Premedicine...

- ...is NOT a major
- Students select major from an engineering school department
- Students take “premedicine” courses to qualify for admission
Disclaimer:

Medical school admission requirements vary from school to school. Check the specific requirements of the institutions where you plan to apply.

The MSAR® online is a great resource for this: https://services.aamc.org/30/msar/home

Now, for the general requirements...
General Admissions Requirements

In general, most medical schools will expect applicants who have taken the Medical College Admission Test (MCAT), and to have completed the following types of courses:

- One year of English
- One year of physics with lab
- One year of biology with lab
- Two years of chemistry with lab
  - Including organic chemistry

https://www.aamc.org/students/applying/requirements/
Common Additional Courses
(aspects of this material on the MCAT)

- Biochemistry
- Statistics / Computational Skills / Mathematics
- Psychology
- Sociology/Anthropology
Optional Courses

- Ethics
- Human Anatomy
- Physiological Control Systems
- MCAT Prep
- Foreign Language (mastery)
- Writing – analytical skills and expository writing
Suggested Course Sequences
# Sample Option #1

**Gap Year**

<table>
<thead>
<tr>
<th>Freshman Year</th>
<th>Fall</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Chemistry I, II</td>
<td>Chem 111A</td>
<td>Chem 112A</td>
</tr>
<tr>
<td>Gen Chem Lab I, II</td>
<td>Chem 151</td>
<td>Chem 152</td>
</tr>
<tr>
<td>General Physics I, II</td>
<td>Physics 117A/197</td>
<td>Physics 118A/198</td>
</tr>
<tr>
<td>Calculus II, III</td>
<td>Math 132</td>
<td>Math 233</td>
</tr>
<tr>
<td>Biology I</td>
<td>MedPrep I (or SP)</td>
<td>Bio 2960</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sophomore Year</th>
<th>Fall</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organic Chemistry I, II</td>
<td>Chem 261</td>
<td>Chem 262</td>
</tr>
<tr>
<td>Biology II</td>
<td>Bio 2970</td>
<td>Bio 3058</td>
</tr>
<tr>
<td>Physiological Control Systems</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Junior Year</th>
<th>Fall</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>BioChemistry I (Ucollege only in SP)</td>
<td></td>
<td>Bio 406</td>
</tr>
<tr>
<td>Intro to Psychology</td>
<td>Psych 100B</td>
<td></td>
</tr>
<tr>
<td>Sociology/Anthropology</td>
<td>(several options for fall or spring)</td>
<td></td>
</tr>
</tbody>
</table>

*Take MCAT in August after Junior Year; apply to Medical School by June 1st after Senior Year*
Sample Option #2

<table>
<thead>
<tr>
<th>Freshman Year</th>
<th>Fall</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Chem 111A</td>
<td>Chem 112A</td>
</tr>
<tr>
<td>Gen Chem Lab I, II</td>
<td>Chem 151</td>
<td>Chem 152</td>
</tr>
<tr>
<td>General Physics I, II</td>
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<td>Physics 118A/198</td>
</tr>
<tr>
<td>Calculus II, III</td>
<td>Math 132</td>
<td>Math 233</td>
</tr>
<tr>
<td>Biology I</td>
<td>MedPrep I (or SP)</td>
<td>Bio 2960</td>
</tr>
</tbody>
</table>

| Summer between FR/SO Year | Organic Chemistry I, II - Chem 261 & Chem 262 |

<table>
<thead>
<tr>
<th>Sophomore Year</th>
<th>Fall</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology II</td>
<td>Bio 2970</td>
<td></td>
</tr>
<tr>
<td>BioChemistry I</td>
<td></td>
<td>Bio 406</td>
</tr>
<tr>
<td>Physiological Control Systems</td>
<td></td>
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<tr>
<td>Sociology/Anthropology</td>
<td>(several options for fall or spring)</td>
<td></td>
</tr>
</tbody>
</table>

Take MCAT in August after Sophomore Year; apply to Medical School by June 1st after Junior Year
Not your Aunt & Uncle’s MCAT

MCAT changed drastically as of Spring 2015.

Major changes are:

- Biological sciences sections reflect recent changes in medical education.
- A new section, “Psychological, Social and Biological Foundations of Behavior”, recognizes the importance of socio-cultural and behavioral determinants of health and health outcomes.
- A new “Critical Analysis and Reasoning Skills” section is designed to test your ability to read a passage, interpret the information, and answer questions about the passage; the questions are based on critical reasoning skills that require a higher level of analysis.
Test Sections:

- Biological and Biochemical Foundations of Living Systems Section
  - Content in this section also contains Scientific Inquiry & Reasoning Skills.
  - Learn More

- Chemical and Physical Foundations of Biological Systems Section
  - Content in this section also contains Scientific Inquiry & Reasoning Skills.
  - Learn More

- Psychological, Social, and Biological Foundations of Behavior Section
  - Content in this section also contains Scientific Inquiry & Reasoning Skills.
  - Learn More

- Critical Analysis and Reasoning Skills Section
  - Learn More

https://students-residents.aamc.org/applying-medical-school/taking-mcat-exam/
Volunteering in a hospital/clinical setting

Leadership in a student organization

Community Engagement

OTHER FACTORS OF INFLUENCE
First-Year

- Register with **Dean Laue, Health Professions Advisor**, 303 Lopata Hall, phone 935-6100
- Strengthen time-management and study skills to foster success in your coursework; utilize academic support resources such as PST, PLTL, RPM, and Engineering Tutors
- Engage in the WashU experience, becoming involved in student organizations, athletics, volunteer experiences, etc.

Washington University in St. Louis
James McKelvey School of Engineering
Sophomore Year

- Volunteer in a clinical setting
- Conduct research (if desired, but necessary if MD/PhD)
- Continue extracurricular activities and further develop your passions; check out the The Gephardt Institute for Civic and Community Engagement for ways to get involved. ([http://gephardtinsttitute.wustl.edu/](http://gephardtinsttitute.wustl.edu/))
- Complete PreMed required classes (if no gap year)
- Prepare for and take MCAT summer after sophomore year; take MCAT in August prior to beginning of junior year (if no gap year)
Junior Year (Senior year if taking gap year)

- Continue extracurricular activities, clinical volunteering/shadowing and (if desired) research
- Begin identifying faculty and staff to write you a medical school recommendation (ask by March)
- If you are not satisfied with your MCAT you can take it again, but do so by May of the year you are applying.
- Complete PreHealth Institutional Review (PIR) by April, Mock interview with Dean Laue by May 30.
- Complete AMCAS application & submit on June 1
  [https://www.aamc.org/students/applying/amcas/](https://www.aamc.org/students/applying/amcas/)
Senior Year *(or later if taking gap year)*

- Complete Secondary Applications within a week of receipt from medical schools in which you have applied
- Interview at medical schools (can begin as early as September)
- Strategize with Dean Laue throughout the application process (for example, should you submit a supplemental letter to medical schools???)
Planning Timeline

- **August 21**
  - Premedicine Information Session

- **September**
  - MMI practice interview for seniors applying in the current AMCAS cycle

- **October**
  - "Break into Medical School" – strongly encouraged for all engineering students applying this upcoming admissions cycle

- **November**
  - University-wide Workshop: “Writing your Personal Statement” (also in March)

- **January**
  - Mandatory meeting group meeting for all premed engineering sophomores

- **February**
  - Presentation: “Deadlines & Key Dates for June 2019 Applicants”
  - Schedule PIR meeting/Mock Interview with Dean Laue

- **March**
  - University-wide Workshop: “Writing your Personal Statement"
  - Solidify faculty and other individuals who will be submitting a Letter of Recommendation on your behalf

- **April**
  - Schedule PIR meeting/Mock Interview Dean Laue (if not already done so)

- **May**
  - PIR Meeting/Mock Interview with those applying to medical school in the current cycle
  - "Junior Jumpstart" - Highly recommended for all engineering students applying this admissions cycle
  - AMCAS Application Opens

- **June**
  - Submit AMCAS Application on June 1 or as early in June as possible

- **July-August**
  - Secondary applications
### Resources

- **Engineering Health Professions Advisor:**
  Ronald Laue, PhD
  Lopata 303, 935-6100
  [ron.laue@wustl.edu](mailto:ron.laue@wustl.edu)

- **Professor Dennis Barbour, MD/PhD**

- **Washington University Prehealth:**
  [http://prehealth.wustl.edu](http://prehealth.wustl.edu)

- **A very important URL:** [http://www.aamc.org](http://www.aamc.org)
  - MCAT dates, registration, practice tests
  - AMCAS web-based application
Quality Premedicine Applicants:

- Don’t just “Check the PreMed Boxes”
- Have a Story
- Think/behave like a Doctor
- Don’t act like a Doctor
Engineering Premedicine (EP)

Any questions?