

### 2023 - 2024 Curriculum Requirements for the MS-SDC Degree

# - denotes limited class enrollment    \$ - CEE 222A and CEE 222B must be taken as a pair    % - either 246B or 246S can be counted, but not both

AREA	Autumn		Winter		Spring		CONCENTRATION REQUIREMENTS			
	Class	Units	Class	Units	Class	Units	Management	Structures	Energy	SUS
Building, Infrastructure, and Urban System Development			222A Computer Integrated A/E/C \$	3	220C Parametric Design and Optimization	2,3,4				
			241B Infrastructure Project Delivery	3	222B Computer Integrated AEC Global Teamwork \$	2				
			245E Equitable Infrastructure Solutions	3	241C Global Infrastructure Projects Seminar	1,2				
			321 Design and Operation of Integrated Systems	3	243 Intro to Urban Systems Engineering	3	3	3	6	12
					246B Real Estate Development and Finance	3				
Structures	101C Geotechnical Engineering	3,4	182 Structural Design	3,4	248 Introduction to Real Estate Development	2				
	203 Probabilistic Models in CEE	3,4	223 Materials for Sustainable Built Environments	3	342 Designing for Gradient Spaces	3				
	280 Advanced Structural Analysis	3,4	282 Nonlinear Structural Analysis	3,4	287 Earthquake Resistant Design and Construction	3,4				
	285A Advanced Structural Concrete Behavior and Design	3,4	283 Structural Dynamics	3,4	290 Structural Performance and Failures	2				
			285B Advanced Structural Steel Behavior and Design	3,4				12		
Energy & Atmosphere	176A Energy Efficient Buildings	3,4	288 Seismic Hazard and Risk Analysis	3,4						
	219 Geothermal Energy Development	3	293 Foundations and Earth Structures	2,3						
	226 Life Cycle Assessment for Complex Systems	3,4								
	330 Racial Equity in Energy	2,3								
	EN301 Energy Seminar	1								
Construction	240 Project Assessment and Budgeting	3	256 Building Systems Design & Analysis	3,4	176B 100% Clean, Renewable Energy and Storage	3,4				
	241 Managing Fabrication and Construction	4	330B Quest for an Inclusive Clean Energy Economy	3,4	226E Decarbonized and Energy Efficient Building Design	2,3				
			EN101 Energy and the Environment	3	272R Engineering Future Electricity Systems	3				
	244 Accounting, Finance & Valuation (SUMMER QUARTER ONLY)	3	EN301 Energy Seminar	1	EN102 Fundamentals of Renewable Power	3	3	3	9	6
					EN301 Energy Seminar	1				
Industry Context	252 Silicon Valley and the US Government	1	102A Legal Principles in Design, Construction, Delivery	3	324 Industrialized Construction #	2				
	258 Watson Seminar	1	202 Construction Law and Claims	3,4	327 Construction Robotics	3				
	272T SmartGrids Seminar	1,2	241B Infrastructure Project Delivery	3						
	323A Infrastructure Finance and Governance	1	246 Venture Creation for the Real Economy	3,4						
			272T SmartGrids Seminar	1,2						
Skills			298 Structural Engineering and Geomechanics Seminar	1						
	146S Engineering Economics and Sustainability	3	220B Advanced Building Modeling Workshop	2,3,4	146S Engineering Economics and Sustainability	3				
			242R Project Risk Analysis	3	220C Parametric Design and Optimization	2,3,4	4	4	4	4
			247C Computer Vision for the Built Environment	3	251 Negotiation #	3				
			329 AI Applications in AEC #	3						
Total							30	30	30	30

Other Degree Requirements	1) Required classes and approved electives must total at least 45 units (PE and Language courses don't count)	6) CEE courses must be taken for a letter grade when available. Maximum of 6 CR/NC units otherwise.
	2) Program proposal must be approved by advisor	7) Minimum GPA of 3.0 (or 2.75 for students admitted prior to Winter 2023)
	3) Comply with the CEE Graduate Student Handbook	8) Required courses taken at other institutions must have a letter grade indicator of 2.67 (B-) or above
	4) All courses at or above 100 level, at least 30 units at or above 200 level	9) Credit for classes listed in multiple areas may be split between those areas (no double counting)
	5) Maximum of 5 total units of seminars	

**Additional Concentration Requirements:** A concentration is required of all students.

*Italicized* prerequisite courses listed below are required unless a waiver is granted by your advisor.

**Bold** courses are required to be taken at Stanford.

**Additional electives available (not a comprehensive list):**

CEE202F  
CEE213  
CEE216  
CEE221  
CEE246D  
CEE250

<u>Management</u>	<u>Structures</u>	<u>Energy</u>	<u>Sustainable Urban Systems</u>
CS106A	CS106A	CS106A	CS106A
CEE101C	CEE101C	CEE146S	CEE146S
CEE146S	CEE146S	CEE244 (Summer)	ENGR202W
CEE182	CEE180	ENGR202W	or ENGR203
CEE244 (Summer)	CEE182	or ENGR203	CEE226
ENGR202W	ENGR202W	CEE226	CEE241
or ENGR203	or ENGR203	CEE241	CEE258
CEE226	CEE226	CEE241C	
CEE241	CEE241	CEE258	
CEE241C	CEE258	At least 2 of the following:	
CEE258	CEE285A	CEE176A	
	CEE285B	CEE226	
	CEE298	CEE256	