



SCSU Biology Pre-medical Program Advising:

Each scholar will have their own path to their chosen medical career. Below are the recommendations for biology courses and timeline for experiences frequently required or highly recommended by various medical graduate programs. For specific school requirements see the excel spreadsheet hosted under the [biology program](#) website [here](#) or at the QR code above.

Medical School

Average GPA: 3.75

Average MCAT score: 514

Most medical schools **do not require any specific biology** courses beyond introductory biology 1 and 2 and genetics. The following courses are recommended based off of MCAT content and/or medical school courses.

Recommended 2-300 Level Biology courses:

BIO 233- Microbiology, BIO 236- cell biology, and pick from: BIO231- comparative anatomy** or BIO 292- biology of aging or BIO 296 – Genomics I or BIO 301 – Physiology*

Recommended 3-400 Level Biology Courses:

BIO 436 – Molecular Biology or BIO 435- Developmental Biology, BIO 351 – Histology** or BIO 454 – Brain anatomy and transmission**, BIO 325 – Immunology and Infection or BIO 335 – Pathogenic Microbiology or BIO 337 – Medically Important Arthropods or BIO 440 – Parasitic Infections, BIO 401 – Comparative Physiology* or BIO 405 – Marine Mammal Physiology*

*Plan to take one physiology course: BIO 301, 401, or 405

**Plan to take at least one anatomy course: BIO 231, 351, or 454

Other considerations based on your goals: a minor in Medical Spanish and/or Aging Studies

Studying for the MCAT: Begin this at least 6 months before the MCAT test date and after you've taken biochemistry, a physiology course, sociology, and psychology.

Medical Shadowing is recommended (20-50 hours total) but not required. Start reaching out to arrange as many different experiences as early as possible.

A letter from the SCSU premedical committee is recommended but not required. Reach out to the chair of the committee 6 months before your planned graduation.



SCSU Biology Pre-medical Program Advising: **Physician's Assistant (PA) Program**

Average GPA: 3.54 (some programs require at least a 3.0 or 3.2 to apply)

Average Patient Contact Hours required: 1000 (500-2000 depending on program)

Most PA programs **require** Microbiology and Anatomy and Physiology.

Required 2-300 Level Biology courses:

BIO 233- Microbiology, BIO 200 – Anatomy and Physiology 1, BIO 201 – Anatomy and Physiology 2

Recommended 3-400 Level Biology Courses:

BIO 436 – Molecular Biology or BIO 435- Developmental Biology, and pick from: BIO 351 – Histology or BIO 454 – Brain anatomy and transmission or BIO 405 – Marine Mammal Physiology, BIO 325 – Immunology and Infection or BIO 335 – Pathogenic Microbiology or BIO 337 – Medically Important Arthropods or BIO 440 – Parasitic Infections,

Other considerations based on your goals: a minor in Medical Spanish and/or Aging Studies

Start accumulating patient contact hours ASAP. Some suggested sources: EMT, paramedic, registered nurse, medical assistant, CNA, ER tech, physical therapy aide.



SCSU Biology Pre-medical Program Advising:

Dental School

Average GPA: 3.57

Average DAT Score: 21

Most dental schools have similar course requirements as medical schools but many highly recommend several biology courses (Molecular, Anatomy, Physiology, Microbiology, Cell Bio).

Recommended 2-300 Level Biology courses:

BIO 233- Microbiology, BIO 236- cell biology, and pick from: BIO231- comparative anatomy** or BIO 292- biology of aging or BIO 296 – Genomics I or BIO 301 – Physiology*

Recommended 3-400 Level Biology Courses:

BIO 436 – Molecular Biology or BIO 435- Developmental Biology, BIO 351 – Histology** or BIO 454 – Brain anatomy and transmission**, BIO 325 – Immunology and Infection or BIO 335 – Pathogenic Microbiology or BIO 337 – Medically Important Arthropods or BIO 440 – Parasitic Infections, BIO 401 – Comparative Physiology* or BIO 405 – Marine Mammal Physiology*

*Plan to take one physiology course: BIO 301, 401, or 405

**Plan to take at least one anatomy course: BIO 231, 351, or 454

Studying for the DAT: Begin this at least 6 months before the DAT test date and after you've taken biochemistry, a physiology course, an anatomy course, and genetics.

Dental shadowing is recommended (20-50 hours total) but not required. Start reaching out to arrange as many different experiences starting around your junior year (or about two years before you plan to apply)



SCSU Biology Pre-medical Program Advising:

Veterinary School

Average GPA: 3.69

Veterinary school requirements are very similar to medical school but there are fewer school to apply to and so can be more competitive. Most recommend several biology courses (Molecular, Anatomy, Physiology, Microbiology, Cell Bio).

Recommended 2-300 Level Biology courses:

BIO 233- Microbiology, BIO 236- cell biology, and pick from: BIO231- comparative anatomy** or BIO 292- biology of aging or BIO 296 – Genomics I or BIO 301 – Physiology*

Recommended 3-400 Level Biology Courses:

BIO 436 – Molecular Biology or BIO 435- Developmental Biology, BIO 351 – Histology** or BIO 454 – Brain anatomy and transmission**, BIO 325 – Immunology and Infection or BIO 335 – Pathogenic Microbiology or BIO 337 – Medically Important Arthropods or BIO 440 – Parasitic Infections, BIO 401 – Comparative Physiology* or BIO 405 – Marine Mammal Physiology*

*Plan to take one physiology course: BIO 301, 401, or 405

**Plan to take at least one anatomy course: BIO 231, 351, or 454

Most do not require animal care hours but do highly recommend 500-1000 hours. Consider work at animal shelters, veterinary clinics, farms, or zoos depending on your area of interest starting around your junior year (or about two years before you plan to apply)



SCSU Biology Pre-medical Program Advising:

Pharmacy School

Average GPA: 3.0

Pharmacy schools vary more than other graduate programs in their recommended biology courses. All require microbiology. Some recommend anatomy and physiology separately, like medical schools, while others recommend A&P together like PA programs. Almost all schools require **calculus (MAT 150)**.

Recommended 2-300 Level Biology courses:

BIO 233- Microbiology, and pick from: BIO 236- cell biology, BIO231- comparative anatomy** or BIO 292- biology of aging or BIO 296 – Genomics I or BIO 301 – Physiology*, or BIO 200 – Anatomy and Physiology 1***, BIO 201 – Anatomy and Physiology 2***

Recommended 3-400 Level Biology Courses pick from:

BIO 351 – Histology**, BIO 325 – Immunology and Infection or BIO 335 – Pathogenic Microbiology or BIO 337 – Medically Important Arthropods or BIO 440 – Parasitic Infections, BIO 401 – Comparative Physiology* or BIO 454 – Brain anatomy and transmission**, BIO 405 – Marine Mammal Physiology*, BIO 436 – Molecular Biology

Based off of you planned school's requirements choose :

* to take one physiology course: BIO 301, 401, or 405

** to take at least one anatomy course: BIO 231, 351, or 454

-OR-

*** to take Anatomy and Physiology 1 and 2: BIO 200, 201

Shadowing a pharmacist is not a common recommendation from pharmacy schools.



SCSU Biology Pre-medical Program Advising:

Chart that breaks down the recommended biology courses by graduate program (Medical, PA, Dental, Veterinary, Pharmacy), along with course levels and notes on anatomy/physiology requirements.

Premed Biology Course Recommendations by Program

Course Level	Medical School	PA Program	Dental School	Veterinary School	Pharmacy School
200/300 Level (3 total)	BIO 233 – Microbiology BIO 236 – Cell Biology BIO 231 / BIO 292 / BIO 296 / BIO 301 (Choose 1)	BIO 233 – Microbiology BIO 200 – Anatomy & Physiology I BIO 201 – Anatomy & Physiology II	BIO 233 – Microbiology BIO 236 – Cell Biology BIO 231 / BIO 292 / BIO 296 / BIO 301 (Choose 1)	BIO 233 – Microbiology BIO 236 – Cell Biology BIO 231 / BIO 292 / BIO 296 / BIO 301 (Choose 1)	BIO 233 – Microbiology Choose 2 from: BIO 236, 231, 292, 296, 301 or BIO 200 & 201 (A&P I & II)
300/400- Level (3 total)	BIO 436 or 435 Choose from: BIO 351, 325, 335, 337, 440, 401, 454, 405	BIO 436 or 435 Choose from: BIO 351, 454, 405, 325, 335, 337, 440	BIO 436 or 435 Choose from: BIO 351, 325, 335, 337, 440, 401, 454, 405	BIO 436 or 435 Choose from: BIO 351, 325, 335, 337, 440, 401, 454, 405	Choose from: BIO 351, 325, 335, 337, 440, 401, 454, 405, 436, 435

Anatomy and Physiology courses summarized by program:

Anatomy	At least one: BIO 231, 351, or 454	Requires A&P I and II (BIO 200 & 201)	At least one: BIO 231, 351, or 454	At least one: BIO 231, 351, or 454	Either one: BIO 231, 351, 454 -OR - BIO 200 & 201
Physiology	At least one: BIO 301, 401, or 405	Requires A&P I and II (BIO 200 & 201)	At least one: BIO 301, 401, or 405	At least one: BIO 301, 401, or 405	One of: BIO 301, 401, 405 -OR - BIO 200 & 201