CIVIL FOCUS AREA: Informatics

Department of Civil and Environmental Engineering

General Education (19 sh)		sh
ALL	**RHET:1030 Rhetoric**	4
F/S	**Diversity & Inclusion**	3
ALL	**Be Creative**	3
ALL	**Approved Gen Ed Course**	3
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Math & Basic Science Core (24 sh)		sh
F/S	**MATH:1550 Math I: Single Variable Calculus** *(P: ALEKS score ≥ 75 or MPT Level 3 score ≥ 9)*	4
ALL	**MATH 1560 Math II: Multivariable Calculus** *(P: MATH:1550)*	4
ALL	**MATH:2550 Math III: Matrix Algebra** *(P: MATH:1550)*	2
ALL	**MATH:2560 Math IV: Differential Equations** *(P: MATH:1560 & MATH:2550)*	3
F/S	**STAT:2020 Probabilty & Statistics For Engr & Phys Sci** *(P: MATH:1560)*	3
ALL	**CHEM:1110 Principles of Chemistry I** *(P: ALEKS score ≥ 55 or MPT Level 3 score ≥ 9)*	4
ALL	**PHYS:1611 Introductory Physics I / Lab** *(C: MATH:1550)*	4

Engineering Core (7 sh)		sh
F	**ENGR:1000 Engineering Success for First-Year Students** *(First semester standing)*	1
F	**ENGR:1100 Intro to Engineering Problem Solving**	3
F/S	**ENGR:1300 Intro to Engineering Computing** *(C: MATH:1550)*	3

Civil Engineering Requirements (45 sh)		sh	
ALL	**CHEM:1120 Principles of Chemistry II** *(P: CHEM:1110)*	4	**OR**
F/S	**PHYS:1612 Introductory Physics II / Lab** *(P: PHYS:1611; C: MATH:1560)*	4	
ALL	**ENGR:2110 Statics** *(P: MATH:1550; C: MATH:1560 & PHYS:1611)*	2	
ALL	**ENGR:2130 Thermodynamics** *(P: CHEM:1110 & PHYS:1611; C: MATH:1560)*	3	
F/S	**ENGR:2510 Fluid Mechanics** *(P: MATH:2560 & ENGR:2710; C: ENGR:2130)*	4	
ALL*	**ENGR:2710 Dynamics** *(P: ENGR:2110 & MATH:1550)*	3	
ALL*	**ENGR:2750 Mechanics of Deformable Bodies** *(P: ENGR:2110; C: MATH:2560)*	3	
ALL	**CEE:1030 Intro to Earth Science (no lab required)**	3	
F	**CEE:2015 Civil Engineering Tools**	2	
S	**CEE:3155 Principles of Environmental Engineering** *(P: CHEM:1110)*	4	
S	**CEE:3371 Principles of Hydraulics and Hydrology** *(P: ENGR:2510)*	3	
F	**CEE:3530 Geomechanics** *(P: ENGR:2750)*	4	
F	**CEE:3533 Principles of Structural Engineering** *(P: ENGR:2750)*	4	
S	**CEE:3586 Civil Engineering Materials** *(P: ENGR:2750)*	3	
S	**CEE:3763 Principles of Transportation Engineering** *(C: ENGR:1100)*	3	

Capstone Design Courses (3 sh)		sh
F/S	**CEE:4850 Project Design & Management in CEE** *(P: final semester; C: CEE:3003)*	3

CEE Professional Skills (4 sh)		sh
S	**CEE:2010 Professional Practice and Ethics**	1
F	**CEE:3001 Leadership Skills for Engineers** *(junior standing)*	1
S	**CEE:3002 Technical Communication in CEE** *(junior standing)*	1
F	**CEE:3003 Project Management Skills** *(senior standing)*	1

Required: Informatics (10 sh)		sh
F	**CS:2110 Programming for Informatics** *(P: ENGR:1300)*	4
S	**CS:2420 Analyzing Data for Informatics** *(P: CS:2110)*	3
S	**CS:2520 Human-Computer Interaction for Informatics** *(P: CS:2110, STAT:2020)*	3

Electives: Informatics (18 sh)			sh
CEE Design Course*			
select **2 courses** from the list below			
	F	**CEE:4157 Environmental Engineering Design** *(P: CEE:3155)*	3
	F	**CEE:4374 Water Resource Design** *(P:CEE:3371)*	3
	F	**CEE:4506 Design of Concrete Structures** *(P:CEE:3533)*	3
OR	S	**CEE:4535 Design of Steel Structures** *(P: CEE:3533)*	
	F	**CEE:4762 Design of Transportation Systems** *(P: CEE:3763)*	3

Electives: Focus Area, Minor, Cerficate, etc.			sh
select **2 courses** from the list below			
		Any additional CEE Design Course(s) listed above	
	S	**CEE:3783 Surveying & Remote Sensing** *(P: ENGR:1100)*	3
	S	**CEE:3790 Resilient Infrastructure and Emergency Response**	3
	F	**CEE:4102 Groundwater**	3
	F	**CEE:4158 Solid and Hazardous Wastes**	3
	S	**CEE:4159 Air Pollution Control Technology**	3
	F	**CEE:4119 Hydrology** *(P: ENGR:2510)*	3
	S	**CEE:4371 Water Resources Engineering** *(C: CEE:3371)*	3
	F	**CEE:4539 Foundations of Structures** *(P: CEE:3530)*	3
	F	**CEE:4763 Traffic Engineering** *(P: CEE:3763)*	3
		Any additional 3000 level or above elective course(s) in CEE	

Electives: Focus Area, Minor, Cerficate, etc.			sh
select **2 courses** from the list below			
		Any additional CEE Design Course(s) listed above	
		Any additional elective course(s) in CEE	
	S	**ISE:2500 Engineering Economy** *(C: STAT:2020)*	3
	F/S	**ENGR:2995 Intro to AI & Machine Learning in Engineering** *(P: ENGR:1300; C: MATH:2550)*	3
	F/S	**ENGR:2730 Computers in Engineering** *(P: ENGR:1300)*	3
		Any pre-approved non-engineering Focus Area course(s) (see CEE web site for list of pre-approved courses)	
		All other course(s) require approval for Focus Area credit (see CEE web site regarding the approval process)	

Students in the Focus Area will receive a Minor in Infomatics. Students must enroll in the minor through Computer Science.

Total Semester Hour Requirements: 129