

# Civil Engineering

FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR	
FALL	SPRING	FALL	SPRING	FALL	SPRING	FALL	SPRING
CHEM 105aL (GE E)* 4	GESM (GE B)# 4	PHYS 152L PHYS 151L, (MATH 226) 4	CE 330 CE 119 2	CE 408 (MATH 245) 2	DESIGN ELECTIVE 4	WRIT 340 WRIT 150 4	ADVANCED COMPUTING ELECTIVE 4
WRIT 150 4	GE C 4	GE D* 4	CE 107 2	CE 334L CE 225 or AME 204, CHEM 105aLg, or 115aLg, PHYS 152L 4	CE 483 (CE 215) 4	DESIGN ELECTIVE 4	GE C 4
MATH 126 (GE F)* MATH 125 4	MATH 226 or MATH 229 MATH 126 or 129 4	MATH 245 MATH 226 or 229 4	GE A* 4	CE 358 CE 225 4	CE 451 CE 309 4	CE 471 MATH 226g or 227 or 229 4	CE 480 CE 408 and either CE 456, 457, 476 or 485 4
CE 106 2	PHYS 151L (GE E) MATH 125 or 126 or 226 4	CE 215 PHYS 151Lg 4	CE 225 CE 215 4	CE 456 CE 225 4	CE 467L CE 225 4	CE 453 CHEM 105aLg or 115aL, (CE 309) 4	CE ELECTIVE 2-4
ENGR 102 2	CE 108 2	CE 119 (MATH 245) 2	CE 309 MATH 226g or 229, (CE 225) 4	GE B 4	OPTIONAL ELECTIVE 2	OPTIONAL ELECTIVE 2	OPTIONAL ELECTIVE 3-5
OPTIONAL ELECTIVE 2							

## MATHEMATICS (12 UNITS)

**MATH 126 or MATH 129:** Calculus II\*

**MATH 226 or MATH 229:** Calculus III

**MATH 245:** Mathematics of Phys. and Engr.

## PHYSICS (8 UNITS)

**PHYS 151L:** Mechanics and Thermodynamics

**PHYS 152L:** Electricity and Magnetism

## OTHER SCIENCE (8 UNITS)

**CHEM 105aL:** General Chemistry\*

## GENERAL EDUCATION (32 UNITS)

**GE A** The Arts (1 Course)\*

**GE B** Humanistic Inquiry (2 Courses)

**GE C** Social Analysis (2 Courses)

**GE D** Life Sciences (1 Course)\*

**GE E** Physical Sciences (1 Course)\*

**GE F** Quantitative Reasoning (1 Course)\*

**GE G,H** Global Perspectives (2 Courses)\*

**GESM** General Education Seminar (1 Course)

## WRITING (8 UNITS)

**WRIT 150:** Writing and Critical Reasoning

**WRIT 340:** Advanced Writing

## ENGINEERING (72-74 UNITS)

**CE 106:** Introduction to Civil Engineering

**CE 107:** Intro. To Civil Engineering Graphics

**CE 108:** Intro. to CE Computer Methods

**CE 119:** Probability Concepts & Civil Engr

**CE 215:** Statics & Dynamics

**CE 225:** Mechanics of Deformable Bodies

**CE 309:** Fluid Mechanics

**CE 330:** Computational Methods in ENGR

**CE 334L:** Mechanical Behavior of Materials

**CE 358:** Elementary Theory of Structures

**CE 408:** Risk & Decision Analysis in Civil Engr.

**CE 450:** Coastal Engineering & Design

**CE 451:** Water Resources Coastal Engineering

**CE 453:** Water Quality Science & Engineering

**CE 456:** Structural Design I

**CE 457:** Structural Design 2

**CE 458:** Computational Structural Analysis

**CE 459:** Intro to Structural Dynamics

**CE 460:** Construction Engineering

**CE 465:** Water Supply & Sewerage System Design

**CE 467L:** Geotechnical Engineering

**CE 471:** Principles of Transportation Engr.

**CE 480:** Civil & Environmental Engineering  
Capstone Design

**CE 482:** Water & Wastewater Treatment Design

**CE 483:** Engineering Economics in Civil  
Engineering

**ENGR 102:** Engineering Freshman Academy

**CE ELECTIVE**

**DESIGN ELECTIVES**

**ADVANCED COMPUTING ELECTIVES**

## SPECIAL NOTES

**GE D (Biology Requirement):** Must be an approved BISC course as listed in your STARS report.

*Courses with the \* symbol may be satisfied with AP, IB or A-Level exams. See page 18 for more information.*

**GESM#:** GESM can be taken from GE categories: A, B, C, or D. Courses listed in the guide are options for a four-year course plan.

**GE:** Engineering students are encouraged to satisfy GE G and GE H with a course that also satisfies a Core Literacy. GE H may be satisfied by AP/IB. Additionally, your GESM course should be taken in categories A, B, or C only. See page 17 for more information and consult your advisor for detailed assistance.

**OPTIONAL ELECTIVES:** Consult with your academic advisor to explore optional elective courses. These courses are not required.

**CE 215, 225, AND 309:** Minimum grade of "C" is required.

**CIVIL ENGINEERING ELECTIVE:** Choose at least two units of upperdivision CE coursework that is not already required.

**DESIGN ELECTIVES:** Choose eight units from CE 450, 457, 465, 476, 482, or 485.

**ADVANCED COMPUTING ELECTIVE:** Choose one course from CE 423 or ENE 440.

**MATH 125:** For students starting with Calculus 1, the advanced computational course will be waived for your requirements.

## Optional Course Tracks for **Civil & Environmental Engineering**

The Civil & Environmental Engineering (CEE) curriculum covers foundational concepts for the first several semesters. Students following the standard program will have the opportunity to take more technical electives, while students following one of the optional course tracks will take specific courses towards that specialization.

### Construction

THIRD YEAR		FOURTH YEAR	
FALL	SPRING	FALL	SPRING
CE 408 (MATH 245) 2	DESIGN ELECTIVE 4	GE C 4	WRIT 340 WRIT 150 4
CE 334L CE 225 or AME 204, CHEM 105aLg, or 115aLg, PHYS 152L 4	CE 483 CE 215 2	CE 482 CE 467L 4	ADVANCED COMPUTING ELECTIVE 4
CE 358 CE 225 4	CE 451 CE 309 4	CE 471 MATH 226g or 227 or 229 4	CE 480 CE 408 and either CE 456, 457, 476 or 485 4
CE 456 CE 225 4	CE 467L CE 225 4	CE 460 4	CE ELECTIVE 2-4
GE B 4	OPTIONAL ELECTIVE 4	OPTIONAL ELECTIVE 2	OPTIONAL ELECTIVE 2-5

### Structural

THIRD YEAR		FOURTH YEAR	
FALL	SPRING	FALL	SPRING
CE 334L CE 225 or AME 204, CHEM 105aLg, or 115aLg, PHYS 152L 4	CE 457 CE 358L, CE 456 4	CE 471 MATH 226g or 227 or 229 4	CE 460 4
CE 358 CE 225 4	CE 483 CE 215 2	CE 408 (MATH 245) 2	ADVANCED COMPUTING ELECTIVE 4
CE 456 CE 225 4	CE 458 CE 358L 4	CE 459 CE 458 2	GE B 4
GE C 4	CE 467L CE 225 4	WRIT 340 WRIT 150 4	CE 480 CE 408 and either CE 456, 457, 476 or 485 4
OPTIONAL ELECTIVE 2	OPTIONAL ELECTIVE 4	CE 482 CE 467L 4	OPTIONAL ELECTIVE 2
		OPTIONAL ELECTIVE 2	

CIVIL & ENVIRONMENTAL

### Water Resources

THIRD YEAR		FOURTH YEAR	
FALL	SPRING	FALL	SPRING
CE 408 (MATH 245) 2	CE 465 CE 453 4	CE ELECTIVE 4	ADVANCED COMPUTING ELECTIVE 4
CE 334L CE 225 or AME 204, CHEM 105aLg, or 115aLg, PHYS 152L 4	CE 483 CE 215 2	CE 450 4	GE C 4
CE 358 CE 225 4	CE 451 CE 309 4	CE 471 MATH 226g or 227 or 229 4	CE 480 CE 408 and either CE 456, 457, 476 or 485 4
CE 456 CE 225 4	CE 467L CE 225 4	GE B 4	WRIT 340 WRIT 150 4
CE 453 CHEM 105aLg or 115aLg, (CE 309) 4	OPTIONAL ELECTIVE 4	OPTIONAL ELECTIVE 2	OPTIONAL ELECTIVE 2