

ELECTIVES FOR CE MAJORS

Electives are subject to change. Electives may be added to this list at the discretion of the College of Engineering.

5 Villanova Core Electives

Course	Title	Credits
	2 Humanities/Social Science Electives	6
	1 Ethics Elective	3
	1 Theology/Philosophy Elective	3
	1 Upper Level Theology	3

2 Free Electives

A Free Elective is any course that is 3 or more credits.

7 Technical Electives

Course	Title	Credits
	3 Sub-Discipline Electives	9
	1 CEE Software Elective	3
	Remaining 3 Technical Electives will be a combination of	9

Category Descriptions

2 Humanities/Social Science Electives

Credits: 6

Select two humanities or social science electives from the list below:

Humanities

- Arab & Islamic Studies
- Art History
- Classical Studies
- Communications
- Ethics
- English - ENG 1050, 1975, 2100-9999
- Global Interdisciplinary Studies
- History
- Honors Program (eligible students only)
- Humanities
- Modern Languages (except speaking courses in native language)
- Philosophy
- Theatre
- Theology (2000 and above or course section with core theology attribute)

Social Sciences

- Criminology
- Economics
- Geography and the Environment - GEV 1002, 1500-3900, 4050-5300
- Humanities: HUM designated PSC
- Peace and Justice
- Political Science
- Public Administration
- Psychology
- Sociology
- Gender and Women's Studies

1 Ethics Elective

Credits: 3

Course	Title	Credits
ETH 2050	The Good Life:Eth & Cont Prob	3
NS 4200	Leadership and Ethics	3
PHI 2115	Ethics for Health Care Prof	3
PHI 2121	Environmental Ethics	3
PHI 2130	Business Ethics	3
PHI 2155	Engineering Ethics	3
PHI 2160	The Ethics of War	3
PHI 2170	Mass Media Ethics	3
PHI 2180	Computer Ethics	3
PHI 2550	Technology & Society	3
THL 4100	THM Catholic Ethics	3
THL 4200	Ethics of Life and Death	3
THL 4330	Christian Environmental Ethics	3
VSB 2007	Corp Respon & Regulation	3
EGR 2001	Egr: Humanistic Context	3

1 Theology/Philosophy Elective

Credits: 3

One 3-credit course from:

- Theology (THL) course or course with CTHL (Core Theology) attribute, at the 2000 level or above
- Philosophy (PHI)
- Peace and Justice (PJ)
- [ETH 2050](#) - The Good Life: Ethics & Cont Prob
- [EGR 2930](#) - Catholic Social Teaching for EGRs
- Any Humanities or Social Science course with a PJ (Peace and Justice) attribute

1 Upper Level Theology

Credits: 3

Theology (THL) course or course with CTHL (Core Theology) attribute, at the 2000 level or above.

3 Sub-Discipline Electives

Credits: 9

Must take a course in at least three areas.

Construction

Course	Title	Credits
CEE 4702	Construction Engineering	3

Environmental

Course	Title	Credits
CEE 4331	Solid & Hazardous Waste	3

Geotechnical

Course	Title	Credits
CEE 4801	Foundation Design	3

Structures

Course	Title	Credits
CEE 3402	Structural Steel Design	3
CEE 4404	Reinforced Concrete Design	3

Transportation

Course	Title	Credits
CEE 4226	Transportation System Design	3
CEE 4224	Trans Facilities Design	3

Water Resources

Course	Title	Credits
CEE 4521	Water Resources Egr Design	3

1 CEE Software Elective

Credits: 3

Course	Title	Credits
CEE 3601	GIS for Engineers	3
CEE 3602	AutoCAD/Civil 3d for Engineers	3

Remaining 3 Technical Electives will be a combination of

Credits: 9

Non-required CEE courses

All non-required Civil & Environmental Engineering (CEE) courses except:

- [CEE 2100](#) - Egr Mechanics I-Statics
- [CEE 3500](#) - Fluid Mechanics
- [CEE 7111](#) - Intro Hydraulics & Hydrology

Engineering Courses

All Chemical Engineering (CHE), Electrical and Computer Engineering (ECE), Engineering (EGR), Mechanical Engineering (ME), and Sustainable Engineering (SUSE) courses except:

- [EGR 1200](#) - Egr. Interdisciplinary Proj. I
- [EGR 2001](#) - Egr: Humanistic Context
- [EGR 2002](#) - Intro to Humanitarian Engineering
- [EGR 2005](#) - Bridging Diver & Bldg Community
- [EGR 2930](#) - Catholic Social Teaching for Engineers
- [ME 2100](#) - Statics
- [ME 3600](#) - Fluid Mechanics
- [ME 4050](#) - International Development
- [SUSE 2110](#) - Sus Eng: Risk & Opportunities

Math/Science Courses (maximum 2)

Course	Title	Credits
BIO 2105	General Biology I	4
BIO 2106	General Biology II	4
CHM 2211	Organic Chemistry I	3
CHM 2212	Organic Chemistry II	3
CHM 3511	Instrumental Analysis	3
CSC 1051	Algorithms & Data Struc I	4
CSC 1052	Algorithms & Data Struc II	4
GEV 3750	Remote Sensing	3
	Any MAT course 3000	
NS 2100	Naval Ships Systems I	3
PHY 2402	Physics II Elec & Magnet	3
PHY 2412	Univ Physics: Elec & Mag	3
PHY 2414	Univ Physics: Thermo	3
PHY 2416	Modern Physics	3
PHY 3310	Electronics	3
	Any STAT course 3000 or above	

Professional development courses (maximum 1)

Course	Title	Credits
COM 1100	Public Speaking	3
COM 1101	Business & Prof Communication	3
EGEN 3100	Design Thnkng and Cust Discvry	3
EGR 2002	Intro to Humanitarian Engr	3
	EGR 5001, 5002, and/or 5003	
GEV 3570	Land Use Planning & Mgmt	3
NS 4100	Leadership and Management	3
RES 2150	Real Estate Fundamentals	3
SBI 3005	Financial Mgmt & Reporting	4
SUSE 2110	Sus Eng: Risk & Opportunities	3