

ARCE Tech Electives						
	Concentration	Pre-requisites	Notes	Offered		
				Fall	Spring	Rotating
CE 432 - Advanced Structural Design in Steel	Structures	CE 334 - Structural Dsgn Steel		X		
CE 434 - Dsgn Wood+Masonry Struc	Structures				X	
CE 435 - Prestressed Concrete Structures	Structures	CE 333 - Elem Structural Anlys, CE 335 - Structural Design in Concrete				X
CE 437 - Adv Struc Dsgn Concrete	Structures	CE 333 - Elem Structural Anlys, CE 335 - Structural Design in Concrete		X		
CE 431- Sustainable Materials Design Lab		CE 215- Mehcanics of Solids			X	
CE 482 - Construction Project Planning, Scheduling and Control	Construction Management				X	
CE 483 - Construc Cost Engr	Construction Management			X		
CE 485 - Construction Equipment and Methods	Construction Management				X	
AME 442A - HVAC System Design				See department for offerings		
ARC 321 - Building Technologies II				See department for offerings		
ARC 326 - Pre-Design				See department for offerings		
ARC 421 - Building Technologies III				See department for offerings		
ARC 461A - Water Efficiency in Buildings				See department for offerings		
ARC 461D- Computer Energy Analysis				See department for offerings		
ARC 461E-Sustainable Design and the LEED Initiative				See department for offerings		
ARC 461I				See department for offerings		
ARC 461M				See department for offerings		
ARC 461N				See department for offerings		
ARC 496B History + Theory Elective (specific subjects)				See department for offerings		
ARC 496D Technology Elective (only when topic is daylighting)				See department for offerings		
SBE 301 - Introduction to Design Thinking				See department for offerings		
Civil Tech Electives						
Design Based- CE students must take 2						
	Concentration	Pre-requisites	Notes	Offered		
				Fall	Spring	Rotating
CE 334 - Structural Design in Steel			Can only be used as tech elec. If student also took 335	X		
CE 335 - Structural Design in Concrete			Can only be used as tech elec. If student also took 334		X	
CE 441 - Earth Structures in Geotechnical Engineering	Geotechnical	CE 343 - Soil Mechanics			X	
CE 442 - Ground Improvement	Geotechnical	CE 343 - Soil Mechanics, Instructor Permission			X	X
CE 446 - Geotechnical Earthquake Engineering	Geotechnical	CE 343 - Soil Mechanics				?
CE 448 - Numerical Methods in Geotechnical Engineering	Geotechnical	CE 343 - Soil Mechanics				?
CE 422 - Open-Channel Flow	Hydraulics	Advanced Standing, CE 323 - Hydraulic Engineering and Design, Instructor Permission -		X		X
CE 424 - Sedimentation Engineering	Hydraulics			X		
BE 426 - Watershed Engineering	Hydraulics	Advanced Standing		See department for offerings		
CE 427 - Computer Aplcn:Hydraulic	Hydraulics	Advanced Standing, CE 323 - Hydraulic Engineering and Design, Instructor Permission -		X		
CE 429 - Special Topics in Hydraulics & Water Resources Engineering	Hydraulics	Advanced Standing, Instructor Permission -				As needed
BE 455 - Soil and Water Resources Engineering	Hydraulics			See department for offerings		
BE 456 - Irrigation Systems Design	Hydraulics			See department for offerings		
CE 475 - Water Treatment System Design	Hydraulics			X		

CE 482 - Construction Project Planning, Scheduling and Control	Construction Management				X	
CE 431- Sustainable Materials Design Lab	Structures	Advanced Standing, CE 215- Mechanics of Solids			X	
CE 432 - Advanced Structural Design in Steel	Structures	Advanced Standing, CE 334 - Structural Dsgn Steel		X		
CE 434 - Dsgn Wood+Masonry Struc	Structures	Advanced Standing, CE 333 - Elem Structural Anlys		X		
CE 435 - Prestressed Concrete Structures	Structures	Advanced Standing, CE 333 - Elem Structural Anlys, CE 335 - Structural Design in Concrete				X
CE 437 - Adv Struc Dsgn Concrete	Structures	Advanced Standing, CE 333 - Elem Structural Anlys, CE 335 - Structural Design in Concrete		X		
CE 438 - Behavior and Design of Structural Systems	Structures	Advanced Standing, CE 333 - Elem Structural Anlys, CE 335 - Structural Design in Concrete, CE 334 - Structural Dsgn Steel				X
CE 462 - Traffic Engineering and Operations	Transportation	Advanced Standing, CE 363 - Transport Eng+Pave Dsgn			X	X
CE 463 - Traffic Flow and Capacity Analysis	Transportation	Advanced Standing, CE 363 - Transport Eng+Pave Dsgn			X	
CE 465- Transportation Data Management and Analysis	Transportation	Advanced Standing			Even Spring	
CE 466 - Highway Geometric Design	Transportation	Advanced Standing, CE 363 - Transport Eng+Pave Dsgn		X		
<b>Analysis-Based</b>						
				<b>Offered</b>		
	<b>Concentration</b>	<b>Pre-requisites</b>		<b>Fall</b>	<b>Spring</b>	<b>Rotating</b>
CE 381 - Construction Engineering Management	Construction Management	Advanced Standing - , CE 210 - Engineering Graphics	Can only be used at tech elec. If student also took CE 307R		X	
CE 483 - Construc Cost Engr	Construction Management			X		
CE 485 - Construction Equipment and Methods	Construction Management				X	
CE 458 - Wastewater Treatment Operations and Reuse	Environmental	Advanced Standing, CE 218 or AME 331			Even	
CE 370R - Environmental and Water Engineering		Advanced Standing, concurrent enrollment in CE 218 or CHEE 203 or (prerequisite CHEE 270 AND prerequisite or concurrent	Can only be used at tech elec. If student also took CE 381		X	
CHEE 400R - Water Chemistry for Engineers	Environmental	Advanced Standing		See department for offerings		
CE 476 - Wastewater Treatment Design System	Environmental	Advanced Standing AND (CHEE 330 or CHEE 203 or CE 218) AND (CHEE 370R or CHEE 303), or instructor permission			X	
CE 478 - Introduction to Hazardous Waste Management	Environmental	Advanced Standing or Instructor Permission			X	
CE 402 - Intro Finite Elem Meth	Engineering Mechanics	CE 303 - Num Analysis/Civil Engrs		X		
GEN 427 - Geomechanics	Geotechnical	Advanced Standing, Completion of or concurrent enrollment in CE 215 or consent of instructor		See department for offerings		
CE 444 - Spec Top In Geomechanics	Geotechnical	CE 343 - Soil Mechanics, Instructor Permission -				As needed
CE 445 - Geoenvironmental Engineering	Geotechnical			X		X
CE 423 - Hydrology	Hydraulics	Advanced Standing, CE 218			X	
CE 426 - Watershed Engineering	Hydraulics	Advanced Standing, CE 218		X		
CE 427 - Computer Applications in Hydraulics	Hydraulics	Advanced Standing, CE 323 or consent of instructor		X		
CE 449 - Statistical Hydrology	Hydraulics			X		
CE 461A- Statistical Methods in Transportation Engineering	Transportation	Advanced Standing, CE 363 - Transport Eng+Pave Dsgn		X		

CE 462A - Public Transit Planning and Operations	Transportation	Advanced Standing		X		
CE 467- Traffic Safety	Transportation	Advanced Standing			Even Spring	
CE 468 - Urban Transportation Planning	Transportation	Advanced Standing		X		
CE 469 - Travel Demand Modeling	Transportation	CE 363 - Transport Eng+Pave Dsgn			Odd Spring	

Students may take the graduate level of a course for a technical elective if they are an accelerated masters student or with departmental permission.