Admission to Biomedical, Health Professions, and Veterinary Medicine Programs
Minimum Undergraduate Course Requirements

This chart will help students get started in planning for possible admission to health professions graduate programs. These courses represent the minimal requirements. Most schools (especially medical schools) have additional course requirements beyond the minimum listed here. Students should check the admissions standards for individual schools.

If students take the more rigorous sciences and math, all schools and all options remain viable. Specific advising related to entrance to health professions’ schools is also available in the Eberly College of Science Advising Center, First Floor Ritenour (www.science.psu.edu/premed). Students considering any of these programs should work closely with their academic adviser regarding their interests and choices of Penn State majors.

<table>
<thead>
<tr>
<th>Professional School</th>
<th>Medicine</th>
<th>Chiropractic</th>
<th>Dentistry</th>
<th>Physical</th>
<th>Physician</th>
<th>Nursing*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Penn State Courses</td>
<td>(MD/DO)</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td><a href="http://www.aacpm.org">www.aacpm.org</a></td>
<td><a href="http://www.aaptapeng.org">www.aaptapeng.org</a></td>
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</tr>
</tbody>
</table>

B M B 211 or 401 (Biochemistry)
Some schools require - B M B 401 best preparation for MCAT’s
Typically not required but for
Typically strongly
recommended or required (211 or 401 depending on school)
Typically not required
Typically not required but depends on school, sometimes accepted in place of 1 of the organic chem semesters
Typically not required

B IOL 110
Required
Recommended (E)
Typically not required
Typically not required
Typically not required
Typically not required

B IOL 129
Typically not required
Typically not required
Typically not required
Recommended
Recommended
Required

B IOL 230W Cell Biology
Required (C)
Often required
Required
Recommended
Typically not required

B IOL 240W or 141/142 Physiology
Required (C)
Often required
Required
Required (B)
Typically not required

C H E M 110, 111, 112, 113 General Chemistry
Required
Required
Required
Required
Recommended
Required

C H E M 210, 212, and 213W Organic Chemistry
Required
Best preparation for DAT exam
Preferred
Best preparation for DAT exam
Recommended
Recommended
Typically not required

M I C R B 201/202 Microbiology
Typically not required
Typically not required
Typically recommended but
Typically not required
Typically not required
Typically not required

M A T H
022 or higher required (A)
022 or higher required
022 or higher required (A)
021 or higher required
021 or higher required
021 or higher required

P H Y S 250R/250L and 251R/L or
211R/L, 212R/L, 213R/L, 214R/L
Math: Suffixes may vary by campus.
Required (B)
Required (B)
Required (B)
Required (B)
Typically not required
Typically not required

P S Y C H 100
Typically not required
Typically not required
Typically not required
Typically not required or 270 or 470
Required
or HD FS 129 required

P S Y C H 212
Typically not required
Recommended
Typically not required
Recommended
Recommended
Recommended

P S Y C H 270 or 470
Typically not required
Typically not required
Typically not required
Recommended
Recommended
Recommended

S C O C 001, 003, or 005
Typically not required
Typically not required
Typically not required
Typically not required
Recommended
Typically not required

S T A T 200, 240 or 250
Required (B)
Recommended
Recommended
Typically not required
Typically not required

* BS in Nursing is a second degree. Some schools also require nutrition and genetics (e.g., NUTR 251, BIOL 222).
(A) Some medical schools require Calculus. For adequate preparation for Calculus, students applying to schools requiring Calculus will need MATH 022, MATH 026; or MATH 040; or MATH 041 or satisfactory performance on the Mathematics placement examination as prerequisites.
(B) For adequate preparation for PHYS 250, students will need the following prerequisites: MATH 022, MATH 026; or MATH 040; or MATH 041 or satisfactory performance on the Mathematics placement examination.
(C) BIOL 110 and 230W AND either BIOL 240W or 141 (or BIOL 472 at upper level) are recommended to adequately prepare students for the required MCAT examination.
(D) BIOL 211 and 212W are recommended to help students prepare for the required DAT examination.
(E) PSYCH 100, SOC 001, and PSYCH 221 or SOC 003 are strongly recommended to help students prepare for the required MCAT examination.

Updated 03/2015
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<tr>
<th>Professional School</th>
<th>Occupational Therapy</th>
<th>Genetic Counseling</th>
<th>Pharmacy</th>
<th>Veterinary Medicine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Penn State Courses</td>
<td>Web Sites</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B M B 211 or 401 (Biochemistry)</td>
<td>Recommended or Required</td>
<td>Typically not required</td>
<td>Varied by program</td>
<td>1 or 2 semesters required</td>
</tr>
<tr>
<td>BIOL 110</td>
<td>Required</td>
<td>Required</td>
<td>Required</td>
<td>Required</td>
</tr>
<tr>
<td>BIOL 129</td>
<td>Required</td>
<td>Recommended</td>
<td>Varies by program</td>
<td>Higher level ANAT and PHYS desired</td>
</tr>
<tr>
<td>BIOL 230W Cell Biology</td>
<td>Typically not required</td>
<td>Required; also require or recommend BIOL 460</td>
<td>Varies by program, often required or recommended</td>
<td>Varies by program</td>
</tr>
<tr>
<td>BIOL 240W or 141/142 Physiology</td>
<td>Varies by program</td>
<td>Varies by program</td>
<td>Required</td>
<td>Varies by program</td>
</tr>
<tr>
<td>CHEM 110, 111, 112, 113 General Chemistry</td>
<td>Varies by program</td>
<td>Required</td>
<td>Required</td>
<td>Required</td>
</tr>
<tr>
<td>CHEM 210, 212, and 213W Organic Chemistry</td>
<td>Typically not required</td>
<td>Required</td>
<td>Some schools accept CHEM 202/203 (6 cr.)</td>
<td>Required</td>
</tr>
<tr>
<td>MICRB 106/107 or 201/202 Microbiology</td>
<td>Typically not required</td>
<td>Typically not required</td>
<td>Often required or highly recommended</td>
<td>MICRB 201/202 required of most</td>
</tr>
<tr>
<td>MATH</td>
<td>Varies by program</td>
<td>022 or higher required</td>
<td>Varies by program</td>
<td>Typically requires calculus</td>
</tr>
<tr>
<td>PHYS 250R/250L and 251R/L or 211R/L, 212R/L, 213R/L, 214R/L Note: Suffixes may vary by campus</td>
<td>Typically not required</td>
<td>Varies by program</td>
<td>Varies by program</td>
<td></td>
</tr>
<tr>
<td>PSYCH 100</td>
<td>Required</td>
<td>Required</td>
<td>Varies by program</td>
<td>Typically not required</td>
</tr>
<tr>
<td>PSYCH 212</td>
<td>Required</td>
<td>Required</td>
<td>Typically not required</td>
<td>Typically not required</td>
</tr>
<tr>
<td>PSYCH 270 or 470</td>
<td>Required</td>
<td>Recommended or required</td>
<td>Typically not required</td>
<td>Typically not required</td>
</tr>
<tr>
<td>SOC 001, 003, or 005</td>
<td>Frequently required</td>
<td>Typically not required</td>
<td>Typically not required</td>
<td>Typically not required</td>
</tr>
<tr>
<td>STAT 200, 240 or 250</td>
<td>Required</td>
<td>Varies by program</td>
<td>Required or recommended, STAT 250 preferred</td>
<td></td>
</tr>
</tbody>
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