

Chemical Engineering Concentration Outline

()=Pre-requisites, Co=Co-requisites

Fall Semester

Freshman

| | | |
|------------|---|----|
| ENGR120 | Intro to Engineering & Design | 2 |
| ENGR125 | Engineering Graphics | 3 |
| Math191 | Calculus I (P5, or MATH167 or MATH165) | 4 |
| CHEM131 | General Chemistry I (P3, MATH165, MATH166, MATH168, or MATH191, MATH195) | 4 |
| HLED120/FT | Fit for Life/Fitness Activity | 1 |
| ENGL115 | College Writing I | 3 |
| | | 17 |

Spring Semester

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|---------|---|----|
| ENGR180 | Material Science (CHEM131) | 4 |
| MATH192 | Calculus II (MATH191 or MATH195) | 4 |
| CHEM132 | General Chemistry II (C- or better in CHEM131) | 4 |
| RELT100 | God & Human Life | 3 |
| ENGR185 | Engineering Statics (MATH191) | 3 |
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Sophomore

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| ENGR225 | Circuit Analysis (MATH191) | 3 |
| PHYS241 | Physics for Scientists I (MATH192, Co: PHYS271) | 5 |
| MATH240 | Calculus III (MATH192) | 4 |
| CHEM231 | Organic Chemistry I (CHEM132) | 4 |
| FTES | Physical Fitness Activity | 1 |
| | | 17 |

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|---------|---|----|
| ENGR285 | Engineering Dynamics (ENGR185, PHYS241, and MATH192) | 3 |
| MATH286 | Differential equations (MATH192) | 3 |
| GEN ED | Religion (RELB, RELG, RELT) | 3 |
| COMM104 | Communication Skills | 3 |
| ENGR485 | Community Service | 2 |
| ENGR275 | Electronics I (ENGR225) | 3 |
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Junior

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|-----------------|---|----|
| CPTR151 | Computer Science I | 3 |
| CHEM200 | Quantitative Analysis (CHEM132) | 4 |
| CHEM431 | Physical Chem I (Choose one: Set 1 or Set 2) | 3 |
| ENGR32X* | Chemical Reaction Engineering (Chem 132 and MATH 286) | 3 |
| Gen ED | History | 3 |
| | | 16 |

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|-----------------|--|----|
| ENGR310 | Linear Systems Analysis (MATH215, MATH286, CPTR151) | 3 |
| ENGR355 | ChemE Lab (CHEM200) | 4 |
| ENGR38X* | Separation Processes (ENGR 32X, ENGR 330 or CHEM 430) | 3 |
| ENGR360 | Fluid Dynamics (ENGR285, ENGR330, MATH286) | 3 |
| ENGL220/ENGL117 | Technical Writing/College Writing II (ENGL 115 or ENGL 117) | 3 |
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Senior

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|---------|---|---|
| ENGR491 | Review of Engineering Design | 1 |
| ENGR450 | Engineering Economy (MATH145 or MATH191) | 2 |

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| Elective | ENGR Elective | 3 |
| ENGR492 | Senior Design Project (ENGR385 or ENGR390) | 3 |

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| ENGR410 | Feedback Control Systems (ENGR275 ENGR285 ENGR310) | 4 | ENGR440 | Heat & Mass Transfer (ENGR360, MATH286) | 3 |
| ENGR480* | Process Design (ENGR464) | 3 | GEN ED | Arts/Humanities | 3 |
| GEN ED | Religion (RELB,RELG,RELT) | 3 | ENGR | ENGR Elective | 6 |
| GEN ED | Social Sciences | 3 | RELT340 | Religion & Ethics in ... | 3 |
| | | <u>16</u> | | | <u>18</u> |

Offered every other year*

Suggested 4-year course outline per Bulletin 2019-2020

Total Credits for Graduation

135