

Environmental Engineering—Major Requirements for BS Degree

Effective Fall 2017

University of California, Merced

Anticipated Graduation Date (ex: May 2021) \_\_\_\_\_

Full Name: \_\_\_\_\_ ID #: \_\_\_\_\_ Email \_\_\_\_\_

Requirement	Course Title	Grade	Units or # Required	Term/Year Completed	Substitute Approved
<b>UCM Requirements</b>					
-UC Entry Level Writing			n/a		
-American History/Institutions			n/a		
-CORE 001	World at Home I		1 course		
-WRI 010	College Composition		1 course		
<b>School Requirements</b>					
-MATH 021	Calculus I Phys Sciences & Eng		4 units		
-MATH 022	Calculus II Phys Sciences & Eng		4 units		
-MATH 023	Vector Calculus		4 units		
-MATH 024	Linear Algebra and Differential Equations		4 units		
-MATH 032	Statistics		4 units		
-PHYS 008	Introductory Physics I		4 units		
-PHYS 009	Introductory Physics II		4 units		
-ME 021	Engineering Computing		4 units		
-Science Course	BIO 001, BIO 005, ESS 001, or ESS 005		4 units		
-Arts/Humanities GE			3-4 units		
-Social Science GE			3-4 units		
<b>Major/Core Requirements</b>					
-ENGR 097/197 or SSHA GE			3 units		
-Upper-division Writing Course			4 units		
<b>Engineering Fundamentals</b>					
-ENGR 057	Statics and Dynamics		4 units		
-ENGR 120	Fluid Mechanics		4 units		
-ENGR 155	Engineering Economics		3 units		
<i>And choose 7 units from the following:</i>					
-ENGR 045*	Introduction to Materials		4 units		
-ENGR 065*	Circuit Theory		4 units		
-ENGR 130*	Thermodynamics		3 units		
-ENGR 151*	Strength of Materials		4 units		
-ENGR 180	Spatial Analysis & Modeling		4 units		
* Strongly recommended for environmental engineering students preparing for the Fundamentals of Engineering (FE) examination					
<b>Environmental Engineering Core</b>					
-ENVE 020	Intro to Env Sci & Tech		4 units		
-ENVE 100	Environmental Chemistry		4 units		
-ENVE 110	Hydrology & Climate		4 units		
-ENVE 130	Meteorology & Air Pollution		4 units		
-ENVE 160	Sustainable Energy		4 units		
-ENVE 190	Environmental Engineering Capstone Design		3 units		
<b>Additional Degree Requirements</b>					
-ENGR 191	Professional Seminar		1 unit		
-CHEM 002	General Chemistry I		4 units		
-CHEM 010	General Chemistry II		4 units		
Choose a minimum of 15 units from Technical Electives	See page 2 for specifics		15 units		

Notes/Comments
<b>Advisor Signature/Date:</b>
<b>Student Signature/Date:</b>

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**Service Learning/Freshman Seminar/SSHA GE**

3 units of ENGR 097/ENGR 197, or one 3-4 unit SSHA GE course.

Term / Course / Team or Title / Units

1.
2.
3.

**Technical Elective Courses**

- Choose a minimum of 15 units
- At least **one** field methods (F) course is required
- At least **one** upper-division earth systems sciences course
- At least **one** upper-division environmental biology course
- A max of 4 units of Service Learning\* and/or Undergraduate Research may be used
- \*Service Learning units counted as technical electives may not be counted as GE

**Field Methods (choose 1)**

- ENVE 181 (Field Methods in Snow Hydrology)
- ENVE 182 (Field Methods in Surface Hydrology)
- ENVE 183 (Field Methods in Subsurface Hydrology)
- ENVE 184 (Field Methods in Environmental Chemistry)

**Earth Systems Science (choose 1)**

- ESS 103 (Geochemistry of Earth Systems) – 3 units
- ESS 105 (Biogeochemistry) – 3 units
- ESS 112 (Subsurface Hydrology) – 4 units
- ESS 170 (Fundamentals of Soil Science) – 3 units

**Environmental Biology (choose 1)**

- ESS 105 (Biogeochemistry)
- ESS 120 (Intro to Ecological and Environmental Microbiology) – 4 units
- ESS 124 (Terrestrial Ecosystem Ecology) – 3 units
- ESS 148 (Fundamentals of Ecology) – 4 units
- ESS 149 (Conservation Biology) – 4 units

The remaining technical elective units may be chosen from the following courses or any of the above courses:

- |          |  |
|----------|--|
| ENVE 105 | ENVE 160                               |
| ENVE 114 | ENVE 162                               |
| ENVE 116 | ENVE 164                               |
| ENVE 118 | ENVE 170                               |
| ENVE 121 | ENVE 171                               |
| ENVE 132 | ENVE 176                               |
| ENVE 140 | ENGR 180                               |
| ENVE 152 | ENGR 097/197 or ENVE 195 (max 4 units) |
| ENVE 155 | ESS 105                                |

Course Dept. #	Course Title	Grade	Units	Term/Year Completed

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