined total of 9 hours of special topics may be taken.

UNPP 3020 - Special Topics Lec. 1-3. Credit 1-3.
Upper Division level study in a specific topic not commonly found in a discipline on campus, not to include work experience. May be repeated if topic is different. No more than a combined total of 9 hours of special topics may be taken.