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| IndE | **Industrial Engineering****Degree Requirements**<https://ise.washington.edu>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.eduOffice: IEB 307Phone: (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**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**⯁ **PHYS 121 - Mechanics** ★ ***CSE 122 - Computer Programming II*** | **cr**554 |
| Qtr. Total: | **15** | Qtr. Total: | **15** | Qtr. Total: | **14** |

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| **Autumn Quarter**PHYS 122 - ElectromagnetismA A 210 - Engineering StaticsMATH 207 - Intro to Differential EquationsA&H / SSc / Writing  | **cr**5443 | **Winter Quarter**PHYS 123 - WavesMATH 208 - Matrix Algebra with AppsCEE 220 - Intro to Mechanics of MaterialsA&H / SSc  | **cr**5444 | **Spring Quarter**IND E 250 - Engineering EcomomyME 230 - Kinematics & DynamicsMSE 170 - Materials ScienceIND E 315 - Prob & Stats for Engineers | **cr**4443 |
| Qtr. Total: | **16** | Qtr. Total: | **17** | Qtr. Total: | **15** |

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| **Autumn Quarter**IND E 337 - Intro to Manufacturing SysIND E 310 - Linear & Network ProgIND E 491 - Professional Pract SeminarE E 215 - Fund of Electrical EngineeringA&H / SSc | **cr**44143 | **Winter Quarter**IND E 311 - Stochastic Models & Decision AnalysisIND E 316 - Design of ExperimentsIND E 338 - SimulationA&H / SSc | **cr**4444 | **Spring Quarter**IND E 321 - Stat Qual ControlIND E 351 - Human FactorsIND E 412 or Technical ElectiveA&H / SSc | **cr**4443 |
| 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 HandlingIND E 427 or 455 or Technical Elective IND E Technical Elective A&H / SSc | **cr**4443 | **Winter Quarter**IND E 494 - Design in the Manufacturing FirmIND E Technical ElectiveA&H / SSc | **cr**445 | **Spring Quarter**IND E 495 - Industrial Engineering DesignIND E Technical ElectiveA&H / SSc / DIV | **cr**445 |
| Qtr. Total:  | **15** | Qtr. Total: | **13** | Qtr. Total: | **13** |

**⯁ = Placement Requirement**

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