

2019-20 Civil Engineering Professional Electives (Total of 15 cr-hrs required)

	Rubric	Number	Cr Hrs	Title	Offered	Prerequisite
At least two of these.	ECIV	414	3	Steel Design	F odd	ECIV 315 Structures II
	ECIV	415	3	Design of Masonry Structures	S even	ECIV 315 Structures II
	ECIV	416	3	Design of Wood and Timber Structures	S odd	ECIV 315 Structures II
	ECIV	484	3	Reinforced Concrete Design	F even	ECIV 315 Structures II
	ECIV	420	3	Earth and Foundation Engineering	S	ECIV 320 Geotechnical Engineering
	ECIV	425	3	Geotechnical Structures	F	ECIV 320 Geotechnical Engineering
	ECIV	431	3	Open Channel Hydraulics	F	ECIV 333 Water Resources Engineering
	ECIV	435	3	Closed Conduit Hydraulics	S	ECIV 333 Water Resources Engineering
	ECIV	451	3	Highway Pavements	S even	ECIV 350, ECIV 320
	ECIV	452	3	Traffic Engineering and ITS	F odd	ECIV 350, EGEN 350
	ECIV	454	3	Transportation Planning	S odd	ECIV 350, EGEN 350
	ECIV	456	3	Highway Geometric Design	F	ECIV 350, SRVY 230
	EENV	432	3	Advanced Engineering Hydrology	F	ECIV 333 Water Resources Engineering
	EENV	434	3	Groundwater Supply and Remediation	S	EGEN 335 Fluid Mechanics
	EENV	441	3	Natural Treatment Systems	S	EENV 340 Introduction to Environmental Engineering
EENV	443	3	Air Pollution Control	F even	EENV 340 Introduction to Environmental Engineering	
EENV	445	3	Hazardous Waste Treatment	F odd	EENV 340 Introduction to Environmental Engineering	
SRVY	474	3	Project Design in Surveying	S odd	SRVY 230 Surveying	
ECIV	307	3	Constr Estimating and Bidding	F,S	ECIV 202, ECIV 308	
ECIV	309	3	Building Information Modeling in Construction	F,S	ECIV 308 Constr Practice (Co-Req)	
ECIV	311	2	Construction Project Documentation	F,S	ECIV 308	
ECIV	334	3	Heavy Civil Construction Planning & Estimating	S	ECIV 307 or Consent of Instructor	
ECIV	404	3	Heavy Const Equip and Methods	F,S	See Catalog	
ECIV	405	3	Const Proj Planning Scheduling	F,S	ECIV 307	
ECIV	406	3	Sustainability in Construction	S	ECIV 308	
ECIV	417	3	Heavy Civil Construction Practices	F	ECIV 308	
ECIV	455	3	Data Acquisition & Analysis	S even	Knowledge of linear algebra, calculus & statistics	
EENV	440	3	Water Chemistry for Environmental Engineers	F	EENV 340 Introduction to Environmental Engineering	
EGEN	435	3	Fluid Dynamics	S	EGEN 335 Fluid Mechanics	
EGEN	415	3	Advanced Mechanics of Solids	F	EGEN 205 Mechanics of Materials	
SRVY	355	3	Surveying Calculations	S even	SRVY 230 Surveying	
SRVY	361	3	Intro to Legal Principles in Surveying	F even	SRVY 230 Surveying	
SRVY	362	3	Public Land Survey Systems	F odd	SRVY 230 Surveying	
SRVY	375	3	Analyt Photo/Remote Sensing	F odd	M 171 Calculus	
DDSN	245	3	Civil Drafting	F,S	DDSN 131 or DDSN 101	
ECIV	490	1-4	Undergraduate Research	F,S,Su		
ECIV	492	1-4	Independent Study	F,S,Su		
Max 3 cr total.	ECIV	498	1-3	Career Internship (3 cr max)	Su	
						A petitioned course.
						A course from a completed minor.
						A course from a prior/concurrent BS/BA degree.
					A course from a completed Honors program.	