KEAN UNIVERSITY – COLLEGE OF NATURAL, APPLIED AND HEALTH SCIENCES

(72100) B.A. IN CHEMISTRY (GENERAL OPTION) : 124 S.H.

**GENERAL EDUCATION**: 44-45 Semester Hours (S.H.)

<table>
<thead>
<tr>
<th>Foundation Requirements: 13 S.H.</th>
<th><strong>ACADEMIC Major and Capstone Requirements</strong> 45 S.H.</th>
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<tbody>
<tr>
<td>CHEM 1083 Chemistry I</td>
<td>CHEM 1084 Chemistry II</td>
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<tr>
<td>ENG 1030 College Composition¹</td>
<td>CHEM 2283 Quantitative Analysis</td>
</tr>
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<tr>
<td>MATH 1000 Algebra for College Students²</td>
<td>CHEM 2581 Organic Chemistry I</td>
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<tr>
<td>COMM 1402 Speech Communication</td>
<td>CHEM 2582 Organic Chemistry II</td>
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<tr>
<td>GE 2024 Research &amp; Technology</td>
<td>CHEM 2583 Organic Chemistry Lab and Recitation I³</td>
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<thead>
<tr>
<th><strong>Disciplinary &amp; Interdisciplinary Distribution Requirements:</strong></th>
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<tbody>
<tr>
<td>CHEM 2491 Inorganic Chemistry</td>
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<tr>
<td>3</td>
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<tr>
<td>CHEM 3284 Instrumental Method of Analysis³</td>
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<tr>
<td>CHEM 3381 Physical Chemistry I</td>
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<tr>
<td>3</td>
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<tr>
<td>CHEM 3382 Physical Chemistry II</td>
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<tr>
<td>*ENG 2403 World Literature</td>
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<tr>
<td><strong>G.E. and Major Capstone:</strong></td>
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<tr>
<td>CHEM 3383 Physical Chemistry Lab and Recitation I³</td>
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<tr>
<td>CHEM 4481 Advanced Inorganic Chemistry</td>
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</table>

| **Select two courses from different areas:**                  | **Select two courses from different areas:**      |
| Fine Arts/Art History                                        | Psychology                                       |
| 3                                                             | 3                                                 |
| Philosophy or Religion                                       | Economics or Geography                           |
| 3                                                             | 3                                                 |
| Foreign Languages (Must take I and II for credit)            | Political Science                               |
| 3                                                             | 3                                                 |
| **G.E. required course**                                     | Sociology or Anthropology                        |
| 1                                                             | 3                                                 |
| **All Major courses require a grade of C or better**         | Interdisciplinary                                |
| 1                                                             | 3                                                 |

| **Humanities**: 9 S.H.                                        | **Science and Mathematics**: 11 S.H.              |
| *HIST 1000 Civil Society in America or HIST 1062 Worlds of History | MATH 1054 Precalculus⁴                           |
| 3                                                             | 3                                                 |
| **FREE ELECTIVES**: 21 or 22 S.H. at least 50% must be 3000/4000 level |
| MATH 2095 Physics I                                           | MATH 2096 Physics II                             |
| 4                                                             | 4                                                 |

| **Health & Physical Education : 2 or 3 S.H.**                 | **Other Transfer:**                              |
| ID 1225 Issues in Contemporary Health or ID 1010 Leisure & Recreation in Multicultural Society | Special Notes:                                  |
| 3                                                             | § Requires a grade of C or better                 |
| Or TWO one-credit P.E.D. courses                              | *G.E. required course                           |
| 1, 1                                                          | **All Major courses require a grade of C or better|

| Additional Required Courses: 13 S.H.                        | **TOTAL CREDITS:**                               |
| MATH 2411 Calculus I                                         | Note: See foreign language requirements         |
| 3                                                             | **Advisor:**                                     |
| MATH 2412 Calculus II                                        | 3                                                |
| MATH 3451 Calculus III                                       | Advisor Signature:                              |
| 3                                                             | 4                                                |
| PHYS 2097 Physics III                                        |                                                |
| 4                                                             |                                                |

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Rev. 07/11
Recommended Course Sequence for General Option

First Year

Fall Semester
Math 1000 Algebra for Coll St 3 Cr.

Spring Semester
Chem 1083 Chemistry I 4 Cr.
Math 1054 Precalculus 3 Cr.

Second Year

Fall Semester
Chem 1084 Chemistry II 4 Cr.
Math 2411 Calculus I 3 Cr.

Spring Semester
Chem 2283 Quant Analysis 4 Cr.
Chem 2591 Inorganic Chem 3 Cr.
Math 2412 Calculus II 3 Cr.

Third Year

Fall Semester
Chem 2581 Organic Chem I 3 Cr.
Chem 2583 Org Chem Lab I 2 Cr.
Phys 2095 Physics I 4 Cr.
Math 3451 Calculus III 3 Cr.

Spring Semester
Chem 2582 Organic Chem II 3 Cr.
Chem 2584 Org Chem Lab II 2 Cr.
Phys 2096 Physics II 4 Cr.

Fourth Year

Fall Semester
Chem 3381 Physical Chem I 3 Cr.
Chem 3382 Phys Chem Lab I 2 Cr.
Chem 3284 Instrumental Analysis 4 Cr.
Phys 2097 Physics III 4 Cr.

Spring Semester
Chem 3382 Physical Chem II 3 Cr.
Chem 3384 Phys Chem Lab II 2 Cr.
Chem 4908 Seminar in Chemistry 3 Cr.
<table>
<thead>
<tr>
<th>Course</th>
<th>Prerequisite</th>
<th>Corequisite</th>
<th>Semester Offered</th>
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<tr>
<td><strong>General Chemistry</strong></td>
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<tr>
<td>Chem 1010: Prep Chem</td>
<td>One 1000 level Math course</td>
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<tr>
<td>Chem 1030: Essent. Chem</td>
<td>One 1000 level Math course</td>
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<tr>
<td>Chem 1083: Chem I</td>
<td>Math 1000, H.S. Chemistry</td>
<td>Math 1054</td>
<td>x</td>
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<tr>
<td>Chem 1084: Chem II</td>
<td>Math 1054 &amp; Chem 1083(C)</td>
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<tr>
<td>Chem 1200: Chem in World</td>
<td>One 1000 level Math course</td>
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<td><strong>Organic Chemistry</strong></td>
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<tr>
<td>Chem 2180: Princ O-Chem</td>
<td>Chem 1084</td>
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<td>Chem 2581: O-Chem I</td>
<td>Chem 1084</td>
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<td>Chem 2582: O-Chem II</td>
<td>Chem 2581(C)</td>
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<td>Chem 2583: O-Chem Lab I</td>
<td>Chem 2581</td>
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<td>Chem 2584: O-Chem Lab II</td>
<td>Chem 2583 (C)</td>
<td>Chem 2582</td>
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<td>Chem 4150: Spec ID</td>
<td>Chem 2582 &amp; Chem 3382</td>
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<td>Chem 4181: O-Chem III</td>
<td>Chem 2582</td>
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<td>Chem 4182: Adv O-Prep</td>
<td>Chem 2584</td>
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<td>Chem 4184: Mol Modeling</td>
<td>Chem 2582 &amp; Chem 3382</td>
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<td><strong>Analytical Chemistry</strong></td>
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<td>Chem 2283: Quant Anal</td>
<td>Chem 1084(C)</td>
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<tr>
<td>Chem 3284: Inst Anal</td>
<td>Chem 2283, Math 2411, Phys 2096</td>
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<td>Chem 4284: Exp Anal Prob Solv</td>
<td>Chem 2584, 3284, 3383</td>
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<td><strong>Physical Chemistry</strong></td>
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<td>Chem 3381: P-Chem I</td>
<td>Chem 1084, Math 3451 Phys 2096</td>
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<td>Chem 3382: P-Chem II</td>
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<td>Chem 3383: P-Chem Lab I</td>
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<td>Chem 3384: P-Chem Lab II</td>
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<td>Chem 4381: P-Chem III</td>
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<td>Chem 4382: P-Chem IV</td>
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<td>Chem 2491: Inorg Chem</td>
<td>Chem 1084(C)</td>
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<td>Chem 2493: Desc Inorg Lab</td>
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<td>Chem 4483: Inorg. Chem Lab</td>
<td>Chem 3284, 4481</td>
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<td>Course</td>
<td>Prerequisite</td>
<td>Corequisite</td>
<td>Semester Offered</td>
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<td><strong>Biochemistry</strong></td>
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<td>Chem 3581: Biochem</td>
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<td>Chem 3583: Biochem Lab</td>
<td>Chem 3581(C)</td>
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<td><strong>Research and Seminar</strong></td>
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<td>Chem 3500: Chem/Phys Coop</td>
<td>Chem 2283, 2581, 2583</td>
<td>Jr or Sr</td>
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<td>Chem 3901-4: Ind Chem Res</td>
<td>8 cr. Chem</td>
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<td>12 cr. Sci/Math (2000 level)</td>
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<td>Chem 4905-6: Senior Res</td>
<td>Chem 3381, 3383</td>
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<td>Chem 4908: Sem in Chem</td>
<td>GELAP req.</td>
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<td>Chem 4909: Special Topics</td>
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<td><strong>Physics Course</strong></td>
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<td>Phys 2091: Gen Phys I</td>
<td>Math 1054</td>
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<td>Phys 2092: Gen Phys II</td>
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<td>Phys 2095: Physics I</td>
<td>Math 2411</td>
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<td>Phys 2095, Math 2412</td>
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<td>Phys 4592: Modern Phys</td>
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