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| IndE | **Industrial Engineering**  **Degree Requirements**  <https://ise.washington.edu>  [ieadvise@u.washington.edu](mailto:ieadvise@u.washington.edu) | **ENGRUD Requirement Key:**  ⯁ = **Placement Requirements**  **★** = *Pick* ***one*** *to satisfy placement requirement*  **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/ Analytical 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]  IND E 315 - Probability & Statistics for Engineers (3cr)  [pr: MATH 135, MATH 207, OR AMATH 351]  **Sciences (25cr)**  ⯁ **CHEM 142 - General Chemistry (5cr)**  **★ *CHEM 152 - General Chemistry (5cr)***  [pr: CHEM 142]  ⯁ **PHYS 121 - Mechanics (5cr)**  [pr: MATH 124]  **★** ***PHYS 122 - Electromagnetism (5cr)***  [pr: MATH 125, PHYS 121]  **★ *PHYS 123 - Waves, Light, Heat (5cr)***  [pr: MATH 126, PHYS 122]  **General Education Requirements (34-40cr)**  ***Written and Oral Communications***  **⯁ English Composition (5cr)**  IND E 337 - Intro. to Manufacturing Systems (4cr)  Add’l writing (3cr) (may overlap with Areas of Inquiry or DIV)  ***Areas of Inquiry:***  Arts & Humanities - A&H (10cr)  Social Sciences - SSc (10cr)  Additional A&H or SSc (10cr)  ***Diversity*** - DIV (5cr) (may overlap with Areas of Inquiry or W)  **Engineering Fundamentals (28cr)**  A A 210 - Engineering Statics (4cr)  [pr: MATH 126, PHYS 121]  **★ *CSE 122 - Computer Programming II (4cr)***  CEE 220 - Intro to Mechanics of Materials (4cr)  [pr: A A 210]  E E 215 - Fundamentals of Electrical Engineering (4cr)  [pr: MATH 126, MATH 207 or AMATH 351, PHYS 122]  IND E 250 - Fundamentals of Engineering Economy (4cr)  ME 230 - Kinematics and Dynamics (4cr)  [pr: A A 210]  MSE 170 - Fundamentals of Material Science (4cr)  [pr: CHEM 142] | [**Major Core Requirements**](https://myplan.uw.edu/course/#/courses?states=N4Igwg9grgTgzgUwMoIIYwMYAsQC4TAA6IAZhDALYAiqALqsbkSBqhQA5RyPGJ20AbBMQA0xAJZwUGWuIgA7FOmyMSqAYjEhJASXlxaMKDPJLMWVes3EAjlAQwAnkkPj5Acx4gA5DoByVAAEAKLeosQAJqiO3HjMAIyWGghaAExJ1iAAzBkpxAAsuVoArEXEAGy5AL5aBui0wfIRACriFAixuADaAAwiAJzlPQC6Wm4YAlARCH4KAPLsCIoIMnL6jIb2Y-ITUwgASh2uMggR0rIKnZt52juT0wAKMA4INnCHduLPERtGN%2BP3BDNABGqHOayuf1qWAgAHc5vIBI4HhhkCsLus8GpktC4QikXoHg44ApwZdqrjYQAhGBwxBlEBYVBSNDmU6-LaRSQTCCIACCEQAbqgdqczCosVYEFUQFUgA) **(37cr)**  IND E 310 - Linear and Network Programming (4cr)  IND E 311 - Stochastic Models and Decision Analysis (4cr)  IND E 316 - Design of Experiments (4cr)  IND E 321 - Statistical Quality Control (4cr)  IND E 337 - Intro to Manufacturing Systems (4cr) (W)  IND E 338 - Simulation (4cr)  IND E 351 - Human Factors in Design (4cr)  IND E 491 - Professional Practice Seminar (1cr)  IND E 494 - Design in the Manufacturing Firm (4cr)  IND E 495 - Industrial Engineering Design (4cr)  **Area A, Production Requirement (4cr)**  One of the following courses:  IND E 430 - Manufacturing Scheduling and Inventory (4cr)  IND E 439 - Plant Layout and Material Handling (4cr)  **Area B, Industrial Engineering Requirement (4cr)**  One of the following courses:  IND E 412 - Integer and Dynamic Programming (4cr)  IND E 427 - Data Analytics for Systems Engineering (4cr)  IND E 455 - User Interface Design (4cr)  **Technical Electives (16cr)**  Complete 16 additional technical elective courses from the department’s [approved list of courses](https://ise.washington.edu/students/BSIE/tech-electives).  **Total credits required for graduation: 180cr** |

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

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

Courses required to request placementfor ENGRUD students: **ENGR 101; MATH 124, 125, 126; CHEM 142; PHYS 121; English Composition; choose one: CSE 122, PHYS 122, PHYS 123.**

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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**  5  5  2  3 | **Winter Quarter**  ⯁ **MATH 125 - Calc. w/ Analytic Geom. II**  ★ ***CHEM 152 - General Chemistry***  ⯁ **English Composition** | **cr**  5  5  5 | **Spring Quarter**  ⯁ **MATH 126 - Calc. w/ Analytic Geom. III**  ⯁ **PHYS 121 - Mechanics**  ★ ***CSE 122 - Computer Programming II*** | **cr**  5  5  4 |
| Qtr. Total: | **15** | Qtr. Total: | **15** | Qtr. Total: | **14** |

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| **Autumn Quarter**  PHYS 122 - Electromagnetism  A A 210 - Engineering Statics  MATH 207 - Intro to Differential Equations  A&H / SSc / Writing | **cr**  5  4  4  3 | **Winter Quarter**  PHYS 123 - Waves  MATH 208 - Matrix Algebra with Apps  CEE 220 - Intro to Mechanics of Materials  A&H / SSc | **cr**  5  4  4  4 | **Spring Quarter**  IND E 250 - Engineering Ecomomy  ME 230 - Kinematics & Dynamics  MSE 170 - Materials Science  IND E 315 - Prob & Stats for Engineers | **cr**  4  4  4  3 |
| Qtr. Total: | **16** | Qtr. Total: | **17** | Qtr. Total: | **15** |

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| **Autumn Quarter**  IND E 337 - Intro to Manufacturing Sys  IND E 310 - Linear & Network Prog  IND E 491 - Professional Pract Seminar  E E 215 - Fund of Electrical Engineering  A&H / SSc | **cr**  4  4  1  4  3 | **Winter Quarter**  IND E 311 - Stochastic Models & Decision Analysis  IND E 316 - Design of Experiments  IND E 338 - Simulation  A&H / SSc | **cr**  4  4  4  4 | **Spring Quarter**  IND E 321 - Stat Qual Control  IND E 351 - Human Factors  IND E 412 or Technical Elective  A&H / SSc | **cr**  4  4  4  3 |
| Qtr. Total: | **16** | Qtr. Total: | **16** | Qtr. Total: | **15** |

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| **Autumn Quarter**  IND E 430 - Manu Scheduling & Inventory OR 439 - Plant Layout & Mat’l Handling  IND E 427 or 455 or Technical Elective  IND E Technical Elective  A&H / SSc | **cr**  4  4  4  3 | **Winter Quarter**  IND E 494 - Design in the Manufacturing Firm  IND E Technical Elective  A&H / SSc | **cr**  4  4  5 | **Spring Quarter**  IND E 495 - Industrial Engineering Design  IND E Technical Elective  A&H / SSc / DIV | **cr**  4  4  5 |
| Qtr. Total: | **15** | Qtr. Total: | **13** | Qtr. Total: | **13** |

**⯁ = Placement Requirement**

***★ =*** *Pick one to satisfy placement requirements*