

KEAN UNIVERSITY – COLLEGE OF NATURAL, APPLIED AND HEALTH SCIENCES

(72103) B.A. IN CHEMISTRY (TECHNICAL SALES AND MANAGEMENT OPTION) : 124 S.H.

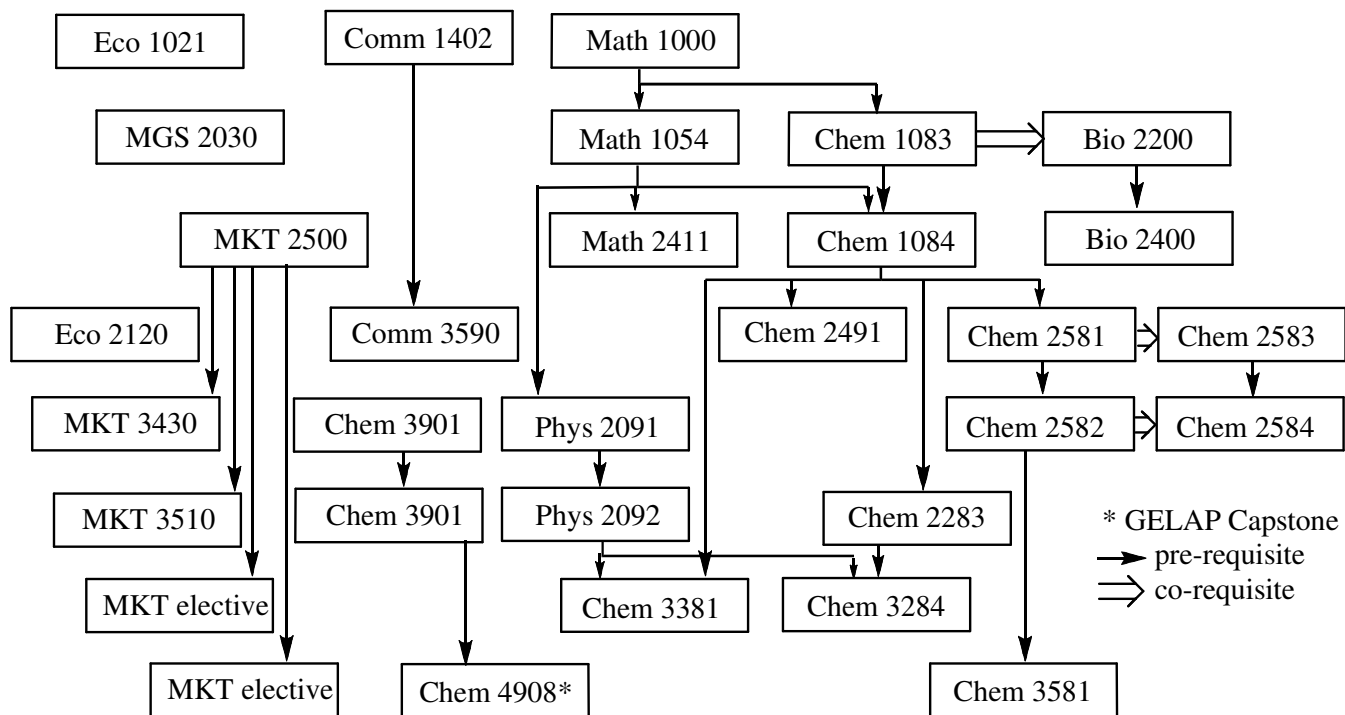
EFFECTIVE DATE: Fall 2009

START TERM: \_\_\_\_\_

| NAME   |      | TRANSFER INSTITUTIONS (X)                                      | Credits:        |      |
|--|------|--|-----------------|------|
| STUDENT ID#  |      | In Progress  |                 |      |
| <b>GENERAL EDUCATION: 44-45 Semester Hours (S.H.)</b>  |      | <b>ACADEMIC Major and Capstone Requirements<sup>2</sup></b>    | <b>35 S.H.</b>  |      |
| <b>Foundation Requirements 13 S.H.</b>   |      | CHEM 1083 Chemistry I  |                 | 4    |
| GE 1000 Transition to Kean <sup>1</sup>  | 1    | CHEM 1084 Chemistry II   |                 | 4    |
| ENG 1030 College Composition <sup>2</sup>  | 3    | CHEM 2283 Quantitative Analysis                                |                 | 4    |
| MATH 1000 Algebra for College Students   | 3    | CHEM 2491 Inorganic Chemistry I                                |                 | 3    |
| COMM 1402 Speech Communication   | 3    | CHEM 2581 Organic Chemistry I                                  |                 | 3    |
| GE 2024 Research & Technology  | 3    | CHEM 2582 Organic Chemistry II                                 |                 | 3    |
|  |      | CHEM 2583 Organic Chemistry Lab and Recitation I <sup>WE</sup> |                 | 2    |
| <b>Disciplinary &amp; Interdisciplinary Distribution Requirements:</b>   |      | CHEM 2584 Organic Chemistry Lab and Recitation II              |                 | 2    |
|  |      | CHEM 3284 Instrumental Method of Analysis <sup>WE</sup>        |                 | 4    |
|  |      | CHEM 3381 Physical Chemistry I                                 |                 | 3    |
| <b>Humanities: 9 S.H.</b>  |      | CHEM 3581 Biochemistry   |                 | 3    |
| *ENG 2403 World Literature   | 3    | CHEM 3901 Independent Chemistry Research <sup>3</sup>          |                 | 1, 1 |
| <b>Select two courses from different areas:</b>  |      |  |                 |      |
| Fine Arts/Art History  | 3    | <b>G.E. and Major Capstone:</b>                                |                 |      |
| Philosophy or Religion   | 3    | CHEM 4908 Seminar in Chemistry                                 |                 | 3    |
| Foreign Languages (Must take I and II for credit)  | 3    |  |                 |      |
| Music or Theatre   | 3    | <b>FREE ELECTIVES (at least 50% in 3000/4000level)</b>         | <b>7-8 S.H.</b> |      |
| Interdisciplinary  | 3    |  |                 |      |
|  |      |  |                 |      |
| <b>Social Sciences: 9 S.H.</b>   |      |  |                 |      |
| *HIST 1000 Civil Society in America<br>or HIST 1062 Worlds of History  | 3    | <b>Additional Required Courses:</b>                            | <b>35 S.H.</b>  |      |
| <b>Select two courses from different areas<sup>4</sup>:</b>  |      | BIO 2200 Cell Biology  |                 | 4    |
| Psychology   | 3    | BIO 2400 Genes, Organism and Population                        |                 | 4    |
| Economics or Geography   | 3    | MATH 2411 Calculus I   |                 | 3    |
| Political Science  | 3    | COMM 3590 Business & Professional Presentation                 |                 | 3    |
| Sociology or Anthropology  | 3    | ECO 2120 Statistics for Business and Economics                 |                 | 3    |
| Interdisciplinary  | 3    | MGS 2030 Principles of Management                              |                 | 3    |
|  |      | MKT 2500 Principles of Marketing                               |                 | 3    |
| <b>Science and Mathematics: 11 S.H.</b>  |      | MKT 3430 Advertising and Marketing Communication               |                 | 3    |
| MATH 1054 Precalculus  | 3    | MKT 3510 Consumer Behavior                                     |                 | 3    |
| PHYS 2091 General Physics I  | 4    | <b>Select two marketing courses from below:</b>                |                 |      |
| PHYS 2092 General Physics II   | 4    | MKT 3550 Marketing Research                                    |                 | 3    |
|  |      | MKT 3640 Sales Management                                      |                 | 3    |
| <b>Health &amp; Physical Education :2 or 3 S.H.</b>  |      | MKT 3660 Service Marketing                                     |                 | 3    |
| ID 1225 Issues in Contemporary Health or<br>ID 1010 Leisure & Recreation in Multicultural Society  | 3    | MKT 3690 Business to Business Marketing                        |                 | 3    |
| Or TWO one-credit P.E.D. courses   | 1, 1 | MKT 4230 Advertising Campaigns                                 |                 | 3    |
|  |      | MKT 4500 Seminar in Marketing Strategy                         |                 | 3    |
|  |      |  |                 |      |
| <sup>1</sup> Required of freshmen and transfers with fewer than 10 cr.   |      | <b>Other Transfer:</b>   |                 |      |
| <sup>2</sup> ENG 1030 and all Major courses require a min. grade of C  |      | <b>*G.E. required course</b>                                   |                 |      |
| <sup>3</sup> To be used for initial construction of the Simulated Project Development and taken for one credit each in the Fall and Spring of the junior year. |      | <b>Note: See foreign language requirements</b>                 |                 |      |
|  |      | <b>TOTAL CREDITS:</b>  |                 |      |
| <sup>4</sup> Students are advised to fulfill 3 credits of their free electives with ECO 1021 Principles of Economics II.                                       |      | Advisor:   |                 |      |
|  |      | Advisor Signature:   |                 |      |

Rev. 03/09

**Recommended Course Sequence for Technical Sales and Management Option**



\* GELAP Capstone  
 → pre-requisite  
 ⇨ co-requisite

**First Year**

**Fall Semester**

|           |                       |       |
|-----------|-----------------------|-------|
| Math 1000 | Algebra for Coll St.  | 3 Cr. |
| Eco 1021  | Princ to Economics II | 3 Cr. |
| Comm 1402 | Speech Commun         | 3 Cr. |

**Spring Semester**

|           |                     |       |
|-----------|---------------------|-------|
| Chem 1083 | Chemistry I         | 4 Cr. |
| Bio 2200  | Cell Biology        | 4 Cr. |
| Math 1054 | Calculus I          | 3 Cr. |
| MGS 2030  | Intro to Management | 3 Cr. |

**Second Year**

**Fall Semester**

|           |                    |       |
|-----------|--------------------|-------|
| Chem 1084 | Chemistry II       | 4 Cr. |
| Bio 2400  | Genes, Org. & Pop  | 4 Cr. |
| Math 2411 | Calculus I         | 3 Cr. |
| MKT 2500  | Princ of Marketing | 3 Cr. |

**Spring Semester**

|           |                       |       |
|-----------|-----------------------|-------|
| Chem 2491 | Inorganic Chem        | 3 Cr. |
| Chem 2581 | Organic Chem I        | 3 Cr. |
| Chem 2583 | Org Chem Lab I        | 2 Cr. |
| Eco 2120  | Business Statistics   | 3 Cr. |
| Comm 3590 | Business Presentation | 3 Cr. |

**Third Year**

**Fall Semester**

|           |                     |       |
|-----------|---------------------|-------|
| Chem 2582 | Organic Chem II     | 3 Cr. |
| Chem 2584 | Org Chem Lab II     | 2 Cr. |
| Chem 3901 | Indep Research      | 1 Cr. |
| Phys 2901 | General Physics I   | 4 Cr. |
| MKT 3430  | Adv & Marketing Com | 3 Cr. |

**Spring Semester**

|           |                    |       |
|-----------|--------------------|-------|
| Chem 2283 | Quant Analysis     | 4 Cr. |
| Chem 3901 | Indep Research     | 1 Cr. |
| Phys 2092 | General Physics II | 4 Cr. |
| MKT 3510  | Consumer Behavior  | 3 Cr. |

**Fourth Year**

**Fall Semester**

|              |                       |       |
|--------------|-----------------------|-------|
| Chem 3284    | Instrumental Analysis | 4 Cr. |
| Chem 3381    | Physical Chemistry I  | 3 Cr. |
| MKT elective |                       | 3 Cr. |

**Spring Semester**

|              |                    |       |
|--------------|--------------------|-------|
| Chem 4908    | Seminar in Chem    | 3 Cr. |
| Chem 3581    | Essen Biochemistry | 4 Cr. |
| MKT elective |                    | 3 Cr. |

## Prerequisite and Corequisite for Chemistry/Physics courses

| Course                        | Prerequisite                       | Corequisite | Semester Offered |   |    |     |
|-------------------------------|------------------------------------|-------------|------------------|---|----|-----|
|                               |                                    |             | F                | S | SI | SII |
| <b>General Chemistry</b>      |                                    |             |                  |   |    |     |
| Chem 1010: Prep Chem          | One 1000 level Math course         |             | x                | x |    |     |
| Chem 1030: Essent. Chem       | One 1000 level Math course         |             | x                | x |    |     |
| Chem 1083: Chem I             | Math 1000, H.S. Chemistry          | Math 1054   | x                | x | x  |     |
| Chem 1084: Chem II            | Math 1054 & Chem 1083(C)           |             | x                | x |    | x   |
| Chem 1200: Chem in World      | One 1000 level Math course         |             | x                | x |    |     |
| <b>Organic Chemistry</b>      |                                    |             |                  |   |    |     |
| Chem 2180: Princ O-Chem       | Chem 1084                          |             |                  | x |    |     |
| Chem 2581: O-Chem I           | Chem 1084                          |             | x                | x | x  |     |
| Chem 2582: O-Chem II          | Chem 2581(C)                       |             | x                | x |    | x   |
| Chem 2583: O-Chem Lab I       |                                    | Chem 2581   | x                | x |    |     |
| Chem 2584: O-Chem Lab II      | Chem 2583 (C)                      | Chem 2582   | x                | x |    |     |
| Chem 4150: Spec ID            | Chem 2582 & Chem 3382              |             | x                |   |    |     |
| Chem 4181: O-Chem III         | Chem 2582                          |             | variable         |   |    |     |
| Chem 4182: Adv O-Prep         | Chem 2584                          |             | variable         |   |    |     |
| Chem 4183: Phys Org Chem      | Chem 2582 & Chem 3382              |             | variable         |   |    |     |
| Chem 4184: Mol Modeling       | Chem 2582 & Chem 3382              |             |                  | x |    |     |
| <b>Analytical Chemistry</b>   |                                    |             |                  |   |    |     |
| Chem 2283: Quant Anal         | Chem 1084(C)                       |             | x                | x |    |     |
| Chem 3284: Inst Anal          | Chem 2283, Math 2411,<br>Phys 2096 |             | x                | x |    |     |
| Chem 4284: Exp Anal Prob Solv | Chem 2584, 3284, 3383              |             | variable         |   |    |     |
| Chem 4285: Chem Sep           | Chem 2582, 3284 & 3382             |             | variable         |   |    |     |
| <b>Physical Chemistry</b>     |                                    |             |                  |   |    |     |
| Chem 3381: P-Chem I           | Chem 1084, Math 3451<br>Phys 2096  |             | x                |   |    |     |
| Chem 3382: P-Chem II          | Chem 3381                          |             |                  | x |    |     |
| Chem 3383: P-Chem Lab I       | Chem 2283                          | Chem 3381   | x                |   |    |     |
| Chem 3384: P-Chem Lab II      | Chem 3383                          | Chem 3382   |                  | x |    |     |
| Chem 4381: P-Chem III         | Chem 3382 & Math 3452              |             | variable         |   |    |     |
| Chem 4382: P-Chem IV          | Chem 3382 & Math 3452              |             | variable         |   |    |     |
| <b>Inorganic Chemistry</b>    |                                    |             |                  |   |    |     |
| Chem 2491: Inorg Chem         | Chem 1084(C)                       |             | x                | x |    |     |
| Chem 2493: Desc Inorg Lab     |                                    | Chem 2491   |                  |   |    |     |
| Chem 4481: Adv. Inorg Chem    | Chem 2491, 2582, 3381              | Chem 3382   |                  | x |    |     |
| Chem 4483: Inorg. Chem Lab    | Chem 3284, 4481                    |             | x                |   |    |     |

| Course                             | Prerequisite                               | Corequisite     | Semester Offered |   |    |     |
|------------------------------------|--|-----------------|------------------|---|----|-----|
|                                    |  |                 | F                | S | SI | SII |
| <b><i>Biochemistry</i></b>         |  |                 |                  |   |    |     |
| Chem 3581: Biochem                 | Chem 2582                                  |                 |                  | x |    |     |
| Chem 3583: Biochem Lab             | Chem 3581(C)                               |                 |                  | x |    |     |
| <b><i>Research and Seminar</i></b> |  |                 |                  |   |    |     |
| Chem 3500: Chem/Phys Coop          | Chem 2283, 2581, 2583                      | Jr or Sr        | upon request     |   |    |     |
| Chem 3901-4: Ind Chem Res          | 8 cr. Chem<br>12 cr. Sci/Math (2000 level) | Chair approval  | upon request     |   |    |     |
| Chem 4905-6: Senior Res            | Chem 3381, 3383                            | Chair approval  | upon request     |   |    |     |
| Chem 4908: Sem in Chem             | GELAP req.                                 |                 |                  | x |    |     |
| Chem 4909: Special Topics          | 25 cr. Chem                                | Inst permission | variable         |   |    |     |
| <b><i>Physics Course</i></b>       |  |                 |                  |   |    |     |
| Phys 2091: Gen Phys I              | Math 1054                                  |                 | x                | x | x  |     |
| Phys 2092: Gen Phys II             | Phys 2091                                  |                 | x                | x |    | x   |
| Phys 2095: Physics I               | Math 2411                                  | Math 2412       | x                |   |    |     |
| Phys 2096: Physics II              | Phys 2095, Math 2412                       |                 |                  | x |    |     |
| Phys 2097: Physics III             | Phys 2096, Math 3451                       |                 | x                |   |    |     |
| Phys 4592: Modern Phys             | Phys 2096                                  |                 | variable         |   |    |     |
| Phys 4593: Landmark Phys           | Phys 2096                                  |                 | variable         |   |    |     |
| Phys 4901: Ind Phys Research       | Phys 2096                                  | Chair approval  | upon request     |   |    |     |