



Industrial and Systems Engineering Graduation Requirements

University of Washington
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Requirement Sheet Key

◆ = Upper-Division Admission Requirements

Mathematics (24 Credits)

- ◆ Math 124 (5cr) – Calculus I
- ◆ Math 125 (5cr) – Calculus II
- ◆ Math 126 (5cr) – Calculus III
- Math 307(3cr) – Differential Equations [pr: Math 125]
- Math 308 (3cr) – Matrix Algebra [pr: Math 126]
- Ind E 315 (3cr) – Prob. and Stat. for Engineers [pr: Math 307] (AMATH 351/352 may substitute for Math 307/308)

Sciences (25 Credits)

- ◆ Chem 142 (5cr) – General Chemistry with lab
- ◆ Chem 152 (5cr) – General Chemistry with lab
- ◆ Phys 121 (5cr) – Mechanics with lab [pr: Math 124]
- ◆ Phys 122 (5cr) – Electro/Oscillatory with lab [pr: Math 125]
- ◆ Phys 123 (5cr) – Waves with lab [pr: Math 126]

Written & Oral Communications (12 Credits)

- ◆ English Comp (5cr) – English Composition
- HCDE 231 (3cr) – Intro to Technical Writing [pr: Engl. Comp]
- HCDE 333 (4cr) – Adv. Tech Writing [pr: HCDE 231]

Visual, Literary & Performing Arts/ Individuals & Society (VLPA/I&S) (30 Credits)

Minimum 10 credits in VLPA required.
Minimum 10 credits in I&S required.
Remaining 10 credits can be either VLPA or I&S.

Engineering Fundamentals (28 Credits)

- CSE 142 (4cr) – Computer Programming I
- MSE 170 (4cr) – Fund. of Material Science [pr: CHEM 152]
- AA 210 (4cr) – Engineering Statics [pr: Math 126, PHYS 121]
- CEE 220 (4cr) – Intro to Mech. Of Materials [pr: AA 210]
- ME 230 (4cr) – Kinematics & Dynamics [pr: AA 210]
- EE 215 (4cr) – Fund. of EE [pr: PHYS 122 & MATH 126]
- IND E 250 (4cr) – Fundamentals of Engineering Economy

Ind E Core Courses (24 Credits)

- IND E 316 (4cr) – Design of Experiments [pr: IND E 315]
- IND E 337 (4cr) – Intro to Manufacturing Systems
- IND E 410 (4cr) – Linear & Network Programming [pr: MATH 308 & CSE 142]
- IND E 411 (4cr) – Stochastic Models & Decision Analysis [pr: IND E 315 & IND E 410]
- IND E 494 (4cr) – Design in the Manufacturing Firm [pr: TC 333]
- IND E 495 (4cr) – Industrial Engr. Design [pr: IND E 494]

Technical Electives (Min. 37 Credits)

Complete min. 37 credits, including AT LEAST one course from EACH of the following 5 categories:

- Operations Research: IND E 412, IND E 424
- Statistics: IND E 321, IND E 426
- Production/Operations: IND E 430, IND E 439
- Design: IND E 351, IND E 455
- General Engineering: AA 260, CSE 143

Additional technical electives may be chosen from the approved Tech. Elective List. See IND E Adviser.

Total Credits Required for Graduation (180 Credits)

Early Admission Requirements

1. Early Admission is an option for Autumn Quarter Only.
2. Students must be enrolled at UW-Seattle.
3. Math 124, 125 & 126 or equivalent.
4. 10 credits of physical sciences courses plus the accompanying lab at the level of Chem 142, 152; Phys 121, 122, 123.
5. 5 credits of English Composition.
6. 15 credits must have been completed at UW.

Application Deadlines

Early Admission – July 1st
Upper Division Admission – February 1st or July 1st

Last revised July 2011



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Freshman – Autumn Quarter		Freshman – Winter Quarter		Freshman – Spring Quarter	
◆ Math 124 – Calculus I	5	◆ Math 125 – Calculus II	5	◆ Math 126 – Calculus III	5
◆ Chem 142 – Chem & Lab I	5	◆ Chem 152 – Chem & Lab II	5	◆ Phys 121 – Mechanics & Lab I	5
◆ English Composition	5	VLPA/I&S	5	CSE 142 – Comp Programming I	5
IND E 101 – Intro to ISE	1				
Quarter Total	16	Quarter Total	15	Quarter Total	15
Sophomore – Autumn Quarter		Sophomore – Winter Quarter		Sophomore – Spring Quarter	
◆ Phys 122 – Electro & Lab I	5	◆ Phys 123 – Waves & Lab I	5	INDE 250 – Engineering Economics	4
AA 210 – Statics	4	CEE 220 – Mech. of Materials	4	ME 230 – Kinematics/Dynamics	4
Math 307 – Diff. Equations	3	Math 308 – Matrix Algebra	3	MSE 170 – Materials Science	4
HCDE 231 –Tech Writing	3	INDE 315 – Engineering Stats	3	VLPA/I&S	5
Quarter Total	15	Quarter Total	15	Quarter Total	17
Junior – Autumn Quarter		Junior – Winter Quarter		Junior – Spring Quarter	
IND E 337 – Intro Manufact Syst.	4	IND E 411 – Nonlin & Stoch Mdl	3	EE 215 – Fundamentals of EE	4
IND E 410 – Applied Linear Prog.	4	IND E 316 – Design of Experiments	4	IND E Technical Elective	3
VLPA/I&S	5	IND E Technical Elective	4	IND E Technical Elective	4
IND E Technical Elective	4	VLPA/I&S	5	IND E Technical Elective	4
Quarter Total	17	Quarter Total	16	Quarter Total	15
Senior – Autumn Quarter		Senior – Winter Quarter		Senior – Spring Quarter	
IND E Technical Elective	4	IND E 494 – Design/Manuf Firm	4	IND E 495 – Senior Design	4
IND E Technical Elective	4	IND E Technical Elective	4	IND E Technical Elective	3
IND E Technical Elective	3	VLPA/I&S	5	VLPA/I&S	5
HCDE 333 – Adv Technical Writing	4				
Quarter Total	15	Quarter Total	13	Quarter Total	12

Bold face courses are required for upper-division admission.
See IND E Advising Guide for list of technical electives.

For more information contact:

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-or-

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