

Common Professional School Prerequisites

The PreMedical and PreDental Advising Office, University Center 116
PreMedical ♦ PreDental ♦ PreOptometry ♦ PrePodiatry ♦ PreVeterinary
<https://premed.umbc.edu/>

Medical, dental, optometry, podiatry, and veterinary schools have very similar expectations when it comes to prerequisite coursework, although some slight differences do exist between them. This list is designed to help students who are still exploring their Health Career options select coursework that will help them fulfill the prerequisites that many Health Professional Schools have in common.

Some of the slight differences between Health Career pathways are noted here, but certain career areas require specific additional coursework. Once a student has decided upon their desired Health Career pathway, they should consult the career-specific course recommendations provided in the "[Required Courses](#)" section of our website.

These recommendations assume that the student has no prior coursework in Biology, Chemistry, Physics, Mathematics, or Statistics. Students with transferred coursework in these areas may be advised to make different course selections by our Health Professions Advisors.

Admission requirements are subject to change by individual professional schools without prior notice. It is ultimately a student's responsibility to ensure they have completed the prerequisite coursework required by the schools to which they plan to apply.

A student may need to complete one or more of the following courses (with a grade of C or better) in order to enroll in more advanced science and mathematics coursework:

- MATH 106 (3 credits): Elementary Functions (for students whose Math Placement score is too low to qualify for entry into CHEM 101, MATH 150 or MATH 155)
- BIOL 141 (4 credits): Foundations of Biology: Cells, Energy and Organisms (prerequisite - MATH 150 or 155, or a qualifying Math Placement score)
- BIOL 142 (4 credits): Foundations of Biology: Ecology and Evolution (prerequisite: BIOL 141)

Recommended UMBC courses for use as Professional School Prerequisites:

BIOL 302 (4 credits): Molecular and General Genetics

BIOL 303 (4 credits): Cell Biology

Biology labs:

BIOL 300L (2 credits): Experimental Biology Lab (this is the prerequisite for all 300-level BIOL Labs)

And ***one other*** 300-level BIOL lab that makes a PAIR with a BIOL lecture that you've taken. Examples include:

BIOL 302L (2 credits): Molecular and General Genetics Lab (pairs with BIOL 302)

BIOL 303L (2 credits): Cell Biology Lab (pairs with BIOL 303)

CHEM 101 (4 credits): Principles of Chemistry I

CHEM 102 (4 credits): Principles of Chemistry II

CHEM 102L (2 credits): Introductory Chemistry Lab

CHEM 351 (3 credits): Organic Chemistry I

CHEM 351L (2 credits): Organic Chemistry Lab I

CHEM 352 (3 credits): Organic Chemistry II

CHEM 352L (2 credits): Organic Chemistry Lab II

BIOL 430 (4 credits): Biological Chemistry ***or*** CHEM 437 (4 credits): Comprehensive Biochemistry I

PHYS 111 (4 credits): Basic Physics I*

PHYS 112 (4 credits): Basic Physics II*

MATH 155 (4 credits): Applied Calculus ***or*** MATH 151 (4 credits): Calculus and Analytic Geometry I#

STAT 350 (4 credits): Statistics with Applications in the Biological Sciences ***or*** MATH 152 (4 credits) Calculus and Analytic Geometry II#^

ENGL 100 (3 credits): Composition ***or*** ENGL 110 (4 credits): Composition for ESL Students

ENGL-prefix course (3 credits): Any ENGL course numbered 190 or higher (except for Internship/Research courses)

Additional courses:

PSYC 100 (4 credits): Introduction to Psychology (MCAT prep for Medical and Podiatry; recommended for all others)

SOCY 101 (3 credits): Basics Concepts in Sociology (MCAT prep for Medical and Podiatry; optional for all others)

EHS 115 (3 credits): Medical Terminology (required for Veterinary; optional for all others)

(see page 2 for an explanation of each notation)

* If your Declared Major requires PHYS 121 & PHYS 122, you will need to take a PHYS lab course, as 121/122 do not include labs. Students may take PHYS 111 or PHYS 122L in order to fulfill the physics lab requirement for professional schools. Plan to take your physics lab course [either PHYS 111 or PHYS 122L] after you complete PHYS 121 & PHYS 122.

The MATH 151 and MATH 152 sequence is preferred for Veterinary and Optometry students.

^ If your Declared Major requires MATH 151 and MATH 152, and ***does not*** also require a STAT course, take STAT 121 (4 credits): Introduction to Statistics for the Social Sciences ***or*** STAT 350 (required for Medical, recommended for Dental).