Environmental Engineering B.S.E.V.

120 credits, 2022/2023 Catalog

First Year

Fall Semester		Spring Semester	
3	ENC 1101 Composition I	3	ENC 1102 Composition II
4	***MAC 2281 or MAC 2311 Calculus I***	4	***MAC 2282 or MAC 2312 Calculus II***
3	***CHM 2045 Chemistry I***	3	***PHY 2048 General Physics I***
1	***CHM 2045L Chemistry I Lab***	1	***PHY 2048L General Physics I Lab***
0	EGN 3000 Foundations of Engineering	3	CHM 2046 Chemistry II
3	EGN 3000L Foundations of Eng Lab (TGEC)	1	CHM 2046 Chemistry II Lab
14	*Total Credits*	15	*Total Credits*

Second Year

Fall Semester		Spring Semester		Summer	
4	***MAC 2283 or MAC 2313 Calculus III***	3	EGN 3433 Modeling & Analysis of Syst	R	BSC 2010 Biology I
3	***PHY 2049 General Physics II***		or MAP 2302 Differential Equations	R	BSC 2010L Bio. I Lab
1	***PHY 2049L General Physics II Lab***	3	*EGN 3353 Basic Fluid Mechanics*	3	**St. GenEd Core Social
3	*EGN 3311 Statics*	R	EGN 1113 Intro to Design Graphics		Science Elective
2	ENV 2061 Eng Sustainable & Healthy Env	3	EGN 4453 Numerical & Computer Tools I	3	EGN 3615 Engr.
!	**Apply for Progression to Upper Division**	3	ENV 4001 Environmental Syst. Eng.		Economics (TGED)
		1	ENV 4004L Environmental Syst. Eng. Lab		
13	*Total Credits*	*15*	*Total Credits*	*10*	*Total Credits*

Third Year

Fall Semester		Spring Semester		Summer
3	EGN 3343 Thermodynamics	3	CWR 4202 Hydraulics	**Recommended**
3	EGN 3443 Probability & Statistics for Eng (TGEI)	1	CWR 4202L Hydraulics Lab	**Internship/Co-op**
3	ENV 4053C Fate & Transport of Chemicals	3	ENV 4612 Green Engr for Sustainability	List name and position
	In the Environment	R	GLY 3850 Geology for Engineers	of company/employer
3	*General Elective (Tech Elective List)	3	St. General Ed Core Humanities Elective	
12	*Total Credits*	*13*	*Total Credits*	

Fourth Year

Fall Semester		Spring Semester	
3	ENV 4417 Water Quality and Treatment	3	CWR 4812 Capstone Water Resources/Env
3	ENV 4102 Air Pollution Fundamentals		Design (TGEH)
3	ENV 4620 ENVISION Sustainable Communities	3	CGN 4122 Prof/Ethical Issues in Eng (TGEE)
3	CWR 4540 Water Resources Eng. I	3	ENV 4071 Environmental Site Assessment
3	*General Elective (Tech Elective List)	3	*General Elective (Tech Elective List)
!	**Apply for Graduation**		
15	*Total Credits*	12	*Total Credits*

Notes: Courses in bold must be completed with an overall grade point average of 3.0, see overleaf.

R – Required supporting courses fpr the major (4 courses; 10 credit hrs) not included in 120 total program hrs.

*** Unrestricted/General Elective (Students strongly encouraged to choose from the technical elective list)**

****** Students must meet the Civic Literacy requirement with credit for AMH 2020, POS 2041 **and** passing the Civic Literacy test.

TGEC = Gen Ed Creative Thinking, TGEI = Gen Ed Information & Data Literacy, TGED = Gen Ed Human & Cultural Diversity

TGEE = Gen Ed Ethical Reasoning & Civic Engagement, TGEH = Gen Ed High Impact Practice Capstone

Environmental Engineering Requirements for Progression to Upper Division

1. Completion of the following courses with a minimum grade of C and a cumulative **3.0 GPA*** (based on best attempt with maximum two attempts) for the following courses:
   - ___ **Calculus I or Engineering Calculus I (MAC 2311 or MAC 2281)**
   - ___ **General Chemistry I and lab (CHM 2045 & CHM 2045L)**
   - ___ **Calculus II or Engineering Calculus II (MAC 2312 or MAC 2282)**
   - ___ **Calculus-based Physics I with lab (PHY 2048 and PHY 2048L)**
   - ___ **Calculus III or Engineering Calculus III (MAC 2313 or MAC 2283)**
   - ___ **Calculus-based Physics II with lab (PHY 2049 and PHY 2049L)**
2. Need a USF GPA and an Overall GPA of 2.0 or better

Required Supporting Courses (10 credit hours)

Courses required for the major but are not counted in the total program hours of 120 credit hours. The degree will not be awarded if these courses have not been taken by the end of the student's final semester.

- Biology I Cellular Processes and Lab (BSC 2010 and BSC 2010L), 4 credit hours
- Intro to Design Graphics (EGN 1113 or for transfers ETD 1320), 3 credit hours
- Geology for Engineers (GLY 3850) or for transfers Intro to Earth Science (ESC 2000) or Intro Physical Geology (GLY 2010), 3 credit hours

Continuation and Graduation Requirements

Reference Catalog: https://catalog.usf.edu/preview_program.php?catoid=17&poid=7434

- Continuation requires a minimum grade of C- for the following courses: **EGN 3311 Statics and EGN 3353 Basic Fluid Mechanics**
- Unless otherwise stated, the minimum acceptable grade in all BSEV required courses is a C- or higher. A total of only two D grades are allowed in all BSEV required Basic Engineering, and most specialization courses.
- Students must have and maintain a minimum **2.0 Semester GPA**, 2.0 Math and Science GPA, 2.0 Engineering GPA, 2.0 Specialization GPA, 2.0 USF GPA, and 2.0 Overall GPA.
- All math, science, engineering, and major/specialization courses must be successfully completed in no more than **two** registered attempts. Grades of W, IF, U, and R are considered attempts.

Course Equivalencies

Courses at USF	**Courses at a Florida State Institution**
MAC 2281 Engineering Calculus I or MAC 2311 Calculus I	MAC X311 **or** MAC X281
MAC 2282 Engineering Calculus II or MAC 2312 Calculus II	MAC X312 **or** MAC X282
MAC 2283 Engineering Calculus III or MAC 2313 Calculus III	MAC X313 **or** MAC X283
MAP 2302 Differential Equations or EGN 3433 Modeling Analysis of Eng Systems	MAP X302 **or** MAP X305
CHM 2045/CHM 2045L General Chemistry I with Lab Or CHS 2440/2440L General Chemistry for Engineers with lab	CHM X045/X045L or CHM X045C or CHM X041/X045L or CHS X440/X440L
PHY 2048/2048L General Physics I with PHY 2048L	PHY X048/X048L or PHY X048C or PHY X043/X048L
PHY 2049/2049L General Physics II or PHY 2061 Enriched Physics II with PHY 2049L	PHY X049/X049L or PHY X049C or PHY X044/X049L