# John Carroll University Chemistry Study Plan

**Physician Assistant with Chemistry Major-Biochemistry**

<table>
<thead>
<tr>
<th>Year</th>
<th>Fall Cr</th>
<th>Spring Cr</th>
</tr>
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<tbody>
<tr>
<td><strong>1st yr</strong></td>
<td>17</td>
<td>19*</td>
</tr>
<tr>
<td></td>
<td>4 cr CH141 General Chemistry I</td>
<td>4 cr CH142 General Chemistry II</td>
</tr>
<tr>
<td></td>
<td>1 cr CH143 General Chemistry Laboratory I</td>
<td>1 cr CH144 General Chemistry Laboratory II</td>
</tr>
<tr>
<td></td>
<td>4 cr MT135 Calculus and Analytic Geometry I</td>
<td>4 cr MT136 Calculus &amp; Analytic Geometry II</td>
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<tr>
<td></td>
<td>3 cr EN125</td>
<td>3 cr CO125</td>
</tr>
<tr>
<td></td>
<td>3 cr BL155 Principles of Biology I</td>
<td>3 cr BL156 Principles of Biology II</td>
</tr>
<tr>
<td></td>
<td>1 cr BL157 Principles of Biology Laboratory I</td>
<td>1 cr BL158 Principles of Biology Lab. II</td>
</tr>
<tr>
<td></td>
<td>1 cr Creative Arts Requirement</td>
<td>3 cr TRS Course</td>
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<tr>
<th>Year</th>
<th>Fall Cr</th>
<th>Spring Cr</th>
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<tbody>
<tr>
<td><strong>2nd yr</strong></td>
<td>18</td>
<td>19*</td>
</tr>
<tr>
<td></td>
<td>3 cr CH221 Organic Chemistry I</td>
<td>3 cr CH222 Organic Chemistry II</td>
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<tr>
<td></td>
<td>1 cr CH223 Organic Chemistry Laboratory I</td>
<td>1 cr CH224 Organic Chemistry Laboratory II</td>
</tr>
<tr>
<td></td>
<td>3 cr PS 100 (ISJ)</td>
<td>3 cr CH261 Analytical Chemistry (QA)</td>
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<tr>
<td></td>
<td>3 cr. BL230 Human Anatomy and Physiology I</td>
<td>1 cr CH263 Analytical Chemistry Laboratory</td>
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<tr>
<td></td>
<td>1 cr. BL230 Human Anatomy and Physiology Laboratory I</td>
<td>3 cr PH126 General Physics II</td>
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<tr>
<td></td>
<td>3 cr PH125 General Physics I</td>
<td>1 cr PH126L General Physics Laboratory II</td>
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<td></td>
<td>1 cr PH125L General Physics Laboratory I</td>
<td>3 cr. BL230 Human Anatomy and Physiology I</td>
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<tr>
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<td>3 cr TRS course</td>
<td>3 cr PLKR course</td>
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<tr>
<th>Year</th>
<th>Fall Cr</th>
<th>Spring Cr</th>
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<tbody>
<tr>
<td><strong>3rd yr</strong></td>
<td>19*</td>
<td>20*</td>
</tr>
<tr>
<td></td>
<td>3 cr CH361 Introduction to Physical Chemistry</td>
<td>3 cr CH436 Biochemistry II</td>
</tr>
<tr>
<td></td>
<td>3 cr CH435 Biochemistry I</td>
<td>2 cr CH367 Physical Chemistry Laboratory I</td>
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<tr>
<td></td>
<td>1 cr CH437 Biochemistry Laboratory</td>
<td>0 cr CH478B Chemistry Seminar</td>
</tr>
<tr>
<td></td>
<td>0 cr CH478A Chemistry Seminar</td>
<td>3 cr Foreign Language Requirement</td>
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<tr>
<td></td>
<td>3 cr CH Elective</td>
<td>3 cr PLVS course</td>
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<tr>
<td></td>
<td>3 cr Foreign Language Requirement</td>
<td>3 cr Engaging the Global Community</td>
</tr>
<tr>
<td></td>
<td>6 cr Linked Pair of Courses</td>
<td>3 cr Introduction to Humanities</td>
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<td></td>
<td></td>
<td>3 cr Introduction to Social Sciences</td>
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**Total of 112 credits**

<table>
<thead>
<tr>
<th></th>
<th>CH of Bl elective</th>
<th>3 cr total</th>
<th>Other</th>
<th>5 cr total</th>
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**Required by partner school**

**Required by JCU major**

Elective or required by JCU core

In general, timing of all core classes indicated here can be changed. However EN125 must be taken prior to enrolling in a linked pair of courses.

* Going beyond 18 credits in a semester incurs a fee per credit hour.
** This does not have room for a Capstone experience.

This assumes:

The year long BL230-231 sequence will labs will counts as ONE upper division elective for Biochemistry concentration
All pre-requisites are completed with a grade of B or better for most Physician Assistant programs
Many programs require a course in Medical Terminology which is not currently offered at JCU, but could be taken at Cleveland State University, Cuyahoga Community College or on-line
Many programs require a second semester of Psychology, typically Life Span Development (PS 175)