

# Biology Major - Pre-Pharmacy Guide (Pre-Med Option) 2023-24

Document available online at <https://ib.oregonstate.edu/undergraduate/advising/college-advising-guide>.

The Biology major Pre-Medicine option is designed to allow students interested in medicine, pharmacy, physician assistant and some other professional programs to optimally meet the requirement for their professional goal in the context of their biology major. **This document outlines the requirements for students interested in becoming a pharmacist** (see the other option documents for medicine, physician assistant and dentistry), and the listed courses will meet the prerequisites for most AACP accredited pharmacy schools in the U.S. and abroad. Students should always consult the requirements of all schools to which they plan to apply, and many pharmacy schools will not accept online prerequisite courses (especially those with online labs) or prerequisite classes from study abroad programs.

A 3.0 GPA is required to complete the pre-medical option. Courses used to satisfy option requirements also satisfy the Biology and Society, Organismal Biology, Physiology, Writing Intensive Course (WIC), Physics or Computational and Quantitative Applications and Experiential Learning or Integrative Biology Elective requirements in the biology major. **Previous versions of this option are different and are tracked in MyDegrees. All courses and prerequisites are subject to change, and the listing of terms offered is based on projected Corvallis campus offerings.**

## Core Coursework:

Course	Description (credits)	Term(s)	Pre-requisites	Comments
PHAR 201	Pharmacy Orientation* (1)	W	-	*By approval in place of BI 109
PHAR 210	Terminology of the Health Sciences (2cr)	F, Sp	-	-
PSY 201 & PSY 202	General Psychology (4cr, 4cr)	All	-	-
ECON 201	Introduction to Microeconomics (4cr)	All	MTH 111	-
PHL/REL 444	Biomedical Ethics* (4cr)	All*	Sophomore+ for PHL/REL 444	*BC: Science Technology and Society; Ecampus all terms but summer
PH 201, 202, 203	General Physics* (5cr, 5cr, 5cr)	All	MTH 112 (C-)	Taken in order

## Writing Intensive Course (Select one course from the following):

Course	Description (credits)	Term(s)	Pre-requisites	Comments
BI 319	Theory, Practice, Discourse Life Sciences (3cr)	F, W, Sp	BI 221, 222, 223 (C-) & ST 351	-
MB 385	Emerging Infections Disease & Epidemics (3cr)	W	BI 221, 222, 223	-

## Medicine, Health and Society (Select one course from the following):

Course	Description (credits)	Term(s)	Pre-requisites	Comments
ANTH 352	Anthropology, Health, and Environment* (3cr)	F*	-	*Ecampus only, BC: Contemporary Global Issues
ANTH 374	Anthropology and Global Health (3cr)	Sp	-	-
ANTH 383	Introduction to Medical Anthropology* (3cr)	F, Su	-	*BC: Contemporary Global Issues
BB 220	Cancer: Society's Malignant Shadow (3cr)	W	BI 221 (C-)	-
BB 332	Molecular Medicine (3cr)	F	-	-
BI 175	Genomes, Identities and Societies (3cr)	W	-	-
H 312	HIV/AIDS and STI's in Modern Society (3cr)	All	-	Sophomore+
H 332	Climate and Health (3cr)	F	-	-
H 333	Global Public Health (3cr)	F*, W*	-	*Ecampus only
HSTS 417	History of Medicine (4cr)	All*	-	Sophomore+, *ecampus only
MB 330	Disease and Society (3cr)	Sp*, Su*	-	*Ecampus only

## Human Anatomy and Physiology:

Course	Description (credits)	Term(s)	Pre-requisites	Comments
BI 331-333 & 341-343	Advanced Human A&P (3cr, 3cr, 3cr) Advanced Human A&P, Lab (2cr, 2cr, 2cr)	F, W, Sp F, W, Sp	BI 221, 222, 223 (C-) & CH 233/263 (C-)	Junior+, must be taken in order and together

## Experiential Learning or Biological Science/Psychology Elective Course (select one of two tracks below):

Track I: Select any combination of 3 credits from the following

Course	Description (credits)	Term(s)	Pre-requisites	Comments
BI 309 <b>OR</b> 409	Teaching Practicum <b>OR</b> Advanced Practicum (1-3cr)	F, W, Sp	By department approval*	<a href="#">*See form here</a>
BI 401	Research and Scholarship (1-3cr)	All	By department approval*	<a href="#">*See form here</a>
BI 410	Internship (1-3cr)	All	By department approval*	<a href="#">*See form here</a>

(Track II on Page 2)

**Track II: Biological Science/Psychology Elective (Select one course from the following. See second page for more choices.)**

Course	Description (credits)	Term(s)	Pre-requisites	Comments
BB 460	Advanced Cell Biology (3cr)	Sp	(BB 314 or BB 451 or BB 492) (C-)	-
BI 451	Functional Anatomy of the Human Muscular System (4cr)	Su*	BI 331, 332, 333, 341, 342, 343	*By application only
BI 485	Monster Biology (3cr)	W	BI 311, 370*	*Can be concurrent, junior+
BI 495	Disease Ecology (3cr)	W*	BI 370 (C-)	*Alternate even years
MB 416	Immunology (3cr)	F	BB 450* or BB 490*	*Can be concurrent, MB 417 lab is optional
MB 436	The Human Microbiome (3cr)	Sp	BB 314 or MB 302	-
MB 480	General Parasitology (3cr)	W	BI 221, 222, 223 (C-)	-
NUTR 417	Human Nutrition Science (4cr)	F	BB 450, BB 451 (C-)	-
NUTR 418	Human Nutrition Science (4cr)	W	BB 450, BB 451 (C-)	-
PSY 350	Human Lifespan Development (4cr)	F, W, Sp	PSY 201, 202	Sophomore+
PSY 381	Abnormal Psychology (4cr)	F, W, Sp	PSY 201, PSY 202	Sophomore+
PSY 433	Psychopharmacology (4cr)	F	-	Junior+
TOX 411	Fundamentals of Toxicology (3cr)	F	(BB 350 or BB 450 or BB 490)	-
Z 425	Embryology and Development (5cr)	F	BI 311, BB 314	Junior+,
Z 438 <b>OR</b> BB 360	Behavioral Neurobiology (3cr) <b>OR</b> Introduction to Neuroscience (3cr)	Sp W	BI 221, 222, 223 (C-), CH 233/263 (C-) BI 221, 222, 223 (C-), CH 233/263 (C-)	- -

## Information and Resources:

### Applying to Pharmacy School:

**Admission Test:** Some pharmacy programs require students take the [Pharmacy College Admissions Test \(PCAT\)](#), however the OSU College of Pharmacy does not.

**OSU Early Assurance Program:** OSU undergraduate students are eligible to apply for [the Early Assurance Program \(EAP\)](#), which guarantees an interview for admission to the Pharm.D. program. EAP students have access to Pharmacy faculty, developmental experiences, and other preparation to begin pharmacy school.

**Shadowing:** and other [healthcare experience](#) is a good way to get exposure to the field and to decide if pharmacy is for you. Contact offices and clinics either in Corvallis or at home to see what opportunities are available.

**Internships & Volunteering:** See the Medical and Health Professions sections of the [internships & volunteering list](#).

**International Medical Internships** through the [OSU study abroad office](#) are great to prepare you for work in a diverse population, improve language and/or cross-cultural communication skills, and gain clinical experience through clinic rotations.

**Summer Camps:** There are many summer camps across the nation aimed at providing participants with opportunities to learn about the profession of pharmacy and the process of becoming an optometrist.

**Health Care Careers Enrichment Programs:** See the following links for summer programs and searchable databases to search for summer opportunities related to health care or the research field.

- [Summer Health Professions Education Program \(SHPEP\)](#)
- [AAMC Summer Programs](#)
- [Explore Health Careers Enrichment Programs](#)
- [NAAHP Student Opportunities](#)

**Study Abroad:** Although prerequisite professional school courses should not be done abroad, [study abroad](#) is a great opportunity and very feasible for pre-pharmacy students. You can work with your advisor on how to schedule and apply these courses to your degree.

**Research Opportunities:** [Research](#) provides the opportunity to develop analytical and communication skills, an understanding of research methods, and the process of science. For these reasons, it is good preparation for the PCAT and a career in pharmacy.

**Leadership:** Health profession schools value leadership experiences. There are a variety of ways to gain leadership skills as an undergraduate, including officer roles in student clubs, coordination for organizations (i.e. non- profits and volunteer opportunities), or being a peer mentor for a department or college. What you do is more important than what your title is— be creative. You may also take leadership classes or earn a leadership minor.

### Campus Resources:

[OSU Pre-Pharmacy Society](#)

### Additional Resources:

[American Association of Colleges of Pharmacy](#)  
[American Pharmacist Association](#)  
[American Society of Health System Pharmacists](#)  
[Pharmacy For Me \(is Pharmacy Right for Me?\)](#)  
[Pharmacy College Application System \(PHARMCAS\)](#)  
[OSU College of Pharmacy](#)