

Bachelor of Science in Civil Engineering
Department of Civil & Mechanical Engineering



Fall 2022 – Total of 120 Credit Hours

P = Pre-requisite, C = Co-requisite

1 st Semester 15 credits	MA 16500 *(4) Analytical Geometry & Calculus I P: MA 15400 or MA 15900 with C- or better or placement	CHM 11500* (4) General Chemistry P: CHM 11100 or 1-year high school chem C: MA 15400	ENGR 12700 (4) Engineering Fundamentals I C: MA 16500	ENGL 13100* (3) Elementary Composition P: ENGL 12900 with C- or better or placement		
2 nd Semester 16 credits	MA 16600 (4) Analytical Geometry & Calculus II P: MA 16500 with C- or better	PHYS 15200* (5) Mechanics C: MA 16600	ENGR 12800 (4) Engineering Fundamentals II P: ENGR 12700 with C- or better C: MA 16500 & COM 11400 or ENGL 13100	COM 11400* (3) Fund of Speech Communication		
3 rd Semester 18 credits	MA 26100 (4) Multivariate Calculus P: MA 16600 with C- or better	MA 35100 (3) Elementary Linear Algebra P: MA 16600 with C- or better	PHYS 25100 (5) Heat Electricity and Optics P: PHYS 15200 with C- or better C: MA 26100	CE 25000 (3) Statics P: PHYS 15200 C: MA 26100	CE 21000 (3) Introduction to Geomatics P: MA 16500 (Summer & Fall only)	
4 th Semester 15 credits	MA 36300 (3) Differential Equations P: MA 26100 with C- or better C: MA 35100	CE 25100 (3) Dynamics P: CE 25000 with C- or better C: MA 36300	CE 25200 (3) Strength of Materials P: CE 25000 with C- or better	CE 31500 (3) CE Materials C: CE 25200 (Spring only)	General Education Elective* (3) Category B.5	
5 th Semester 16 credits	CE 31800 (3) Fluid Mechanics P: CE 25100 with C- or better & MA 36300	CE 36500 (3) Environmental Engineering P: CHM 11500 with C- or better (Fall only)	CE 37500 (3) Structural Analysis P: CE 25200 (Fall only)	CE 31600 (1) CE Materials Lab P: CE 31500 (Fall only)	CE 33000 (3) Construction Management P : ENGR 12800 C : CE 21000 & junior standing (Fall only)	CE 40100 (1) CE Profession and Practice C: Junior Standing (Fall only)
6 th Semester 12 credits	CE 31900 (1) Fluid Mechanics Lab P: CE 31800	CE 36600 (1) Environmental Engineering Lab P: CE 36500 (Spring only)	CE 47800 (3) Design of Concrete Structures P: CE 37500 & CE 31500 (Spring only)	CE 34500 (3) Transportation Engineering P: CE 21000 (Spring only)	CE 38000 (3) Soil Mechanics P: CE 25200 C: CE 31800 & 38100 (Spring only)	CE 38100 (1) Soil Mechanics Lab C: CE 38000 (Spring only)
7 th Semester 16 credits	CE 41800 (3) Hydraulics Engineering P: CE 31800 (Fall only)	CE 48700 (3) CE Design Project I P: CE 45000, CE 36500, CE 38000, CE 48100, or CE 47800 & Approval (Fall only)	CE 48100 (3) Foundation Engineering P: CE 38000 & 38100 (Fall only)	Technical Elective (3)	STAT 51100 (3) Statistical Methods P: MA 16600 with C- or higher	General Education Elective* (3) Category B.6
8 th Semester 12 credits	Technical Elective (3)	Technical Elective (3)	CE 48800 (3) CE Design Project II P: CE 48700 OR Technical Elective (3)	General Education Elective* (3) Category B.7		

*All courses used to fulfill General Education Requirements require a grade of C- or better.
 All engineering & technical elective courses must have a combined minimum GPA of 2.0.
 Consult catalog.pfw.edu and pfw.edu/cme for more information.

**Technical Electives
Civil Engineering Program**

Civil Engineering Technical Elective Courses

Course #	Title	Credit	Pre- & Co-Requisite
CE 44800	Geotechnical Site Characterization	3	P: CE 38000 and CE 38100
CE 45000	Transportation Policy and Planning	3	P: CE 34500
CE 45100	Traffic Engineering	3	P: CE 34500
CE 46500	Water and Wastewater Engineering	3	P: CE 36500
CE 47500	Design of Steel Structures	3	P: CE 37500
CE 48000	Finite Element Analysis	3	P: CE 31800, CE 37500
CE 48400	Research in Civil Engineering	3	GPA \geq 3.0 and consent of faculty advisor
CE 48800	Civil Engineering Design Project II	3	P: CE 48700
CE 49000	Selected Topics in Civil Engineering	3	P: consent of instructor

Non-Civil Engineering Technical Elective Courses

Course #	Title	Credit	Pre- & Co-Requisite
CHM 11600	General Chemistry	4	P: CHM 11500 (C- or better), C: MA 16500
CHM 24100	Introductory Inorganic Chemistry	4	P: CHM 11600, MA 16500
CHM 26100	Organic Chemistry	3	P: CHM 11600
CET 20900	Land Surveying and Subdivision	3	P: CET 20600
ME 20000	Thermodynamics	3	P: CHM 11500, C: MA 26100
ME 47100	Vibrations Analysis	3	P: CE/ME 25100
ME 50900	Intermediate Fluid Mechanics	3	P: CE/ME 31800
BUS 30102	Operations Management	3	P: BUS 20101 and ECON 27000 or STAT 30100; sophomore class standing
BUS 30200	Management and Behavior in Organizations	3	P: sophomore class standing
PPOL 34800	Management Science	3	P: PPOL 30000, MA 14000, 15300 or 22900
PPOL 46500	GIS for Public and Environmental Affairs	3	P: ETCS 10600
SE 52000	Engineering Economics	3	P: senior or graduate standing
STAT 51200	Applied Regression Analysis	3	P: STAT 511, or 517, or 528 with C or higher

Notes:

- Maximum one elective can be taken from non-civil engineering courses.
- Effective starting spring 2023.

General Education Courses

Area B5 Course Number and/or Title	Area B6 Course Number and/or Title	Area B7 Course Number and/or Title
ANTH 10501 - Culture and Society	AD 10101 - Art Appreciation	AD 10801 - Introduction to Drawing for Non-majors
ANTH 20002- Language and Culture	AD 11100 - History Of Art I: Prehistoric To Medieval	AD 13300 - Metalsmithing for Non-majors
ANTH 20003 - Intro to Prehistoric Archaeology	AD 11201 - History Of Art II	AD 16500 - Ceramics for Non-majors
ANTH 44500 - Medical Anthropology	COM 21000 - Debating Public Issues	AD 23900 - Painting for Non-majors
ANTH 47000 - Psychological Anthropology	COM 24800 - Intro to Media Criticism and Analysis	ARET 12300 - Digital Graphics For Built Environment I
CDFS 25500 - Intro to Couple & Family Relationships	ENGL 10101 - Western World Masterpieces I	ARET 21000 - Architecture and Urban Form
COM 21200 - Study of Interpersonal Comm.	ENGL 10201 - Western World Masterpieces II	ARET 22300 - Digital Graph. for Built Environment II
COM 25000 - Mass Communication and Society	ENGL 20201 - Literary Interpretation	ARET 22500 - Creative House Design
COM 30300 - Intercultural Communication	ENGL 25001 - American Literature Before 1865	ARET 31000 - Architecture & Urban Form in the Modern World
CRIM 10100 - The American Criminal Justice System	ENGL 25100 - American Literature Since 1865	BUS 10001 - Principals of Business Administration
ECON 10101 - Survey of Economic Issues & Problems	FOLK 11100 - Introduction to World Folk Music	COM 21001 - Visual Communication
ECON 12100 - Economics for the Citizen	FVS 10100 - Introduction to Film	CS 11200 - Survey of Computer Science
ECON 20000 - Fundamentals of Economics	GER 37100 - Special Topics In Germanic Studies	DANC 39000 - Introduction to Dance
EDU 34001 - Education and American Culture	HIST 10501 - American History I	EAPS 30000 - Environmental and Urban Geology
GERN 23100 - Introduction to Gerontology	HIST 10601 - American History II	EAPS 30500 - Geologic Fund in Earth Science
IET 10500 - Industrial Management	HIST 11300 - History of Western Civilization I	ENGL 10302 - Introductory Creative Writing
LING 10300 - Intro to the Study of Language	HIST 11400 - History of Western Civilization II	ENGL 20301 - Creative Writing
OLS 25200 - Human Relations in Organizations	HIST 22500 - Special Topics in History	ENGL 20302 - Fiction
OLS 26800 - Elements of Law	HIST 23200 - The World in the 20th Century	FR 11100 - Elementary French I
POL 10001 - American Political Controversies	MUSC 10101 - Music for the Listener	FR 11201 - Elementary French II
POL 10101 - Introduction to Political Science	MUSC 10500 - Traditions in World Music	GEOG 31500 - Environmental Conservation
POL 10300 - Introduction to American Politics	MUSC 20103 - History of Rock and Roll Music	GER 11100 - Elementary German I
POL 10700 - Introduction to Comparative Politics	PHIL 11000 - Introduction to Philosophy	GER 11201 - Elementary German II
POL 10900 - Introduction to International Relations	PHIL 11009 - Introduction to Philosophical Topics	INTL 20000 - Intro International Studies
POL 21200 - Making Democracy Work	PHIL 11100 - Ethics	INTD 33000 - Culture & Design
POL 21300 - Introduction to Public Policy	PHIL 11101 - Contemporary Moral Problems	MUSC 14000 - Introduction to Music Expression
POL 25200 - Sports and Public Policy	PHIL 24000 - Social and Political Philosophy	MUSC 15300 - Introduction to Musical Therapy
POL 30101 - Political Parties and Interest Groups	PHIL 30100 - History of Ancient Philosophy	NELC 10000 - Elementary Arabic I
POL 31900 - The United States Congress	PHIL 30200 - History of Medieval Philosophy	NELC 15000 - Elementary Arabic II
PPOL 17000 - Introduction to Public Affairs	PHIL 30300 - History of Modern Philosophy	NUTR 40300 - Advanced Nutrition: Farm to Fork
PSY 12000 - Elementary Psychology	PHIL 30400 - 19th Century Philosophy	OLS 45400 - Gender and Diversity in Management
PSY 23500 - Child Psychology	PHIL 30500 - Philosophical Theories of Feminism	PACS 20000 - Introduction to Peace and Conflict Studies
PSY 24000 - Introduction to Social Psychology	PHIL 31200 - Medical Ethics	PHIL 12000 - Critical Thinking
PSY 33500 - Stereotyping and Prejudice	PHIL 32700 - Environmental Ethics	PHIL 15000 - Principles of Logic
PSY 35000 - Abnormal Psychology	PHIL 32800 - Ethics and Animals	PHIL 27500 - The Philosophy of Art
PSY 36900 - Development Across the Lifespan	REL 23000 - Religions of the East	PHIL 32600 - Business Ethics
SOC 16101 - Principles of Sociology	REL 23100 - Religions of the West	PHIL 35100 - Philosophy of Science
SOC 16300 - Social Problems	REL 30100 - Islam	PHIL 35200 - History & Philosophy of Science
SOC 31701 - Social Stratification	SPAN 27500 - Hispanic Culture and Conversation	PHIL 43500 - Philosophy of Mind
SOC 32501 - Criminology	THTR 20100 - Theatre Appreciation	PHIL 46500 - Philosophy of Language
SOC 36000 - Topics in Social Policy	WOST 22500 - Gender, Sexuality, and Popular Culture	PHYS 13600 - Chaos and Fractals
WOST 21000 - Introduction to Women's Studies		POL 27500 - Politics and Film
		POL 30701 - Indiana State Government and Politics
		POL 28500 - Science and Politics
		PPOL 16200 - Environment and People
		REL 11200 - Religion and Culture
		REL 30000 - Religions of the Ancient World
		SOC 10900 - Community and the Built Environment
		SOC 20900 - Community and the Built Environment
		SOC 31401 - Social Aspects of Health and Medicine
		SPAN 11101 - Elementary Spanish I
		SPAN 11201 - Elementary Spanish II
		SPAN 11300 - Accelerated First Year Spanish
		THTR 13400 - Fundamentals of Performance
		THTR 32510 - History of Modern Drama

Source: 2022-2023 Catalog

These courses satisfy all outcomes for the respective competencies—courses in **bold** have been recommended by the Civil Engineering Industrial Advisory Council.