

# Civil Engineering Technical Electives

Catalog Year Fall 2024 forward

Column 1: Course Name	Column 2: Course Number	Column 3: Course Name	Column 4: Course Number
Construction Methods (3)%	CCE 4004	Principles of Electrical Engineering (3)	EGN 3373
Estimating & Scheduling (3)%	CCE 4034	Entrepreneurship for Defense (3)	EGN 4630
Equipment & Productivity (3)%	CCE 4402	Vibrations (3)*	EML 4220
Construction Design (3)*%	CCE 4810C	Fund of Mech Behavior Materials (3)*	EMA 4223
Mechanical & Elect Systems (3)%	CCE 4813	Kinematics of Mechanisms (3)	EML 3262
Geotech II (3)	CEG 4012	Design/Analysis of Machine Comp (3)*	EML 3500
Geotech Methods (3)*	CEG 4203	Heat Transfer (3)*	EML 4142
Geotech Design (3)*	CEG 4801C	Intro to Vibrations and Controls (3)*	EML 4225
Structural Mechanics (3)	CES 4205	HVAC Systems Engineering (3)*	EML 4600
Steel Structures (3)	CES 4605	Applied HVAC Engineering (3)	EML 4602
Concrete Structures (3)	CES 4702	Advanced Calculus I (4)*	MAA 4226
Structural Design (3)	CES 4743C	Introduction Complex Variables (3)*	MAA 4402
Forensic Investigation for Eng (3)*	CGN 4120	Introduction to Graph Theory (3)*	MAD 4301
Intro to Smart Cities (3)	CGN 4309	Mathematical Modeling I (3)*	MAP 4103
Hydrology (3)	CWR 4120	Prob, Random Proc & Appl (3)*	MAP 4113
Hydrogeology (3)	CWR 4124	Vector and Tensor Analysis (3)*	MAP 4153
Water Resources Design (3)	CWR 4812C	Optimization (3)*	MAP 4171
Biological Process Control (4)	EES 4111C	Ordinary Differential Equations II (3)*	MAP 4303
Chemical Process Control (4)	EES 4202C	Intro to Partial Dif Eq (3)*	MAP 4341
Air Poll & Haz Waste Control (3)	ENV 4120	Intro to Partial Dif Eq II (3)*	MAP 4342
Air Pollution Design (3)*	ENV 4122C	Numerical Methods for Dif Eq (3)*	MAP 4371
Sustainable Res Mgmt (3)	ENV 4341	Numerical Methods for Comp Sci (3)*	MAP 4384
Wastewater Design (3)*	ENV 4433C	Matrix and Linear Algebra (4)	MAS 3105
Env Eng Ops & Processes (3)	ENV 4531	Linear Algebra (4)*	MAS 3106

Adv Eng Ops & Processes (3)*	ENV 4561	Intro to Number Theory (3)	MAS 3203
Water Treatment Design (3)*	ENV 4562C	Logic and Proof in Mathematics (3)	MHF 3302
Transp Engrg Systems (3)	TTE 4274	Urban and Regional Planning (3)	PAD 3330
Transp Analytics (3)	TTE 4300	Land Use and Planning (3)	PAD 4331
Urban Systems Design (3)	TTE 4601C	General Physics III (3)	PHY 3101
Analytical Chemistry (3)*	CHM 3120	Mechanics I (3)	PHY 3220
Physical Chemistry I (4)*	CHM 3410	Thermal and Statistical Physics (3)*	PHY 3513
Physical Chemistry II (3)*	CHM 3411	Statistical Methods II (3)	STA 4163
Applied Physical Chemistry (3)*	CHM 3422	Statistical Methods III (3)*	STA 4164
Intro to Programming with C (3)*	COP *223	Statistical Theory I (3)	STA 4321
Object Oriented Programming (3)*	COP *330	Statistical Theory II (3)*	STA 4322
Computer Science I (3)	COP 3502	Nonparametric Stat Methods (3)*	STA 4502
Computer Science II (3)*	COP 3503	Categorical Data Analysis (3)*	STA 4504
Analysis & Design of Aero Struct (3)*	EAS 4200		
Thermodynamics (3)	EGN 3343	*Additional prerequisites required	

**%CCE courses cannot be used as technical or depth electives for Civil/Construction double degree**

**CECE 5000 level courses (by override only) (min GPA req'd)\***

CCE 5006, CCE 5205, CCE 5220, CEG 5405, CES 5144, CES 5325, CES 5606, CES 5706, CES 5821, CGN 5340, CGN 5341, CGN 5506, CGN 5617, CGN 5877, CWR 5125, CWR 5205, CWR 5515, CWR 5545, CWR 5634, CWR 5999, EES 5318, ENV 5410, ENV 5505, ENV 5517, ENV 5636, TTE 5204, TTE 5531, TTE 5805, TTE 5835