ENVIRONMENTAL ENGINEERING DEGREE REQUIREMENTS 2018-2019 *** LOWER DIVISION ***

Course	*Title*	*Units*	*Qtr(s) Offered*	*Prerequisites & Enrollment Restrictions* *Notes and web links to resources*
MAT 21A*	Calculus ***D***	**4**	F W S	2 yrs high school algebra, plane trig, plane & analy. geometry & placement by exam
MAT 21B*	Calculus ***D***	**4**	F W S	MAT 21A w/ C- or better → **assistance in Math:**
MAT 21C*	Calculus ***D***	**4**	F W S	MAT 21B w/ C- or better **https://www.math.ucdavis.edu/resources/learning/**
MAT 21D*	Vector Analysis ***D***	**4**	F W S	MAT 21C w/ C- or better *and* **http://success.ucdavis.edu**
MAT 22A*	Linear Algebra	**3**	F W S	MAT 21C w/ C- or better, Matlab (or MAT 22AL concurrently)
MAT 22B*	Differential Equations	**3**	F W S	MAT 22A w/ C- or better
PHY 9A*	Classical Physics ***L/D***	**5**	F S	MAT 21B → **assistance in Physics:**
PHY 9B*	Classical Physics ***L/D***	**5**	F W	PHY 9A, MAT 21C; MAT 21D (MBTC) **http://success.ucdavis.edu**
CHE 2A*	General Chemistry ***L/D***	**5**	F W	Placement by exam score or prep path → **assistance in Chem:**
CHE 2B*	General Chemistry ***L/D***	**5**	W S	CHE 2A w/ C- or better **http://success.ucdavis.edu**
CHE 2C	General Chemistry ***L/D***	**5**	F S	CHE 2B w/ C- or better
ENG 35*	Statics ***D***	**4**	F W S	MAT 21D (MBTC), PHY 9A all with C- or better; *Pass 1 Engineering only*
ECI 3 *(SS & OL)*	Civil Infrastructure and Society ***L***	**4**	F	MAT 21A (MBTC) [Fresh/Soph course - or replace with 4 units of ECI Elective]
ECI 16	Spatial Data Analysis ***L***	**2**	S	Restricted to Civil and Bio Sys Eng majors
ECI 40 *(AH)*	Intro to Env. Engineering	**4**	F	CHE 2B; *Pass 1 Engineering only*
***ATM or GEL elective**: select **1** of the following courses **(3-4** units required)*				
ATM 60	Intro Atmospheric Science ***D***	**4**	F	MAT 21A, PHY 9A
GEL 50	Physical Geology	**3**	F W	High school phys & chem -reduced unit credit if GEL 1 completed -
***PROGRAMMING requirement:** select **1** of the following courses **(4** units required)*				
ENG 6	Engineering Problem Solving (Matlab) ***D***	**4**	F W S	MAT 21A with C- or better; MAT 21B with C- or better (MBTC)
ECS 32A	Programming & Prob Solving (Python) ***D***	**4**	F W	
***LOWER DIVISION ENGLISH COMPOSITION requirement**: select **1** of the following courses **(4** units required) (may not simultaneously fulfill GE topical breadth)*				
UWP 1, 1V, or 1Y	Expository Writing ***D***	**4**	F W S	Compl. of Entry Level Writing Req. (pass with C- or better)
ENL 3 (English)	Introduction to Literature ***D***	**4**	F W S	Compl. of Entry Level Writing Req. (pass with C- or better)
COM 1 (Comp Lit)	Bks of West. Cul:Ancient World ***D***	**4**	F W S	Compl. of Entry Level Writing Req. (pass with C- or better)
COM 2	Bks of West. Cul:Mid Ages-Enlight ***D***	**4**	F W S	Compl. of Entry Level Writing Req. (pass with C- or better)
COM 3	Bks of West. Cul:Modern Crisis ***D***	**4**	F W S	Compl. of Entry Level Writing Req. (pass with C- or better)
COM 4	Bks of the Contemporary World ***D***	**4**	F W S	Compl. of Entry Level Writing Req. (pass with C- or better)
NAS 5 (Native Amer Std)	Intro to Native American Literature ***D***	**4**	F W S	Compl. of Entry Level Writing Req. (pass with C- or better)

***GENERAL EDUCATION (GE) requirement:** ~17-21 additional units for Environmental Engineering majors*

GE requirements, worksheets, & popular options can be found at: http://cee.engr.ucdavis.edu/ug-advising/ge/ GE may be taken anytime. Complete by graduation.

Minimum Requirements for College of Engineering Change of Major or Double Major:** Please consult with an advisor if you want to change majors

1. Be a registered student & completed at least 1 quarter at UCD (12 units)	**2**. Have fewer than 135 cumulative units (excluding AP units)
3. Be in good academic standing and meet minimum progress	**4**. Receive a letter grade for all courses that satisfy engineering degree requirements
5. *a)* Complete at least the following five courses: **MAT 21A, B, C, PHY 9A, and CHE 2A**, **and** *b)* have a **GPA of 2.00** or better in all completed **MAT, PHY, BIS, and CHE** courses required for your intended major, and receive a **C- or better** in each of these courses	
6. Have **no grade lower than a C-** in any completed **engineering course** required for your intended major(s) taken at UC Davis	**7.** Have a **2.00 UC GPA** in completed **engineering courses**
8. Have completed all transfer admission coursework and GPA requirements (**3.2 GPA from previous institution(s) for coursework below**). See https://www.ucdavis.edu/admissions/transfer/major-requirements-college-engineering for details. For transfer students who have not completed all transfer admission requirements at their previous institution, they must earn a 2.0 GPA or higher in these remaining courses at UC Davis, and receive a C- or better in each of these 15 courses: **MAT 21A, B, C, D, MAT 22A, B, CHE 2A, B, C, PHY 9A, B, ENG 35, Select 1: ENG 6, ECS 30, 32A, Select 1: GEL 50, ATM 60, Select 1: UWP 1, 1V, 1Y, ENL 3, COM 1, 2, 3, 4, NAS 5.** Additional courses are required for the double major: PHY 9C & Select 1: ENG 3, CMN 1, 3	
******Requirements subject to change. See http://engineering.ucdavis.edu/undergraduate/advising/ for current requirements.	

MINIMUM 2.00 UC GPA and MINIMUM 2.00 ENGINEERING GPA required to receive degree certification.

First-Year Seminar offerings: http://fys.ucdavis.edu/student/index.html

First Year (0-44.9 units) — *Example Schedule* — Sophomore (45-89.9 units)

Fall		*Winter*		*Spring*		*Fall*		*Winter*		*Spring*	
MAT 21A	4	MAT 21B	4	MAT 21C	4	MAT 21D	4	MAT 22A (22A Lab)	3(1)	MAT 22B	3
CHE 2A	5	CHE 2B	5	PHY 9A	5	PHY 9B	5	ENG 6 or ECS 32A	4	ENG 35	4
ECI 3	4	ENL Comp	4	CHE 2C	5	ECI 40	4	GE Elective	3	ECI 16	2
GE Elective	3	GE Elective	4		14	GEL 50 or ATM 60	3-4	GE Elective	3	GE Elective	4
	16		17				16-17		14	URE	3
											16

(MBTC) *= Course may be taken concurrently* ***L*** *= Course has a Lab* ***D*** *= Course has a Discussion* ***URE****= Unrestrictive Elective*
GENERAL EDUCATION: AH*= Arts & Humanities* ***SS****=Social Science* ***OL****=Oral Skills*

**** = C- or better grade in this course is a prerequisite for most engineering coursework (both lower and upper division). It is always an instructor's option to drop students without the posted prerequisites for their course. Engineering instructors will exercise this option frequently.***

Course offerings & prerequisites are subject to change

updated 7/11/2018

ENVIRONMENTAL ENGINEERING DEGREE REQUIREMENTS 2018-2019 *** UPPER DIVISION ***

Course	Title	Units	Qtr(s) Offered	Prerequisites & Enrollment Restrictions	Notes
Select 1 of the following courses (4 units required)					
ECI 100*	Fluid Mechanics for Civil/Env Eng. ***L***	**4**	F W	ENG 35, MAT 22B, PHY 9B all with C- or better	
ENG 103*	Fluid Mechanics ***D***	**4**	F W S	ENG 35, MAT 22B, PHY 9B all with C- or better	
ENG 106 *(SS & SL)*	Engineering Economics	**3**	W	Upper division standing in Engineering	
ECI 114 *(QL)*	Probabilistic Sys. Analy. for Civ. Engrs.	**4**	W S	MAT 21C w/ C- or better; Pass 1 majors only	
ENG 105 *(VL)*	Thermodynamics	**4**	F W S	MAT 22B, PHY 9B both with C- or better	
ECI 140A*	Environmental Analysis of Aqueous Systems ***L***	**4**	W	CHE 2B w/ C- or better; Pass 1 restricted to EENV	
ECI 140B*	Chem. Princip. for Environmental Engineering	**4**	F	CHE 2B w/ C- or better; ECI 140A&B not open to students who completed ECI 140	
ECI 140C*	Bio. Princip. for Environmental Engineering	**4**	W	ECI 140A or ECI 140B w/ C- or better	
ECI 140D*	Water & Wastewater Treatment Sys. Design ***L***	**4**	S	ENG 103 or ECI 100; ECI 140A or 140B or 140C or 148A both w/ C- or better	
ECI 123 *(SS, ACGH & DD)*	Urban Systems & Sustainability	**4**	S	Upper division standing; Pass 1 majors only	
ECI 149*	Air Pollution ***D***	**4**	W	MAT 21D & 22B; CHE 2B & ECI 100 or ENG 103 both w/ C- or better	
ECI 150	Air Pollution Cont. Sys. Design ***D***	**4**	S	ECI 149 w/ C- or better	
ECI 171*-171L	Soil Mechanics & Lab	**4/1**	W S	ECI 100 or ENG 103 (MBTC); ENG 104 w/ C- or better **171L concurrently**	
ECI 141*-141L	Engineering Hydraulics & Lab	**3/1**	F S	ECI 100 or ENG 103 w/ C- or better	
Select 1 of the following courses (4 units required)					
ECI 145	Hydraulic Structure Design ***L/D***	**4**	S	ECI 141 w/ C- or better	
ECI 144	Groundwater Systems Design	**4**	W	ECI 141	

Senior Design Experience* (SDE) *Requirement: (8 units required) courses must be taken consecutively & must be in final year of study					
ECI 193A *(WE)*	ECI Senior Design ***L***	**4**	W	ECI 140D & one of the following courses: ECI 140B, 140C, 149 & 150; all w/C- or better	
ECI 193B *(WE)*	ECI Senior Design ***L***	**4**	S	ECI 193A – In Progress Grading for ECI 193A&B – final grades posted in Spring	

UPPER DIVISION ENGLISH COMPOSITION requirement: *satisfy by Exam (**0** units) - or take **ONE** of the UWP courses listed below (**4** units)*

English Composition Exam (given 4th Saturday of each quarter – no more than 2 chances to pass the exam – low pass rate in recent offerings)
Exam details at: http://writing.ucdavis.edu/compexam

UWP 101	Advanced Composition ***D***	**4**	F	W	S	One course: UWP 1, 1V, 1Y, ENL 3, COM 1, 2, 3, 4, NAS 5; Upper div. standing (pass with C- or better)
UWP 102E	Writing in the Disciplines: Engineering ***D***	**4**	F	W	S	One course: UWP 1, 1V, 1Y, ENL 3, COM 1, 2, 3, 4, NAS 5; Upper div. standing (pass with C- or better)
UWP 102G	Writing in the Disciplines: Environmental ***D***	**4**			S	One course: UWP 1, 1V, 1Y, ENL 3, COM 1, 2, 3, 4, NAS 5; Upper div. standing (pass with C- or better)
UWP 104A	Writing in the Professions: Business ***D***	**4**	F	W	S	One course: UWP 1, 1V, 1Y, ENL 3, COM 1, 2, 3, 4, NAS 5; Upper div. standing (pass with C- or better)
UWP 104E	Writing in the Professions: Science ***D***	**4**	F	W	S	One course: UWP 1, 1V, 1Y, ENL 3, COM 1, 2, 3, 4, NAS 5; Upper div. standing (pass with C- or better)
UWP 104T	Writing in the Professions: Technical ***D***	**4**	F	W	S	One course: UWP 1, 1V, 1Y, ENL 3, COM 1, 2, 3, 4, NAS 5; Upper div. standing (pass with C- or better)

Example Schedule

Junior (90-134.9 units)

Fall		***Winter***		***Spring***	
ENG 103/ECI 100	4	ECI 140A	4	ECI 140D	4
ECI 140B	4	ECI 140C	4	ECI 123	4
URE	4	ENG 106	3	ECI 141& L	4
URE	4	ECI 114	4	URE	4
	16		15		16

Senior (135 or more units)

Fall		***Winter***		***Spring***	
Upper Div Comp	0-4	ECI 193A	4	ECI 193B	4
ENG 105	4	ECI 149	4	ECI 150	4
URE	4	ECI 171 & L	5	ECI 145 or 144	4
URE	4	URE	3		12
	12-16		16		

L *= Course has a Lab* ***D*** *= Course has a Discussion* ***URE****=Unrestrictive Elective*

GENERAL EDUCATION: SS*=Social Science* ***ACGH****= American Cultures, Governance & History* ***DD****=Domestic Diversity*
VL*= Visual Literacy* ***QL****= Quantitative Literacy* ***WE****= Writing Experience* ***SL****= Scientific Literacy*

**** = C- or better grade in this course is a prerequisite for some engineering coursework. It is always an instructor's option to drop students without the posted prerequisites for their course. Engineering instructors will exercise this option frequently.***

The Environmental Engineering degree is NOT (YET) accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org

We recommend that students interested in Environmental Engineering pursue the Civil & Environmental Engineering double major. (Civil Engineering is accredited by ABET.)

Course offerings & prerequisites are subject to change

updated 7/11/2018

***Close to Graduation*? Two separate websites to visit – one for degree certification/diploma and one to participate in a ceremony:**
1. Graduation Online Application (apply qtr before completing coursework): **http://registrar.ucdavis.edu/graduation**
2. Participate in Commencement (June or December ceremony): **http://commencement.ucdavis.edu/registration.html**
MINIMUM 2.00 UC GPA and MINIMUM 2.00 ENGINEERING GPA required to receive degree certification.

Academic Advisor Contact Information & Useful Websites:	
Civil & Environmental Engineering Program Advisor & Peer Advisor: civiladvising@ucdavis.edu, 2015 Ghausi Hall **College of Engineering Undergraduate Education Office,** 1050 Kemper Hall Main phone number: 752-1979 Engineering Peer Advisors: 752-0553	
Civil & Environmental Engineering: **http://cee.engr.ucdavis.edu**	*OASIS Student Advising:* **http://oasis.ucdavis.edu**
College of Engineering: **http://engineering.ucdavis.edu**	*Advising Appointment System:* **https://appointments.ucdavis.edu/**
Office of the Registrar (Online Catalog & more): **http://registrar.ucdavis.edu**	*Schedule Builder:* **http://sisweb.ucdavis.edu/**
Class Search Tool: **http://classes.ucdavis.edu**	*Equivalent courses at Community Colleges:* **http://www.assist.org**
Summer Sessions: **http://summer-sessions.ucdavis.edu**	*Internship & Career Center:* **http://icc.ucdavis.edu**
Undergrad Research Center: **http://undergraduateresearch.ucdavis.edu**	*EIT/FE Exam* **http://ncees.org/engineering/fe/**
Study Abroad: **http://studyabroad.ucdavis.edu/**	*My Degree:* **https://mydegree.ucdavis.edu**

Academic Standing is determined by **grade point average (GPA)** from both the most recent quarter **and** the cumulative/UC GPA at the end of Fall, Winter and Spring Quarter; as well as units completed toward **Minimum Progress (MP)** (must complete 12 units per quarter). **Good Standing** = GPA of 2.00 or above (quarterly and cumulatively) and satisfaction of MP.
Academic Probation (AP) = GPA less than 2.00, but not less than 1.50, for the quarter, and/or GPA less than 2.00 for all courses taken within UC, and/or MP less than 12 units per quarter.
Subject to Disqualification (SD) = GPA less than 1.50 for the quarter, and/or GPA less than 1.50 for all courses taken within UC, and/or MP less than 12 units per quarter.

Course Repeat Policy - Students may repeat one time for credit a course in which they received a D+, D, D-, F or NP. The second (i.e. repeat) grade replaces the first grade in the GPA, up to a 16 unit maximum (course must be repeated at UC). After 16 units, both grades remain in the GPA. Both grades remain on the transcript for all repeated coursework. Repeating a course more than once requires approval via a Multiple Repeat Petition, available on OASIS.

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CIVIL AND ENVIRONMENTAL ENGINEERING FACULTY 2018-2019 Additional info: http://cee.engr.ucdavis.edu/people/faculty-directory/

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