

Civil Engineering Curriculum

First Year

MAT	295	Calculus I	4	MAT	296	Calculus II	4
CHE	106	General Chemistry I	3	PHY	211	General Physics I	3
CHE	107	Gen. Chem. Lab I	1	PHY	221	Gen. Physics Lab I	1
ECS	101	Intro to ECS	3	GOL	203	Earth System Science	4 or*
WRT	105	Writing Studio I	3	SS/HUM			3*
SS/HUM			3	SS/HUM			3
Semester Credits				Semester Credits			
17				14/15			

Second Year

MAT	397	Calculus III	4	MAT	485	Differential Eq. & Matrix Algebra	3
PHY	212	General Physics II	3	ECS	222	Dynamics	3 or**
PHY	222	Gen. Physics Lab II	1	ELE	231	Elec. Eng. (EE) Fund I	3(4 w/ lab) or**
ECS	221	Statics	3	MAE	251	Thermodynamics	4**
CIE	272	CIE Measurements	3	ECS	325	Mech. of Solids	4
GOL	101	Intro. To Geology	4 or*	CIE	274	Civ/Env. Systems	3
SS/HUM			3*	WRT	205	Writing Studio II	3
Semester Credits				Semester Credits			
17/18				16/17			

Third Year

CIE	331	Analysis of Struct. & Mat'l.	3	CIE	332	Design of Concrete Structure	3
CIE	337	Intro. to Geo. Eng.	4	CIE	338	Foundation Eng.	3
CIE	341	Intro. to Env. Eng.	3	ECS	326	Engineering Materials	3
MAE	341	Fluid Mechanics	4 or**	CIE	352	Water Res. Eng.	4
CIE	327	Prin. of Fluid Mech.	4**	WRT	307	Professional Writing	3
SS/HUM			3				
Semester Credits				Semester Credits			
17				16			

Fourth Year

CIE	443	Transportation Eng.	3	CIE	475	Civ/Env. Eng. Design	4
CIE	442	Treatment Proc. in Env. Eng.	4			Professional Elective	3
		Technical Elective 1	3			Technical Elective 2	3
		Free Elective	3	SS/HUM			3
SS/HUM			3				
Semester Credits				Semester Credits			
16				13			

Total Credits Required: 127/128.

*take either GOL101 or GOL203, the other must be SS/HUM.

** Take one from the group.

Technical Electives must be CIE courses. Professional Electives should be 300 and above courses offered in any professional schools at SU and SUNY-ESF (as well as ECS222, ELE231, and MAE251 that have not been used for degree credits). These electives are meant to enhance a student's professional skill. They are to be selected in consultation with the student's advisor.

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SS/HUM ELECTIVES

All CIE students are required to complete at least 18 credits of SS/HUM electives. A *minimum* of one course (or 3 credits) must be chosen from each of the three groups of designated courses listed below. The remaining three SS/HUM electives (or 9 credits) can be selected from the lists below or, in addition to the lists,

- any College of Arts and Sciences courses that are listed on their Humanities and Social Sciences lists in the SU Bulletin – Undergraduate Course Catalog
- any foreign language courses (except student's native language)
- ECS 391 – Legal Aspects of ECS
- ECS 392 – Ethical Aspects of ECS.

Group 1: Economics and Social Issues

ECN 203 – Economics Ideas and Issues
ECN 301* – Intermediate Microeconomics
ECN 302* – Intermediate Macroeconomics
ECN 365* – The World Economy
SOC 101 – Introduction to Sociology
SOC 102 – Social Problems
SOC 363 – Urban Sociology
STS/BPS 101 – Introduction to Science, Technology and Society
STS/HNR/ECS 318 – Technology: Past and Present

* requires ECN203 as prerequisite

Group 2: Global Affairs

GEO 103 – America and the Global Environment
GEO 105 – World Geography
GEO 272 – World Cultures
GEO 273 – World Political Economy
GEO 315 – Global Environmental Change
MAX 123 – Critical Issues for the U.S.
MAX 132 – Global Community
PAF 351 – Global Social Problems

Group 3: Public Policy and Policy Studies

GEO 203 – Society and the Politics of Nature
GEO 314 – Hazardous Geographic Environments
PAF 101 – An Introduction to the Analysis of Public Policy
PAF 409⁺ – Intermediate Analysis of Public Policy
PAF 451 – Environmental Policy
PSC 302- Environmental Politics and Policy
PSC 305 – Legislative Process and US Congress
PSC 308 – The Politics of US Public Policy
PSC 312 – Urban Government & Politics
PSC 318 – Technology, Politics & Environment

⁺ requires PAF101 as prerequisite

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PROFESSIONAL ELECTIVES

Professional Electives are courses that advance a student's professional abilities and form a cohesive and meaningful addition to the required CIE coursework. They are designed to develop and enhance a student's role as a professional civil or environmental engineer. Professional Electives are *upper-level courses* (300 and above; as well as ECS 222, ELE 231, and MAE 251 that have not been used for degree credits), generally from professional schools at SU and SUNY-ESF, and must be selected in consultation with the student's academic advisor. Many Professional Electives can be used towards completion of a minor. Approved Professional Electives are courses offered in the following schools/colleges with the indicated prefixes that meet the above stated criteria.

School/College	Course Prefix
Architecture	ARC
Arts and Sciences	AST, BCM, BIO, CHE, ECN, GEO, GOL, MAX, MAT, PAF, PHY
Engineering and Computer Science	All course prefixes
Information Studies	IST
Whitman	ACC, BUA, EEE, FIN, INB, LPP, MAR, O&M, OPM, SHR, SOM
Newhouse	COM
VPA	CRS
SUNY-ESF	All course prefixes