



# Chemical Engineering Program 144510 [Required Credits = 211]

University Courses  
23 Credits

Math. & Basic Sciences  
60 Credits

Engineering Fundamentals  
19 Credits

Engineering Depths  
106 Credits

## FIRST YEAR (FRESHMAN)

FALL(1) WINTER(2) SPRING(3)

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| *** 1001 [2]<br>Univ Elective 1                | *** 1001 [2]<br>Univ Elective 2                                        | *** 1001 [2]<br>Univ Elective 3                                                                                          |
| ENGL 1120 [4]<br>Technical Writing in English  | MATH 1115 [5]<br>Calculus I<br>CO: MATH 1122<br>Or MATH 122            | CS 1108 [4]<br>Computer Programming<br>CO: MATH1115<br>Or MATH105                                                        |
| GE 1103 [4]<br>Engineering Graphics and Design | PHYS 1117 [4]<br>Physics I                                             | MATH 1116 [5]<br>Calculus II<br>PRE: MATH 1115<br>Or MATH 115                                                            |
| MATH 1122 [5]<br>Pre-Calculus                  | PHYS 1119 [1]<br>Physics I Lab<br>PRE: PHYS 1117<br>Or PHYS 117        | PHYS 1118 [4]<br>Physics II<br>PRE: PHYS1117,<br>PHYS1119 or<br>PHYS 117, PHYS 119                                       |
|                                                | CHEM 1104 [4]<br>General Chemistry                                     | PHYS 1120 [1]<br>Physics II Lab<br>PRE: PHYS 1117,<br>PHYS 1119<br>Or PHYS 117,<br>PHYS 119<br>Or PHYS 1118,<br>PHYS 118 |
|                                                | CHEM 1105 [1]<br>General Chemistry Lab<br>CO: CHEM 1104<br>Or CHEM 104 |                                                                                                                          |

## SECOND YEAR (SOPHOMORE)

FALL(4) WINTER(5) SPRING(6)

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| STAT 1215 [4]<br>Probability and Statistics for Engineers<br>PRE: MATH 1115<br>Or MATH 115 | *** 1001 [2]<br>Univ Elective 4                                                                     | *** 1001 [2]<br>Univ Elective 6                                                                                  |
| GE 1201 [5]<br>Statics<br>PRE: MATH 1116, PHYS 1117                                        | *** 1001 [2]<br>Univ Elective 5                                                                     | *** 1001 [2]<br>Univ Elective 7                                                                                  |
| ChE 1211 [5]<br>Principles of ChEm. Eng. I<br>PRE: CHEM 1104, MATH 1115                    | MATH 1207 [5]<br>Calculus III<br>PRE: MATH 1116<br>Or MATH 116                                      | MATH 1236 [4]<br>Mathematical Methods for Engineers<br>PRE: MATH 1207,<br>MATH 1228<br>Or: MATH 207,<br>MATH 228 |
| ChE 1241 [4]<br>Material Sci. and Eng.<br>PRE: CHEM 1104                                   | MATH 1228 [4]<br>Linear Algebra & Ordinary Differential Equations<br>PRE: MATH 1116<br>OR: MATH 116 | ChE 1222 [4]<br>Fluid Mechanics<br>PRE: MATH 1207, ChE 1211,<br>GE 1201                                          |
|                                                                                            | ChE 1212 [4]<br>Principles of ChEm. Eng. II<br>PRE: ChE 1211,<br>MATH 1116                          | ChE 1221 [4]<br>ChEm. Eng. Thermodynami cs I<br>PRE: ChE 1211                                                    |

## THIRD YEAR (JUNIOR)

FALL(7) WINTER(8) SPRING(9)

|                                                                                             |                                                               |                                                                       |
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| *** 1001 [2]<br>Univ Elective 8                                                             | *** 1001 [2]<br>Univ Elective 9                               | *** 1001 [2]<br>Univ Elective 10                                      |
| Qur 1001 [2]<br>Quran Kareem                                                                | CHEM 1301 [4]<br>Organic Chemistry<br>PRE: CHEM 1104          | ChE 1325 [5]<br>Unit Operations<br>PRE: ChE 1326                      |
| MATH 1346 [4]<br>Numerical Analysis<br>PRE: MATH 1236,<br>CS 1108<br>Or MATH 236,<br>CS 108 | CHEM 1302 [1]<br>Organic Chemistry Lab<br>CO: CHEM 1301       | ChE 1311 [4]<br>Chemical Reaction Eng.<br>PRE: ChE 1321,<br>MATH 1346 |
| ChE 1321 [4]<br>Chem. Eng. Thermodynami cs II<br>PRE: ChE 1212,<br>ChE 1221, MATH 1236      | ChE 1323 [4]<br>Heat Transfer II<br>PRE: ChE 1322,<br>GE 1103 | ChE 1328 [5]<br>Separation Processes<br>PRE: ChE 1326                 |
| ChE 1322 [4]<br>Heat Transfer I<br>PRE: ChE 1222,<br>MATH 1207                              | ChE 1326 [4]<br>Mass Transfer<br>PRE: ChE 1322                | ChE 1327 [2]<br>Fluid Mechanics & Heat Transfer Lab<br>CO: ChE 1323   |

## FOURTH YEAR (SENIOR)

FALL(10) WINTER(11) SPRING(12)

|                                                                                    |                                                                                             |                                                             |
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| Nah 1001 [2]<br>Nahu                                                               | ChE 1461 [5]<br>Chemical Processes and Plant Design<br>PRE: ChE 1325,<br>ChE 1328, ChE 1241 | GE 1402 [2]<br>Professional Ethics for Engineers            |
| GE 1403 [4]<br>Engineering Economy<br>PRE: MATH 1236                               | ChE 1462 [4]<br>Process Synthesis & Modeling<br>PRE: ChE 1328,<br>GE 1403                   | ChE 1493 [2]<br>Graduation Project I<br>PR: ChE1461         |
| CHE 1481 [4]<br>BioChEmical Eng.<br>PRE: ChE1311                                   | ChE 1454 [4]<br>Petroleum Refining<br>PRE: ChE1328,<br>CHEM1301                             | ChE 1451 [4]<br>Petrochemicals<br>PRE: ChE1328,<br>CHEM1301 |
| ChE 1431 [4]<br>Process Control<br>PRE: MATH 1236, ChE 1311<br>ChE 1328            | ChE 1463 [4]<br>Environmental & Safety Management<br>PR: ChE 1461                           | ChE 15** [4]<br>Elective I<br>PRE: ChE 1325,<br>ChE 1328    |
| ChE 1421 [2]<br>Unit Operations & Sep. Processes Lab<br>PRE: ChE 1325,<br>ChE 1328 | ChE 1432 [2]<br>Reaction Eng. & Process Control Lab<br>PRE: ChE 1311,<br>ChE 1431           |                                                             |

## FIFTH YEAR

FALL(13) WINTER(14)

|                                                            |                                                        |
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| ChE 1594 [3]<br>Graduation Project II<br>PRE: ChE1493      |                                                        |
| ChE 15** [4]<br>Elective II<br>PRE: ChE 1325,<br>ChE 1328  | ChE 1595 [3]<br>Graduation Project III<br>PRE: ChE1594 |
| ChE 15** [4]<br>Elective III<br>PRE: ChE 1325,<br>ChE 1328 |                                                        |

GE 1599 Engineering Training [0]

No. of Courses / Credits each Trimester:

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