# EnvE

Environmental Engineering Graduation Requirements University of Washington http://ce.washington.edu

## ◆ E-FIG: ENGR 101 and GEN ST 199 (2cr)

#### Mathematics (24cr)

#### ◆ MATH 124, 125, 126 - Calc w/ Analytic Geom I-III (15cr)

- AMATH 351 Intro to Differential Equations and Apps (3cr) [pr: MATH 125] <u>OR</u> MATH 207
- AMATH 352 Appl Linear Algebra and Numerical Analysis (3cr) [pr: MATH 126] <u>OR</u> MATH 208
- IND E 315 Probability & Statistics for Engineers (3cr) [pr: either MATH 136, MATH 207, or AMATH 351] <u>OR</u> STAT 390 - Statistical Methods in Engr. & Science (4cr)

### Sciences (35cr)

- BIOL 180 Introductory Biology (5cr)
- CHEM 142 General Chemistry (5cr)
- ★ CHEM 152 General Chemistry (5cr) [pr: CHEM 142, 143, or CHEM 145]
- ★ CHEM 162 General Chemistry (5cr) [pr: CHEM 152]
- PHYS 121 Mechanics (5cr) [pr: MATH 124 or MATH 134]
- ★ PHYS 122 Electromagnetism (5cr) [pr: MATH 125 or MATH 134; PHYS 121]
- **\* PHYS 123 Waves (5cr)** [pr: MATH 126 or MATH 134; PHYS 122]

# Engineering General Education Requirements (36cr)

# Written and Oral Communication:

# English Composition (5cr)

ENGR 231 - Introduction to Technical Communication (3cr) Additional Writing (4cr)

### Areas of knowledge:

Visual, Literary & Performing Arts - VLPA (10cr) Individuals & Society - I&S (10cr) VLPA or I&S (4cr) Diversity - DIV (3cr) - (may overlap with VLPA / I&S)

### Economics (4-5cr)

ECON 200 - Microeconomics (5cr) (can satisfy I&S) <u>OR</u> IND E 250 (4cr)

## **ENGRUD Requirement Sheet – Key;**

- = Placement Requirements;
- $\star$  = Pick **one** to satisfy placement requirements Placement 1 = July 1 at the end of the first year

#### Engineering Fundamentals (16-17cr)

- ★ AMATH 301 Beginning Scientific Computing (4cr) [pr: MATH 125] OR CSE 142 OR CSE 160 (AMATH preferred)
- A A 210 Engineering Statics (4cr) [pr: MATH 126; PHYS 121]
- CEE 220 Introduction to Mechanics of Materials (4cr) [pr: A A 210]
- A A 260 Thermodynamics (4cr) [pr: CHEM 142; MATH 126; PHYS 121] <u>OR</u> M E 323 (5cr) [pr: CHEM 142; MATH 126; PHYS 121]

# EnvE Core (30cr)

- CEE 347 Introduction to Fluid Mechanics (5cr)
- CEE 348 Hydrology and Environmental Fluid Methods (4cr)
- CEE 349 Case Studies in Environmental Engineering (3cr)
- CEE 350 Mass and Energy Bal in Environmental Engr. (4cr)
- CEE 352 Intro to Microbial Prin. in Environmental Engr. (5cr)
- CEE 354 Intro to Chemical Prin. in Environmental Engr. (5cr)
- CEE 356 Quant. and Conceptual Tools for Sustainability (4cr)

# Professional Practice & Capstone (7cr)

CEE 440 - Professional Practice Studio (2cr) AND

Capstone (one from): CEE 444, 445 (5cr)

### **EnvE Technical Electives (15cr)**

CEE 400-level coursework from an approved list.

## Engineering & Science Electives (13-15cr)

- Earth Science Elective (3-5cr) See department for a list of approved courses.
- Engineering & Science Electives (8-10cr) Choice of additional CEE 400-level courses or courses from an approved list from outside the department. Maximum 6 credits of CEE 498 and 3 credits of CEE 499 allowed toward engineering and science electives.
- Additional credits as necessary to reach 13cr.

### Total credits required for graduation: 180cr



Environmental Engineering Sample Curriculum University of Washington http://ce.washington.edu Civil & Environmental Engineering Advising Office: 201 More Hall, Box 352700 Seattle, WA 98195-2700 Phone: (206) 543-5092 Email: <u>ceadvice@uw.edu</u>

This is a sample four-year plan for ENGRUD students that prepares them to be able to request placement at the end of the first year. It is intended to provide a framework for ENGRUD students to reference as they create their own individual academic plan.

Courses required to request placement for ENGRUD students: ENGR 101; MATH 124, 125, 126; CHEM 142, PHYS 121, English Composition; ENGRUD students interested in EnvE should choose one of the following: AMATH 301, CHEM 152, CHEM 162, CSE 142, CSE 160, PHYS 122, PHYS 123.

Autumn Quarter	<u>cr</u>	Winter Quarter	<u>cr</u>	Spring Quarter	<u>cr</u>
◆ MATH 124 - Calc w Analytic Geom I	5	♦ MATH 125 - Calc w Analytic Geom II	5	♦ MATH 126 - Calc w Analytic Geom III	5
CHEM 142 - General Chemistry	5	★ CHEM 152 - General Chemistry	5	★ CHEM 162 - General Chemistry	5
VLPA / I&S	4	<ul> <li>English Composition</li> </ul>	5	PHYS 121 - Mechanics	5
◆ E-FIG: ENGR 101 & GEN ST 199	2				
Qtr. Total:	16	Qtr. Total:	15	Qtr.Total:	15

#### Second Year

Autumn Quarter	<u>cr</u>	Winter Quarter	<u>cr</u>	Spring Quarter	<u>cr</u>	
AMATH 351 - Appl. Differential Equations	3	AMATH 352 - Linear Alg & Num. Analysis	3	AMATH 301 - Beg. Sci. Computing	4	
PHYS 122 - Electromagnetism	5	PHYS 123 - Waves	5	BIOL 180 - Intro Biology I	5	
AA 210 - Engineering Statics	4	CEE 220 - Mechanics of Materials	4	AA 260 - Thermodynamics	4	
VLPA / I&S	5	VLPA / I&S	5			
Qtr. Total:	17	Qtr. Total:	15	Qtr. Total:	13	

#### Third Year

Autumn Quarter	<u>cr</u>	Winter Quarter	<u>cr</u>	Spring Quarter	<u>cr</u>
CEE 349 - Case Studies in EnvE	3	CEE 347 - Inro to Fluid Mechanics	5	CEE 348 - Hydrology & Environmental	4
CEE 350 - Mass & Energy Bal in EnvE	4	CEE 354 - Intro to Chemical Principles in	5	Fluid Methods	
CEE 352 - Intro to Microbial Principles in	5	Environmental Engineering		CEE 356 - Quantitative & Conceptual	4
Environmental Engineering	-	ENGR 231 - Intro to Technical Comm	3	I dois for Sustainability	
IND E 315 - Prob and Stat for Engineers	3	Additional Writing	4	IND E 250 - Engineering Economy	4
	-	-	-	Technical Elective	3
Qtr. Total:	15	Qtr. Total:	17	Qtr. Total:	15

#### **Fourth Year**

Autumn Quarter	<u>cr</u>	Winter Quarter	<u>cr</u>	Spring Quarter	<u>cr</u>
Technical Elective	3	CEE 440 - Professional Practice Studio	2	CEE 444/445 – Capstone Design	5
Technical Elective	3	Technical Elective	3	Technical Elective	3
E&S Elective	3	E&S Elective	4	E&S Elective	3
VLPA / I&S /DIV	5	VLPA / I&S	5	E&S Elective	3
Qtr. Total:	14	Qtr. Total:	14	Qtr. Total:	14

= Placement Requirements

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