Suggested Pre-Med Chemical Engineering Curriculum

The chemical engineering degree, with appropriate modifications, can provide outstanding preparation for medical school while retaining the regular professional and graduate school outcomes. Each year, a significant percentage of our graduates will go to medical school. The process of preparing and applying for medical school is complex and, without guidance, can even be daunting. The University Office of Pre-Health and Law Advising provides comprehensive information and should be consulted early on. The suggested ChE Pre-Med curriculum below will generally meet or exceed the requirements of most medical schools and can be used as a general guidance. In some cases, in may be advantageous to complete some of the medical school requirements, such as biology, in summer school, in order to avoid overloading the regular academic terms. The following page provides some additional recommendations.

<table>
<thead>
<tr>
<th>Year</th>
<th>Fall</th>
<th>Spring</th>
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<tbody>
<tr>
<td>1</td>
<td>APMA1110 Single Variable Calculus II(a)</td>
<td>CHEM1610 Gen Chem I &amp; Lab</td>
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<td></td>
<td>CHEM1611 Gen Chem I &amp; Lab</td>
<td>ENGR1624 Intro to Engr &amp; Lab</td>
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<td>STS1500 Eng. Technol &amp; Society</td>
<td>APMA2120 Multivariable Calculus III</td>
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<td>PHYS1425 PHYS1429 Physics I &amp; Laboratory</td>
<td>CHEM1620 Gen Chem II &amp; Lab</td>
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<td></td>
<td>CHE2202 Organic Chemistry II</td>
<td>CHEM2321 or 2421 Organic Chemistry II</td>
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<td></td>
<td>CHE2216 Modeling &amp; Simulation in Chem Eng</td>
<td>CHEM3398 Chemical Engineering Laboratory I</td>
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<td>BIOL2020 or BIOL2040 Biology &amp; Lab(e)</td>
<td>CHE3305 Organic Chemistry Laboratory II</td>
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<td>CHE3322 Transport Processes II</td>
<td>BIOL2020 or BIOL2040 Biology &amp; Lab(e)</td>
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<td>APMA2130 Differential equations</td>
<td>PHYS2415 PHYS2419 Physics II &amp; Laboratory</td>
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<td>CHEM2215 Material &amp; Energy Balances</td>
<td>CHEM2410 Organic Chemistry Laboratory I</td>
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<td>CHEM2411 Applied Probability &amp; Statistics</td>
<td>CHE2202 Thermo</td>
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<td>CHEM2420 or CHEM2421 Organic Chemistry II</td>
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<td>CHE3305 Organic Chemistry Laboratory II</td>
<td>BIOL2020 or BIOL2040 Biology &amp; Lab(e)</td>
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<td>CHE3316 Chemical Thermo &amp; Unit Ops.</td>
<td>CHE3305 Organic Chemistry Laboratory II</td>
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<td>CHE3321 Transport Processes I</td>
<td>CHE3305 Organic Chemistry Laboratory II</td>
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<td>CHE33610 Physical Chemistry</td>
<td>CHE3322 Transport Processes II</td>
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<td>BIOL3030 Biochemistry</td>
<td>CHE3305 Organic Chemistry Laboratory II</td>
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<td>BIOL2010 or BIOL2030 Biology &amp; Lab(e)</td>
<td>CHE3305 Organic Chemistry Laboratory II</td>
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<td>CHE4438 Proc synth., modeling &amp; control</td>
<td>CHE4475 Chem Eng Design</td>
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<td>CHE4491 Chemical Engineering Laboratory II</td>
<td>CHE elective(c)</td>
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<td>CHE elective(c)</td>
<td>STS4500 STS &amp; Eng Practice</td>
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<td>SOC1010 Intro Sociology(e)</td>
<td>CHE elective(c)</td>
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<td>STS4600 Eng Ethics &amp; Prof Resp</td>
<td>HSS elective</td>
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(a) APMA1110: Students starting with APMA1090 should consult with their academic advisor as soon as possible in order to develop the best possible course schedule.
(b) STS2XXX/3XXX: Any course that meets the Second Writing Requirement, as specified by the College of Arts & Sciences (CLAS), may be substituted for STS2XXX/3XXX.
(c) CHE elective: chosen from CHE3347, CHE4442, CHE4448, CHE4449, CHE4450, CHE4456, CHE4561*, CHE4562* (*courses listed under this special topics designation must be individually approved)
(d) Engineering elective: Students must complete one course with substantial engineering content. The list of acceptable choices can be obtained from the department office or through the ‘Academic Requirements’ page on SIS.
(e) SOC1010 is recommended
Recommended actions for ChE students applying to medical school

As you work toward completing your pre-med requirements, you should consider the following:

1. Consider taking the CASPer Test (measures traits like professionalism, ethics, communication, and empathy and is required by many medical schools)

2. Ask for letters of recommendation before the end of the fall semester preceding the year of your application
   a. 3-4 from engineering/science faculty and 1 from a non-science faculty
   b. Ask for letters to be submitted through Interfolio

3. The latest date you should take the MCAT is June 1st of the year you intend to apply. It takes about one month to receive the scores. Application windows open around June 1st and by the time the application is complete (it will take about one month), the MCAT scores will have become available. Applications need to be approved by the medical schools. One strategy to avoid errors is to submit early to a “test” school so that your application will be checked early before applying to your schools of choice

4. Obtain the Medical School Admission Requirements™ (MSAR) (an online database that enables you to browse, search, sort, and compare information about U.S. and Canadian medical schools and BS/MD programs, and more)

5. Perform at least 200-250 hours of service before applying

6. Recommended study materials:
   a. Kaplan Books
   b. Khan Academy for Psych/Sociology
   c. Official AAMC Practice Hub

Acknowledgement: we are grateful to Clayton Burruss, ChE class of 2021, for his leadership in helping us draft these recommendations based, in part, on his personal experience with the medical school preparation and application process