

Civil Engineering (BESA Concentration)

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BESA Civil Engineering Concentration

(99 units minimum)

Mathematics & Science Prerequisites

		Units
21-120	Differential and Integral Calculus -(Gen Ed; prerequisite: 21-090)	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 -(Gen Ed)	10
or 15-112	Fundamentals of Programming and Computer Science	
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	Chemical Building Blocks	

Civil Engineering Courses (9 courses, 72 units)

12-100	Exploring CEE: Infrastructure and Environment in a Changing World -First-year; co-req: 21-120, 33-141	12
xx-xxx	2nd Introduction to Engineering course, student's choice	12
12-200	CEE Challenges: Design in a Changing World - Fall, Sophomore year; prereq: 12-100	9
12-212	Statics -Fall, Sophomore year; co-req: 12-100, 21-122, 33-141	9
12-233	CEE Infrastructure Systems in Action -Fall, Sophomore year; prereq: 12-100	2
12-231	Solid Mechanics -Spring, Sophomore year; prereq: 12-212	9
12-234	Sensing and Data Acquisition for Engineering Systems -Spring, Sophomore year	4
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
27-357	Introduction to Materials Selection -Spring, Junior year	6

Electives (3 courses, 27 units minimum)

Choose 27 units from the following CivE 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, 12-271	9
12-335	Soil Mechanics -Spring, Junior year; prereq: 12-231, 33-142; co-req: 12-355	9
12-355	Fluid Mechanics -Fall, Junior year; prereq: 21-260	9
12-356	Fluid Mechanics Lab -Fall, Junior year; co-req: 12-355	2
12-351	Environmental Engineering -Fall, Junior year; prereq: 09-105/09-111; co-req: 21-260	9
12-635	Structural Analysis -Fall, Senior year; prereq: 12-231	12
12-631	Structural Design -Spring, Senior year; prereq: 12-231; co-req: 27-357, 12-358	12