

Bachelor of Science in Biology, Pre-Health Sciences Track — Includes: Pre-Dental, Pre-Medical, Pre-Optometry, Pre-Osteopathy, Pre-Pharmacy, Pre-Physical Therapy, Pre-Physician Assistant, and Pre-Veterinary

Highly Recommended Courses

BIO1023 General Biology for Majors
BIO1021 Introduction to Biology Laboratory
CHM1034 General Chemistry for Non-Majors
CHM1044 General Organic and Biochemistry for Non-Majors

Required Courses

BIO2104 General Botany
BIO2114 General Zoology

Note: Biology majors are required to enroll in and successfully complete botany (BIO2104) and zoology (BIO2114) within their first four semesters at HSU. Students must meet with their departmental advisor to determine the schedule appropriate for them.

BIO2094 Microbiology
BIO3054 Genetics
BIO3524 General Ecology
BIO4214 Cell Biology
BIO3084 Comparative Anatomy and Evolution of Vertebrates
BIO3314 Animal Physiology
*BIO3544 Human Anatomy and Physiology I
*BIO3554 Human Anatomy and Physiology II

*Two semesters of Human Anatomy and Physiology (BIO3544 and BIO3554) are required to satisfy the physiology and anatomy requirement.

Choose ONE (1) of the following upper-level electives

BIO4414 Infection and Immunity
BIO4563 Biology of Cancer
BIO4194 Histology

Additional Requirements

CHM 1014, 1024 University Chemistry I and II
CHM 3063, 3073 Organic Chemistry I and II
CHM 3051, 3131 Organic Chemistry I and II Laboratories
MTH 1243 College Algebra (or higher level math), AND
STA 2053 Applied Biostatistics, ~~OR~~
~~STA 2323 Statistical Methods~~, or equivalent/more advanced course, with departmental approval.
PHY 2034, 2044 General Physics I and II

Total hours required for a major in biology, pre-health sciences track:.....73-75 hours

Biology Courses: 43-44 hours

Physical Science and Mathematics Courses: 30-31 hours

Students should investigate the admissions requirements for the dental, medical, veterinary, etc. school(s) that they wish to attend post-graduation from HSU.

Note: CHM4283 Biochemistry I also is required for students planning to attend dental, medical, or optometry school (see specific notes under degree plan on subsequent page for additional details). MTH1295 Calculus I is required for students planning to attend pharmacy school.

Students must have a “C” grade or better in all courses in the major field and also in the courses listed as “additional requirements.”

The biology department highly recommends that students achieve competence in the use of computers for word processing, graph and spreadsheet construction, and PowerPoint presentations before enrolling in upper-level

courses. Students should consider enrolling in Introduction to Computers (CSC 2003) if their background in computer use is weak.

DEGREE PLAN

Bachelor of Science in Biology, Pre-Health Sciences Option, 2019/2020 version

Degree Completion Plan Beginning in Fall Semester

Freshman

Fall	Hrs.	Spring	Hrs.	Fall	Hrs.	Spring	Hrs.
Gen. Bio. Maj./lab	3 or 4	Botany or Zoology	4	Zoology or Botany	4	Microbiology	4
Gen Chem I/Soc Sci	3 or 4	College Algebra	3	Univ Chem I	4	Univ Chem II	4
Henderson Seminar	1	Gen Chem II/Elective	3 or 4	Stud. Lit./World Lit.	3	US	
English A	3	English B	3	Social Sci/Elective	3	His/Amer.Nat.Gov.	3
World Civ.	3			Appl.Biostat	3	Oral Comm.	3
Life Fitness or PE	1						
Total Hours	14-16	Total Hours	13-14	Total Hours	17-18	Total Hours	14

Sophomore

Junior

Fall	Hrs.	Spring	Hrs.	Fall	Hrs.	Spring	Hrs.
Human A and P I	4	Human A and P II	4	Cell Biol	4	General Ecol	4
Comp. Anat. Vert.	4	Genetics	4	Animal Phys	4	Biology Elective	3 or 4
Physics I	4	Physics II	4	Non-West Culture	3	Humanities	3
Organic Chem I	4	Organic Chem II	4	Writing Course	3		
Total Hours	16	Total Hours	16	Total Hours	14	Total Hours	10-11

Senior

120 hours are required for graduation.

Two writing (WI) intensive courses are required.

42 upper-level (junior/senior) hours are required.

At least one WI course must be in biology.

Degree plan includes some optional, but highly recommended courses. Please consult with your departmental advisor for additional details or if you have questions.

Students interested in particular graduate or professional programs should consult closely with their advisors, as requirements may be different. Dental, medical, and optometry programs require Biochemistry I (sometimes only the lecture component of the course is required). Pharmacy programs generally require Calculus I.

If students plan on minoring in chemistry, one additional semester of chemistry will be required — Biochemistry I will satisfy this requirement — See undergraduate catalog.

Note: Courses may be taken in semesters other than those shown above. Consult with your advisor for alternative scheduling. See information on reverse side of this sheet for a full list of core courses.

- It is the responsibility of the student to be familiar with all degree requirements as listed in the University Catalog.
- Students shall verify that they have completed all the appropriate prerequisites before enrolling in classes.
- Students shall complete an application for graduation no later than the semester preceding their anticipated graduation date.
- **Recommended Chemistry Course Sequence for Pre-health Sciences (Pre-Dental, Pre-Medical, Pre-Optometry, Pre-Osteopathy, Pre-Pharmacy, Pre-Physical Therapy, Pre-Physician Assistant, and Pre-Veterinary) Biology Majors:** The vast majority of our majors benefit from taking CHM 1034 General Chemistry I during their freshman year, prior to enrolling in CHM 1014 University Chemistry I. The general chemistry to university chemistry course sequence recommended for pre-health sciences biology majors, based on a long-proven track record, provides the greatest likelihood of success in this portion of the curriculum. Pre-health sciences students are encouraged to work closely with the advisor in their

particular focus area to help ensure timely and successful progression of coursework to graduation. The Department of Chemistry and Biochemistry recommends a score of 22 or higher on the Mathematics component of the ACT and/or prior completion of MTH 1243 college Algebra to enroll directly in CHM 1014. Medical school admissions committees generally place considerable emphasis on the GPA achieved in the chemistry curriculum and this carries a great deal of weight in evaluating the potential for applicants' prospects of success. Depending on the previous school attended and courses completed, transfer students may have additional considerations, and should seek advice from their departmental advisor as soon as possible.

Note: pre-medical biology majors are not required to take CHM 1034 to earn the biology degree; however, it is highly recommended as a preparation for CHM 1014 (see previous paragraph for additional details). If the student chooses to take it, he/she will be better prepared for success in subsequent chemistry courses and the MCAT. If CHM 1034 is taken, it may require at least one summer class to be prepared to take the MCAT during the junior year.

Student signature _____ Date _____

Advisor signature _____ Date _____

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