

BESA-Environmental Engineering

Fall 2023

Bachelor of Engineering Studies and Arts (BESA)

College of Engineering (ENG) Concentration in Environmental Engineering

95 units (minimum)

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Mathematics & Science Prerequisites

21-120	Differential and Integral Calculus (Gen Ed)	10
21-122	Integration and Approximation (Gen Ed)	10
21-254	Linear Algebra and Vector Calculus for Engineers	11
21-260	Differential Equations	9
15-110	Principles of Computing	10
33-141	Physics I for Engineering Students (Gen Ed)	12
33-142	Physics II for Engineering and Physics Students	12
09-105	Introduction to Modern Chemistry I	10
or 09-111	Nanolegos: Chemical Building Blocks (9)	

Environmental Engineering Courses

77 units

12-100	Exploring CEE: Infrastructure and Environment in a Changing World (Freshman year; co-req: 21-120, 33-141)	12
xx-xxx	2 nd Introduction to Engineering course, student's choice	12
12-200	CEE Challenges: Design in a Changing World (Fall, Sophomore year; prereq: 12-100)	9
12-221	Environmental Chemistry and Thermodynamics (Fall, Sophomore year; prereq: 09-105/09-111)	9
12-222	Environmental Chemistry Laboratory (Fall, Sophomore year; co-req: 09-101, 12-221)	3
12-271	Computation and Data Science for Civil & Environmental Engineering (Spring, Sophomore year; prereq: 15-110/15-112, 21-120, 21-122, 33-141)	9
12-351	Environmental Engineering (Spring, Junior year; prereq: 09-105/09-111; co-req: 21-260)	9
12-352	Environmental Engineering Lab (Spring, Junior year; co-req: 12-351)	3
12-355	Fluid Mechanics (Fall, Junior year; prereq: 21-260)	9
12-356	Fluid Mechanics Lab (Fall, Junior year; co-req: 12-355)	2

Electives

18 units minimum

Choose 18 units from the following EE courses with prerequisites in consultation with the concentration advisor:

12-201	Geology (Sophomore year)	9
12-301	CEE Projects: Integrating the Built, Natural and Information Environments (Fall, Junior year; prereq: 12-200 and 12-271)	9
12-353	Environmental Biology and Ecology (Spring, Junior year)	9
12-612	Intro to Sustainable Engineering (Fall, Senior year)	9
12-657	Water Resource Systems Engineering (Fall, Senior year; prereq: 12-355; co-req: 12-351)	9
03-121	Modern Biology	9

BESA Free Electives

Take any Carnegie Mellon course. A maximum of 9 units of physical education and/or military science may be counted toward this requirement.