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| ChemE | **Chemical Engineering****Degree Requirements**[http://cheme.washington.edu](http://cheme.washington.edu/)chemeadv@uw.edu  | **ENGRUD Requirement Key:**⯁ = **Placement Requirements****Placement:** July 1 at the end of the first year |

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| **Engineering First-year Interest Group (E-FIG)****⯁ ENGR 101 (1cr)** GEN ST 199 (1cr)**Mathematics (24-27cr)**⯁ **MATH 124, 125, 126 - Calc. w/ Analytic Geom I-III (15cr)**MATH 207 - Intro to Differential Equations (4cr)[pr: MATH 125] OR AMATH 351 (3cr) [pr: MATH 125]MATH 208 - Matrix Algebra with Applications (4cr)OR AMATH 352 (3cr) [pr: MATH 126]One course from the following: IND E 315 (3cr), MATH 209 (4cr), STAT 390 (4cr), MATH 224 (4cr), AMATH 353 (3cr)**Sciences (41cr)****⯁ CHEM 142 - General Chemistry (5cr)****⯁ CHEM 152 - General Chemistry (5cr)** [pr: CHEM 142]CHEM 162 - General Chemistry (5cr) [pr: CHEM 152]\*Strongly recommended to complete in the first yearCHEM 237 - Organic Chemistry (4cr)OR CHEM 223 (4cr) [pr: CHEM 162]CHEM 238 - Organic Chemistry (4cr)OR CHEM 224 (4cr) [pr: CHEM 237]CHEM E 456 - Quantum Mechanics (3cr) OR CHEM 455 Physical Chemistry (3cr)[pr: CHEM 162; MATH 207, MATH 208; PHYS 123]**⯁ PHYS 121 - Mechanics (5cr)** [pr: MATH 124]PHYS 122 - Electromagnetism (5cr)[pr: MATH 125; PHYS 121]PHYS 123 - Waves (5cr) [pr: MATH 126; PHYS 122]**General Education Requirements (29-41cr)** ***Written and Oral Communication:***⯁ **English Composition (5cr)**Writing (7cr) - met by coursework in the major***Areas of Inquiry:***Arts & Humanities - A&H (10cr) Social Sciences - SSc (10cr) Additional A&H or SSc (4cr)***Diversity*** - DIV (5cr) (may overlap with Areas of Inquiry or W)  | [**Major Core Requirements**](https://myplan.uw.edu/course/#/courses?states=N4Igwg9grgTgzgUwMoIIYwMYAsQC4TAA6IAZhDALYAiqALqsbkSBqhQA5RyPGJ20AbBMQA0xAJZwUGWuIgA7FOmyMSqAYjEhJASXlxaMKDPJLMWVes3EAjlAQwAnkkPj5Acx4ssCCgAJhEC0AE1RHbjxmAEZLDQQtACZY6xAAZmT44gAWDK0AVlziADYMgF8tA3RaAFF5YIAVcQoECNwAbQAGEQBOIo6AXS03DAEoYIQAOQUAeXYERQQZOX1GQ3sh%2BRGxhAAlFtcZBGDpWQVWtcztTdHxgAUYBwQbOD27cQfg1aNL4ZuEeoARqgTstzt8KlgIAB3abyASOW4YZCLU4rPBqOIQ6Gw%2BF6W4OOAKEFnMpYqEAIRg0MQhRAWFQUjQ5iOX3WxGCkhGEEQAEFggA3VCbI5mFToqwIUpBEBQ9hwPAEYhQtzBaEACQQ4ncWFojAA7Kk9VktMq6tDbtzxKjGAkOt0paUgA) **(54cr)**CHEM E 310 - Material Energy Balances (4cr)CHEM E 325 - Energy & Entropy (4cr)CHEM E 326 - Chem. Engineering Thermodynamics (4cr)CHEM E 330 - Transport Processes I (5cr)CHEM E 340 - Transport Processes II (4cr)CHEM E 375 - Chemical Engineering Computing (3cr)CHEM E 435 - Transport Processes III (4cr)CHEM E 436 - Chemical Engineering Lab I (3cr) (W)CHEM E 437 - Chemical Engineering Lab II (3cr) (W)CHEM E 457 - Principles of Molecular Engineering (3cr)CHEM E 465 - Reactor Design (4cr)CHEM E 480 - Process Dynamics and Control (4cr)CHEM E 485 - Process Design I (4cr)CHEM E 486 - Process Design II (5cr)**Molecular and Nanoscience Engineering (3cr)**CHEM E 455 - Surface and Colloid Science Lab (3cr)ORCHEM E 460 - Polymer Chemistry Laboratory (3cr)**Engineering Electives (16cr)**Visit department website for [list of approved courses](https://www.cheme.washington.edu/undergraduate_students/curriculum/electives.html). **Free Electives** **(to reach 180 total credits)**Additional coursework in any subject area not used elsewhere in degree.**Total credits required for graduation: 180cr** |

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| Chemical Engineering |   | **Questions? Contact ENGRUD Advising**Email: engradv@uw.eduOffice: IEB 307 Phone: (206) 543-1770 |

This is a sample four-year plan for Chemical Engineering to provide ENGRUDs a framework to create their individual academic plan.

Courses required to request placement for ENGRUD students: **ENGR 101; MATH 124, 125, 126; CHEM 142; PHYS 121; English Composition; CHEM 152. Students are strongly recommended to complete CHEM 162 prior to placement.**

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| **Autumn Quarter**⯁ **MATH 124 - Calc w/ Analytic Geom. I**⯁ **CHEM 142 - General Chemistry**⯁ **E-FIG: ENGR 101 & GEN ST 199**A&H / SSc | **cr**5523 | **Winter Quarter**⯁ **MATH 125 - Calc w/ Analytic Geom. II**⯁ **CHEM 152 - General Chemistry**⯁ **English Composition** | **cr**555 | **Spring Quarter**⯁ **MATH 126 - Calc w/ Analytic Geom. III**CHEM 162 - General Chemistry⯁ **PHYS 121 - Mechanics** | **cr**555 |
| Qtr. Total: | **15** | Qtr. Total: | **15** | Qtr.Total: | **15** |

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| **Autumn Quarter**MATH 207 - Diff. EquationsPHYS 122 - ElectromagnetismCHEM 237/223 - Organic Chem IA&H / SSc / DIV  | **cr**4545 | **Winter Quarter**PHYS 123 - WavesCHEM 238/224 - Organic Chem IIMATH 208 - Matrix AlgebraFree Elective | **cr**5444 | **Spring Quarter**CHEM E 310 - Mat./Energy Balance\*CHEM E 375 - ChemE ComputingMath ElectiveFree Elective | **cr**4343 |
| Qtr. Total: | **18** | Qtr. Total: | **17** | Qtr. Total: | **14** |

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| **Autumn Quarter**CHEM E 325 - Energy & Entropy CHEM E 330 - Transport Processes I CHEM E 456 - Quantum Mechanics A&H / SSc | **cr**4534 | **Winter Quarter**CHEM E 326 - ChemE ThermodynamicsCHEM E 340 - Transport Processes II Engineering ElectiveA&H / SSc | **cr**4435 | **Spring Quarter**CHEM E 436 - ChemE Lab ICHEM E 457 - Principles of Molecular EngineeringEngineering Elective A&H / SSc | **cr**3345 |
| Qtr. Total: | **16** | Qtr. Total: | **16** | Qtr. Total: | **15** |

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| **Autumn Quarter**CHEM E 435 - Transport Processes III CHEM E 455 - Surface and ColloidScience LaboratoryCHEM E 465 - Reactor Design Free Elective | **cr**4342 | **Winter Quarter**CHEM E 437 - CHEM E Lab IICHEM E 480 - Proc. Dynamics & Control CHEM E 485 - Process Design I Engineering Elective | **cr**3444 | **Spring Quarter** CHEM E 486 – Process Design II Engineering ElectiveFree Elective | **cr**554 |
| Qtr. Total: | **13** | Qtr. Total: | **15** | Qtr. Total: | **14** |

 = **Placement Requirement**