BIOLOGY MAJOR – Pre-Medicine Option 2016-2017

Track I: Pre-Medicine

The Pre-Medicine option in Biology has two tracks. This document outlines the requirements for Track I: Pre-Medicine which is designed for students interested in medicine (Track II: Pre-Physician Assistant is outlined on a separate document). Courses used to satisfy these requirements also satisfy the Biology and Society, Organismal Biology, Physiology, Writing Intensive Course (WIC) and upper division science requirements in the Biology major. Students completing the requirements listed below will meet the prerequisites for most AAMC and AACOM accredited medical schools in the U.S. and abroad. Some medical schools will not accept online science courses especially those with online labs) or classes from study abroad programs. Previous versions of this option are different and are tracked in MyDegrees. **All courses and prerequisites are subject to change.**

### Core (the same for both Track I Pre-Medicine and Track II Pre-Physician Assistant)

<table>
<thead>
<tr>
<th>Course</th>
<th>Pre(Co)requisites</th>
<th>Term</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMM 218 Interpersonal Comm. (recommended)</td>
<td></td>
<td>F, W, SP, SU</td>
<td>3</td>
</tr>
<tr>
<td>PSY 201 General Psychology</td>
<td></td>
<td>F, W, SP, SU</td>
<td>3</td>
</tr>
<tr>
<td>PSY 202 General Psychology</td>
<td></td>
<td>F, W, SP, SU</td>
<td>3</td>
</tr>
<tr>
<td>SOC 204 Introduction to Sociology</td>
<td></td>
<td>F, W, SP, SU</td>
<td>3</td>
</tr>
<tr>
<td>PHL 205 Ethics OR PHL/REL 444 Biomedical Ethics</td>
<td>Sophomore standing for PHL/REL 444</td>
<td>F, W, SP, SU</td>
<td>4</td>
</tr>
</tbody>
</table>

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

- **BB/BI 317 Scientific Theory and Practice**
- **BI 211, 212, 213**
- **BI/Z 319 Critical Thinking and Comm. in Life Sciences**
- **BI 211, 212, 213; ST 351, 352**
- **BI/MB 385 Emerging Infectious Diseases & Epidemics**
- **BI 211, 212, 213**
- **BI 414H Writing for the Biological Sciences AND BI 415H Biological Sciences Thesis**
- **BI 414H Writing for the Biological Sciences AND BI 415H Biological Sciences Thesis**
- **HC 408 Thesis: Learn/Thesis: Undertake Honors College approval required**
- **WB 408 Thesis: Learn/Thesis: Undertake Honors College approval required**
- **S 1**
- **BHS 323 Microbial Influences on Human Health**
- **MB 302 or BI 314 or BI 450**
- **HSTS 417 History of Medicine**
- **Upper-division standing for PHL/REL 444**

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

- **ANTH 352 Anthropology, Health and the Environment**
- **F, W, SP, SU**
- **3**
- **F, W, SP, SU**
- **3**
- **ANTH 474 Cross-cultural Health and Healing**
- **F, W, SP, SU**
- **4**
- **BB 332 Molecular Medicine**
- **Any biology course**
- **F**
- **3**
- **BI 420 Viruses in Modern Society**
- **W**
- **3**
- **H 210 Introduction to the Health Care System**
- **F, W, SP, SU**
- **3**
- **H 225 Social and Individual Health Determinants**
- **F, W, SP**
- **4**
- **H 312 HIV/Aids and STIS in Modern Society**
- **F, W, SP, SU**
- **3**
- **H 320 Introduction to Human Disease**
- **F, W, SP, SU**
- **3**
- **H 333 Global Public Health**
- **F, W, Sp**
- **3**
- **HDFS 314 Adult Development and Aging**
- **F, W, SP, SU**
- **4**
- **HSTS 416 History of Medicine Pre-1800**
- **F, W, SU**
- **4**
- **MB 330 Disease and Society**
- **SU, ?**
- **3**
- **SOC 350 Health, Illness and Society**
- **F, W, SU**
- **4**

### Applying to Medical School

**Application Seminar and Application Readiness Self-Assessment:** Go to the College of Science “Preparing for Medical School” to assess your application readiness (Visit Your Application Profile: a Self Assessment). [http://www.science.oregonstate.edu/node/127](http://www.science.oregonstate.edu/node/127)

**Admission Test:** Medical school applicants must take the Medical College Admissions Test (MCAT) [https://www.aamc.org/mcat2015](https://www.aamc.org/mcat2015).

**References:** It is important to begin establishing relationships with professors and professionals early in your education. Applicants will generally need a minimum of five references. References that can speak about you beyond your grades and can address your character and professionalism will be particularly important (http://www.science.oregonstate.edu/node/245).

**Leadership:** Health profession schools value leadership experience as a way to develop interpersonal skills and the ability to lead as part of a team. There are a variety of ways to incorporate leadership experiences as an undergraduate, including: officer roles in a student club, coordinator for an organization (public, private, or non-profit), or being a peer mentor or an ambassador for your college or department. Students may also consider taking leadership courses or completing the OSU Leadership Minor (http://agsci.oregonstate.edu/leadership_minor/).
Track I: Pre-Medicine - Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisites</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BI 109</td>
<td>Pre-Medical Orientation</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Z 431</td>
<td>Vertebrate Physiology I AND Lab</td>
<td>BI 211, 212, 213; CH 332</td>
<td>W</td>
</tr>
<tr>
<td>Z 432</td>
<td>Vertebrate Physiology II AND Lab</td>
<td>BI 211, 212, 213; CH 332</td>
<td>SP</td>
</tr>
</tbody>
</table>

**Biological Science/Psychology Elective (select one course from the following):**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisites</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MB 416</td>
<td>Immunology</td>
<td>BB 450 or 490</td>
<td>F, SU</td>
</tr>
<tr>
<td>MB 430</td>
<td>Bacterial Pathogenesis</td>
<td>MB 302 and 310 and BB 451 or 491</td>
<td>SP</td>
</tr>
<tr>
<td>MB 434</td>
<td>Virology</td>
<td>BB 451 and MB 310</td>
<td>SP</td>
</tr>
<tr>
<td>MB 480</td>
<td>General Parasitology</td>
<td>BI 314 or BB 450 or Z 361 or MB 302</td>
<td>W, SP</td>
</tr>
<tr>
<td>PSY 330</td>
<td>Brain and Behavior</td>
<td>PSY 201 &amp; 202</td>
<td>F, W, SP, SU</td>
</tr>
<tr>
<td>PSY 381</td>
<td>Abnormal Psychology</td>
<td>PSY 201 &amp; 202</td>
<td>F, W, SP, SU</td>
</tr>
<tr>
<td>PSY 432</td>
<td>Physiological Psychology</td>
<td>PSY 330</td>
<td>SP, SU</td>
</tr>
<tr>
<td>PSY 433</td>
<td>Psychopharmacology</td>
<td>Upper-division standing</td>
<td>F, SP</td>
</tr>
<tr>
<td>TOX 411</td>
<td>Fundamentals of Toxicology</td>
<td>BB 350 or 450 or 490</td>
<td>SP</td>
</tr>
<tr>
<td>Z 422</td>
<td>Comparative Vertebrate Anatomy</td>
<td>BI 211, 212, 213</td>
<td>F</td>
</tr>
<tr>
<td>Z 425</td>
<td>Embryology and Development</td>
<td>BI 311 and 314</td>
<td>F</td>
</tr>
<tr>
<td>Z 437</td>
<td>Vertebrate Endocrinology</td>
<td>BI 314</td>
<td>SP</td>
</tr>
<tr>
<td>Z 438</td>
<td>Behavioral Neurobiology</td>
<td>BI 211, 212, 213; CH 123 or CH 233/263</td>
<td>3</td>
</tr>
</tbody>
</table>

Select one 3+ credit, upper division (300-400 level) course not used above: Courses from BB, BI, BOT, CH, MB, MTH, PH, ST, & Z including double major, minor and Bacc. Core may be used with the exception of courses listed as excluded below. Other science courses outside of COS and other credits taken internationally may be used by approval. Three credits of BI 401 Research will also meet this requirement. **Excluded:** 405 Reading and Conference, 406 Projects, 407 Seminar, 410 Internship, BB 350, BB 490–BB 492, BI 331–BI 333, BI 341–BI 343, CH 334, CH 335, CH 336, ST 314 and any 399 or 499 courses not specifically approved.

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**OSU Pre-Medicine Resources and Information**

**Medical Experience**

- **Internships, volunteering, or working** in health care is important to begin early to gain experience and to clarify your career choice and interests. See the Medical sections of the internships & volunteering list at [http://ib.oregonstate.edu/professional/internship-research/intern-volunteer-list](http://ib.oregonstate.edu/professional/internship-research/intern-volunteer-list).

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

- **Shadowing** and other healthcare experience is a good way to get exposure to the field and to decide if medicine is for you. To learn more about healthcare experience, you may view this document: [http://ib.oregonstate.edu/files/ib/Healthcare%20Experience.pdf](http://ib.oregonstate.edu/files/ib/Healthcare%20Experience.pdf).

- For details about OSU’s Medical Preceptorship program visit [http://www.science.oregonstate.edu/node/129](http://www.science.oregonstate.edu/node/129).

- **Health Care Careers Enrichment Programs** - See the following link for a searchable database of summer programs to learn what it is like to work in a health care or research field. [http://explorehealthcareers.org/en/careers/programs](http://explorehealthcareers.org/en/careers/programs).

- **Summer Programs:** There are summer programs at med schools that are designed to help support rural, disadvantaged and underrepresented minority students to gain entrance to professional school. An example of one is the Summer Health Professions Education Program at [http://www.shpep.org/](http://www.shpep.org/).

- **Study Abroad**

  Although prerequisite professional school courses should not be done abroad, study abroad is a great opportunity and very feasible for pre-medical students. You can work with your advisor on how to schedule and apply these courses to your degree. See [http://ib.oregonstate.edu/professional/international](http://ib.oregonstate.edu/professional/international).

**Research Opportunities**

Research provides the opportunity to develop analytical and communication skills, as well as an understanding of research methods and the process of science. For these reasons, it is considered excellent preparation for the MCAT and a career in medicine. See [http://ib.oregonstate.edu/professional/research-internships](http://ib.oregonstate.edu/professional/research-internships).

**Campus Resources**

- **College of Science Preparing for Medical School webpage**
  Resources include procedures and deadlines for applying, FAQs, and interview tips [http://www.science.oregonstate.edu/node/113](http://www.science.oregonstate.edu/node/113).

- **Pre-Med Listserve**
  Join the pre-medical listserve to hear about opportunities for pre-med students. To join, send an email using your ONID account to premedclub-join@lists.oregonstate.edu and reply to the email response.

- **Pre-Med Advising**
  Contact your assigned advisor or go to [http://ib.oregonstate.edu/advising/appointments](http://ib.oregonstate.edu/advising/appointments).

**Student Clubs**

- **Pre-Med Society** - Society happenings include field trips, speakers, and info on volunteering and community service: [premedclub@oregonstate.edu](mailto:premedclub@oregonstate.edu).

- **American Medical Student Association, Student Chapter**

- **Investigative Diagnosis** - Learn to take accurate and comprehensive patient histories and sharpen diagnostic skills. Email for info [diagnosis@oregonstate.edu](mailto:diagnosis@oregonstate.edu).

- **M.A.P.S. (Minority Association for Premedical Students)** – Open to any student who supports minority efforts. Club email: [oregonstatemaps@gmail.com](mailto:oregonstatemaps@gmail.com).