

# B.S. in Environmental Engineering

Catalog Year 2022–23

Below is the *advised sequence* of courses for this degree program as of 7/12/22.

Official degree requirements and course prerequisites are found in the University General Catalog; prerequisites are subject to change.

Course Number and Title	Units	Prerequisites/Enrollment Requirements
<b>1<sup>st</sup> Semester</b>		
MATH 122A/B or MATH 125 Calculus I with Applications	5/3	Appropriate Math Placement
CHEM 141/143 General Chemistry Lecture I: Quantitative or *CHEM 151 or 161/163	4	Appropriate Math Placement
ENGL 101 or 107 or 109H First-Year Composition	3	
ENGR 102A/B Introduction to Engineering or ENGR 102	3	<u>ENGR102A</u> : MATH 112; <u>ENGR102B</u> : Concurrently enrolled or completion of MATH 122B or 125; FR & SOPH Status
UNIV 101 Intro to the General Education Experience	1	
Semester Total		<b>16/14</b>
<b>2<sup>nd</sup> Semester</b>		
MATH 129 Calculus II	3	MATH 122B or 125 with C or better
*CHEM 152 or 142/144 Chemical Thinking II or 162/164 or MSE 110	4	<u>MSE 110</u> : CHEM 151 or 141/143 or 161/163 <u>CHEM 152</u> : CHEM 151 or 141/143 or 161/163 and appropriate Math Placement
ENGL 102 or 108 or 109H First-Year Composition	3	ENGL 101 or ENGL 107
*PHYS 141 Introductory Mechanics or PHYS 161H	4	MATH 122B or 125 or appropriate Math Placement Level
General Education: Exploring Perspectives (Artist)	3	
Semester Total		<b>17</b>
<b>3<sup>rd</sup> Semester</b>		
CHEE 270 Intro to Environmental Engineering	4	MATH 122B or 125 & CHEM 151 or 141/143 or 161/163; Completion or concurrent enrollment MATH 129, CHEM 152 or 142/144 or 162/164 or MSE 110
CHEE 205 Intro to MATLAB and Python	3	MATH 122B or MATH 125
MATH 223 Vector Calculus	4	MATH 129 with C or better
CHEM 241A Lectures in Organic Chemistry or CHEM 242A or 246A	3	CHEM 152 or 162/164
CHEM 243A Organic Chemistry Laboratory I or CHEM 247A	1-2	CHEM 152 or 162/164; Prerequisites or concurrent in CHEM 241A or 242A or 246A
General Education: Exploring Perspectives (Humanist)	3	
Semester Total		<b>18-19</b>
<b>4<sup>th</sup> Semester</b>		
CHEE 202 Elements of Chemical & Environmental Engineering II	4	CHEE 201 or CHEE 270, and (CHEE 201L and AME 105 and AME 205 or CHEE 205); Completion or concurrent enrollment in MATH 254
CHEE 300 Intro to Water Chemistry for Engineers	3	CHEM 241A or 242A or 246A and CHEM 243A or 247A and CHEE 270
MATH 254 Intro to Ordinary Differential Equations	3	MATH 129 or 223 with C or better
PHYS 241 Introductory Electricity and Magnetism or PHYS 261H	4	For PHYS 241 or 261H: PHYS 141 or 161H; MATH 129 or appropriate Math Placement Level
General Education: Exploring Perspectives (Social Scientist)	3	
Semester Total		<b>17</b>

\*Each of the following foundational science courses satisfies the requirements for General Education: Exploring Perspectives (Natural Scientist): CHEM 151 or 152 or 161 or 162; or PHYS 141 or 161H.

Advanced Standing is required for 300- and 400-level engineering courses (see your academic advisor for details).

Course Number and Title	Units	Comments
<b>5<sup>th</sup> Semester</b>		
CHEE 330 Fluid Mechanics for Environmental Engineers	4	
CHEE 377 Microbiology for Engineers	3	
CHEE 370R Environmental and Water Engineering	3	
Earth Science Elective	3	
†General Education: Building Connections	3	
Semester Total	<b>16</b>	
<b>6<sup>th</sup> Semester</b>		
CHEE 476 Wastewater Treatment Design System (Spring)	3	
SIE 305 Introduction to Engineering and Probability and Statistics or MATH or Data 363 Introduction to Statistical Methods	3	
ATMO 469B Air Pollution II: Aerosols	3	
Technical Elective	3	Consult your major advisor for course approval
†General Education: Building Connections	3	
Semester Total	<b>15</b>	
<b>7<sup>th</sup> Semester</b>		
CHEE 442 Chemical Engineering Design Principles (Fall only, must take CHEE 443 in spring semester)	3	
CHEE 475 Water Treatment System Design (Fall)	3	
CHEE 400A Environmental Engineering Laboratory I	1	
Advanced Science Course: EHS 418, ATMO 469A, ENVS 464 (Fall Only)	3	
Engineering Elective	3	Consult your major advisor for course approval
†General Education: Building Connections	3	
Semester Total	<b>16</b>	
<b>8<sup>th</sup> Semester</b>		
CHEE 443 Chemical Engineering Plant Design (if on CHEE 442/443 sequence)	3	
CHEE 474 Fate and Transport Processes in Environmental Engineering	3	
CHEE 400B Environmental Engineering Laboratory II	1	
CHEE 478 Introduction to Hazardous Waste Management	3	
Technical Elective	1 - 3	Depends on selection of General Education course; Consult with your major advisor for course approval
Engineering Elective	3	Consult your major advisor for course approval
UNIV 301 General Education Portfolio	1	
Semester Total	<b>15-18</b>	

†Students should work closely with their academic advisor to select General Education: Building Connections courses; some course work in the major, such as some Technical Elective courses, may also fulfill General Education: Building Connections requirements.