



FLORIDA
GULF COAST
UNIVERSITY

U.A. WHITAKER
COLLEGE OF
ENGINEERING

U.A. Whitaker College of Engineering
Civil Engineering Program Guidebook

AY2019-2020

Forward
Chair's Welcome

Welcome to the 2019-2020 Academic Year at Florida Gulf Coast University (FGCU) and the U.A. Whitaker College of Engineering.

This Civil Engineering Program Guidebook is designed to assist you with the standards, policies, procedures and guidelines that will help you have a positive academic experience. Please be aware that the policies, guidelines and forms contained in this Civil Engineering Program Guidebook remain under review and any section or part may be revised without notice or obligation during your tenure in the program.

It is your responsibility to read the FGCU University Academic Catalog 2019-2020, FGCU Student Guidebook, and the Student Code of Conduct and to follow all guidelines, rules and regulations as they relate to FGCU, The U.A. Whitaker College of Engineering and the Civil Engineering Program.

I hope your time here at FGCU and in the U.A. Whitaker College of Engineering is both rewarding and successful.

Sincerely,

Tanya Kunberger

Tanya Kunberger, Ph.D., P.E.
Professor and Chair, Environmental and Civil Engineering
U.A. Whitaker College of Engineering

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Introduction

College of Engineering Vision and Mission

Vision

To provide the best value in high-quality engineering and construction education.

Mission

To produce engineering and construction leaders in selected disciplines with strong technical competence and professional skills to meet the challenges of Southwest Florida and beyond.

Civil Engineering Overview

Civil Engineering concerns the study of the conception, design, construction, and maintenance of large public and private projects. Civil engineers plan, design, and supervise the building of bridges, highways, railways, tunnels, airports, dams, water treatment and distribution systems, buildings, and many other types of structures. Environmental considerations, such as water supply, pollution control, and preservation of soil quality, are also important.

The Bachelor of Science in Civil Engineering (B.S.C.E.) focuses on four of the core competency areas of civil engineering; environmental, geotechnical, structural, and water resources engineering. This program employs a team-based interdisciplinary learning philosophy. This approach provides students with the critical thinking skills required for effective and innovative engineering practice. Students will be prepared to combine social awareness and an interest in humanity with the technical expertise of the engineering profession as they plan, design, and construct a built environment. B.S.C.E. students complete core courses common to all engineering majors as well as specialized courses in civil engineering.

Civil Engineering Mission

The mission of the B.S. Civil Engineering degree program is to:

- Deliver graduates broadly educated in engineering approaches to problem solving for a sustainable future for South Florida and beyond
- Prepare leaders for the Civil Engineering professions, professional licensure and practice, graduate and professional degrees and lifelong learning
- Provide an interdisciplinary, entrepreneurial and service oriented learning environment that values diversity, ethical practice, professionalism, and collaborative approaches to achieve sustainability across civil engineering sub-disciplines

Program Educational Objectives and Student Outcomes

The Department of Environmental and Civil Engineering has formulated the following Program Educational Objectives, which describe the career and professional accomplishments that our B.S.C.E degree program is preparing graduates to achieve. In support of these objectives, the faculty have also identified the following Student Outcomes, which describe what students are expected to know and be able to do by the time of graduation.

Program Educational Objectives

The Civil Engineering Program of the Department of Environmental and Civil Engineering in the U.A. Whitaker College of Engineering at Florida Gulf Coast University will produce graduates who:

- Pursue lifelong learning through continuing education and/or advanced degrees in civil engineering or other related fields,
- Progress to professional registration, and
- Continue to develop professionally through participation in professional organizations and/or participation in professional development activities in the industry.

Student Outcomes

Graduates of the civil engineering program will attain:

- an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
- An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- An ability to communicate effectively with a range of audiences
- An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgements, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
- An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgement to draw conclusions
- An ability to acquire and apply new knowledge as needed, using appropriate learning strategies

Civil Engineering Program Requirements

Program specific requirements as well as general education and university requirements are included in the University Academic Catalog. Links to the specific pages in the catalog are listed below.

The General Education Program Website is located at [here](#)

To prevent or minimize excess hours, select general education courses that satisfy common prerequisite requirements for your intended major.

Program requirements for the B.S.C.E program can be found within the University Academic Catalog, located [here](#).

This link provides program specific information including:

- Common Prerequisites
- Engineering Common Core
- Required Courses in the Major
- Restricted Electives
- University Requirements
- Additional Electives
- Additional Graduation Requirements

Timely Progression Toward Degree

The U.A. Whitaker College of Engineering uses academic milestones to monitor academic progress throughout the major. This monitoring ensures that students are on track for graduation in a timely fashion. In addition, transfer students must meet mapping guidelines to be accepted into their majors. A sample schedule for the Civil Engineering Program is provided below. This sample schedule serves as a general guideline to help the student build a full schedule each term.

Missing a milestone will result in registration holds. Students are allowed no more than two milestone non-compliance issues in the Civil Engineering Program. The first missed milestone in the major results in a hold being placed on the student's account, requiring students to meet with their advisor for additional assistance prior to registration for the subsequent semester. At this time, remaining milestone deadlines may be adjusted per the student's plan to graduation. If a student is in non-compliance with the milestones for a second time, a hold is placed on the student's account and the student will be required to meet with an advisor to change majors.

For the B.S. in Civil Engineering, the following milestones must be successfully completed, along with maintaining an overall GPA of 2.0 or higher at all times. Note that the semester number refers to the number of semesters after a student enters the U.A. Whitaker College of Engineering.

- Meet with an engineering academic advisor and have a smart plan on file by the end of Semester 1. Smart plans will be completed with the advisor and available to the student through Canvas.
- Complete MAC 2311 with a minimum grade of "C" by the end of the summer following Semester 2.
- Complete EGN 1041C with a minimum grade of "C" by the end of Semester 3.
- Complete MAC 2312 and PHY 2048C with a minimum grade of "C" by the end of Semester 4.
- Complete EGM 3420C with a minimum grade of "C" by the end of Semester 5.
- Complete EGN 3331C with a minimum grade of "C" by the end of the summer following Semester 6.
- Make a graduation check appointment with advising by the beginning of Semester 7.
- Apply for graduation per the University deadline during Semester 7.

Sample Course Schedule

Freshman Year				
Course	Course Title	Credit	Prerequisites	Milestones
Fall (Semester 1)				
EGS 1006L	Intro to Engineering Profession	1		Overall GPA \geq 2.00 Meet with academic advisor and have a smart plan on file.
ENC 1101	Composition I (W)	3		
XXX XXXX	Humanities* STATE CORE	3		
MAC 2311	Calculus I	4		
CHM 1045 and CHM 1045L	General Chemistry I w/lab	4		
	Total	15		

Spring (Semester 2)				
EGN 1041C	Computational Tools for Engineering	2	MAC 2311 & EGS 1006L	Overall GPA \geq 2.00
PHY 2048C	General Physics I w/lab	4	MAC 2311	
MAC 2312	Calculus II	4	MAC 2311	
ENC 1102	Composition II (W)	3	ENC 1101	
XXX XXXX	Social Science	3		
	Total	16		

Summer				
XXX XXXX	Social Science STATE CORE (recommend ECO 2013)	3		Overall GPA \geq 2.00
XXX XXXX	Unrestricted Elective	4		
XXX XXXX	Humanities	3		Complete MAC 2311 with a "C" or better
	Total	10		

Sophomore Year				
Fall (Semester 3)				
EGM 3420C	Engineering Mechanics	4	PHY 2048C	Overall GPA \geq 2.00 Complete EGN1041C with a "C" or higher
MAC 2313	Calculus III	4	MAC 2312	
GLY 2030C /GYL 1000C	Environmental Geology (3) or Physical Geology (4)	3		
PHY 2049C	General Physics II w/lab	4	PHY 2048C	
	Total	15		

Spring (Semester 4)				
EGN 3331C	Mechanics of Material	3	EGN 1041C, PHY 2048C	Overall GPA \geq 2.00
EGN 2111C	Engineering Computer Graphics	3	MAC 2311	

ENV 3006C	Fundamentals of Environmental Engineering	3	PHY 2048C, MAC 2312 & CHM 1045C	Complete MAC 2312 and PHY 2048C with a "C" or better
MAP 2302	Differential Equations	3	MAC 2312	
XXX XXXX	Humanities	3		
	Total	15		

Junior Year				
Fall (Semester 5)				
EGN 3641C	Engineering Entrepreneurship	3	EGN 3331C	Overall GPA \geq 2.00 Complete EGM3420C with a "C" or higher
CCE 3101C	Civil Engineering Materials	3	EGN 3331C	
CWR 3201C	Engineering Fluid Mechanics	3	MAP 2302, EGM 3420C, PHY 2049C	
CGN 3323C	Surveying and Geomatics	3	EGM 3420C	
STA 2037 / STA 2023	Statistics with Calculus OR Statistical Methods	3	MAC 2311	
	Total	16		

Spring (Semester 6)				
CEG 3011C	Geotechnical Engineering I	3	CWR 3201, EGN 3331C	Overall GPA \geq 2.00 Complete EGN 3331C with a "C" or higher
TTE 3002C	Transportation Engineering	3	CGN 3323C, STA 2037/2023	
CES 3100C	Structural Analysis	3	EGN 3331C, EGN 2111C	
XXX XXXX	Unrestricted Elective to meet 128 credits for the degree	3		
CWR 3202C	Hydrology and Hydraulics	3	CWR 3201C, STA 2037/2023	
	Total	15		

Senior Year				
Fall (Semester 7)				
CEG 4012C	Geotechnical Engineering II	3	CEG 3011C	Overall GPA \geq 2.00 Make appointment for graduation check with advising Apply for graduation prior to University deadline
XXX XXXX	Restricted Technical Elective 1 (Approved by Mentor / Advisor)	3		
CES 4702C / 4605C	Reinforced Concrete Design OR Steel Design	3	CES 3100C and/ CCE 3101C (for CES 4702) CES 3100C for CES 4605	
CCE 4031	Project Planning and Regulations	3	EGN 3641C	
CWR 4540C	Water Resources Design	3	CWR 3202C	
	Total	15		

Spring (Semester 8)				
CGN 4802C	Civil Engineering Sr Design I	3	CEG 4012C, CCE 4031, CWR 4540C, TTE 3002C, ENV 3006C, & (CES 4702C or CES 4605)	Overall GPA \geq 2.00
ENV XXXX	Environmental Engineering Elective	3		
IDS 3920	University Colloquium	3	Junior Standing	
XXX XXXX	Restricted Technical Elective 2 (Approved by Mentor / Advisor)	3		
	Total	12		

Course Repeat Policy

An undergraduate Civil Engineering degree requires 128 semester credit hours for graduation. In order to ensure that students remain on track for a timely graduation, the program has implemented a course repeat policy as described below. For the purposes of this policy, Civil Engineering majors must earn a grade of “C” or better in all classes listed in: common program prerequisites, engineering common core, required courses in the major and restricted electives. Withdrawals and grade forgiveness are considered non-progression, and are subject to the course repeat policy.

Within Civil Engineering, students may not exceed three repeats in total for all required courses in the program. In addition, students are only allowed a single repeat for **one** of the following core pre-requisite courses: Calculus I, Calculus II, General Chemistry I, General Physics I and EGS1006L, Introduction to the Engineering Profession. Lastly, for all other required courses, students may not exceed two repeats for any single course.

Advising

Academic advising by designated WCE advisors is provided to maintain the standards of the program and to guide each student. The purpose of academic advising is to assist the student in his/her academic progression throughout the program. Additional information can be found [here](#).

Academic advisors also provide the following services for students:

- Academic advising and program information for current and potential students
- Referral to faculty mentors and campus resources for career planning
- Communication regarding internship opportunities
- Orientation for students applying for admission to the school
- Assistance with issues related to registration and academic standing
- Evaluation of academic transcripts and articulation of transfer credits

- Maintenance of academic advising records and degree audits
- Certification of graduation

Students are expected to take primary responsibility to meet with their academic advisor on a regular basis to insure completion of all requirements for graduation.

In addition to academic advising, all students are assigned faculty mentor. Students are required to meet with their faculty mentor prior to registering for classes **each semester starting in the term the student is enrolled in EGM 3420C**. Faculty mentors provide career specific guidance including:

- Service Learning Opportunities
- How to Establish relationships with Faculty and Industry
- Internships
- Technical Electives
- SMART Plan Updates
- Undergraduate Research & Lab Work
- Career Goals
- Plans after Graduation
 - Graduate School
 - Job Search

Standards of Conduct

All students are expected to demonstrate honesty in their academic pursuits. In safeguarding the essential professional standards of honesty and integrity, faculty are compelled to apply academic sanctions which can be as severe as dismissal from the Civil Engineering Program. The university policies regarding issues of honesty can be found in the FGCU Student Guidebook under the *Student Code of Conduct* and *Policies and Procedures* sections. All students are expected to study this document which outlines their responsibilities and consequences for violations of the policy. The FGCU Student Guidebook is available online [here](#).

Appeal Process - Grades

In accordance with University guidelines, students may appeal the following:

- Grades or other academic action taken by an instructor.
- Grades resulting from an instructor's:
 - Alleged deviation from established and announced grading policy.
 - Alleged errors in application of grading procedures.
 - Alleged lowering of grades for non-academic reasons.

Please refer to the FGCU Office of Judicial Affairs for the complete Student Grade Appeals process for DEPARTMENT LEVEL, COLLEGE LEVEL and FINAL APPEAL, available online [here](#).

Attendance and Punctuality

An expectation of professional practice is that students attend all classes, laboratory experiences, class demonstrations, field trips and other academic experiences. Responsibility and accountability for meeting course obligations is a fundamental component of professionalism.

In Classroom:

Students assume responsibility for attending all classes, however in the event a class period is missed, the student is responsible for all material covered and all announcements. Further, punctuality and attentiveness is courteous behavior exemplified by:

- Being on time and remaining for the entire class period.
- Remaining in the classroom until a break or end of the period
- Turning off cell phone and other communication devices.

Civility

The learning environment (classroom, laboratories, field trips, hallways, offices etc.) in which students gain knowledge, values, and competencies is co-created by all who enter into this environment. Students in the U.A. Whitaker College of Engineering conform to, and express themselves in conventional patterns of social behavior. Such behavior is consistently expressed through social politeness, keen sensitivity, respect, and courteous treatment to others.

E-mail Policy

E-mail is an important communication tool used in the U.A. Whitaker College of Engineering. Upon admission to FGCU, all students are assigned an e-mail address that is accessible from any computer via the web page located at FGCU [Webmail](#).

The FGCU assigned eagle e-mail address is the **only** address used by U.A. Whitaker College of Engineering faculty to communicate with students via e-mail. Students are responsible and accountable for information sent via this e-mail address and should frequently check e-mails. Faculty in the U.A. Whitaker College of Engineering may use email to communicate information, announcements, and memoranda. Course information such as assignments, handouts, and schedule changes may also be communicated through the email function in the Canvas Learning Management System.

Students should contact the FGCU Computing Services Helpdesk at Trackit@fgcu.edu or (239) 590-1188 for issues with email. The ability to receive and read e-mail, open attachments, and access online information is vital to success in the FGCU College of Engineering.

Grading System

In the U.A. Whitaker College of Engineering, a grade of “C” or better constitutes satisfactory progression. A grade of C- does not constitute satisfactory course completion. It is the

responsibility of the student to read and understand the course syllabus and grading policy for each class.

Student Grievance Procedure

The university grievance procedure can be found [here](#).

Undergraduate Student Workload Policy

The Civil Engineering program is rigorous and demanding of time, energy, and talent. When making decisions about employment, students are to carefully consider workload expectations of credit hours registered for at FGCU. For example, a 3 credit hour course requires 3 hours classroom plus an additional 9-10 hours study time each week. **Students are expected to make realistic employment decisions as the hours worked outside of university are not an excuse for failing to meet academic and practice performance standards, and Civil Engineering Program schedules for classes.**

General Information

Canvas

“Canvas” is the name of the FGCU Learning Management System. Information about Canvas and the log-in page can be found [here](#).

College Forms

The following U.A. Whitaker College of Engineering forms can be found online [here](#).

- Request to Change Major/Minor/Catalog Year
- Course Withdrawal Form
- Grade Forgiveness Applications
- Request for Dual Major/Degree
- WCE Appeal for Late Withdrawal Without Academic Penalty
- WCE Incomplete Grade Agreement Form

Confidentiality and Privacy Rights

Cognizance of, and respect for, rights and privileges of others is an expectation of all within the helping professions. Faculty honor and respect the student’s privacy rights and conform to FERPA requirements. Students honor, respect, and maintain confidences and privacy of clients and conform to HIPPA requirements. All student-client encounters, written, oral, or other, obligate confidentiality under all circumstances. For written assignments, only client initials are used as identifiers.

Disability Accommodations Services

Florida Gulf Coast University, in accordance with the Americans with Disabilities Act and the university’s guiding principles, will provide classroom and academic accommodations to

students with documented disabilities. If you need to request an accommodation in this class due to a disability, or you suspect that your academic performance is affected by a disability, please see me or contact the Office of Adaptive Services. The Office of Adaptive Services is located in the Wellness Building. The phone number is 239-590-7956 or Video Phone (VP) 239-243-9453. In addition to classroom and campus accommodations, individuals with disabilities are encouraged to create their personal emergency evacuation plan and FGCU is committed to providing information on emergency notification procedures. You can find information on the emergency exits and Areas of Rescue Assistance for each building, as well as other emergency preparedness materials on the Environmental Health and Safety and University Police Department websites. If you will need assistance in the event of an emergency due to a disability, please contact Adaptive Services for available services and information.

[Counseling and Psychological Services \(CAPS\)](#)

CAPS provides free counseling and therapy services (including psychiatry) to all FGCU students. Please walk in to the second floor Howard Hall office any week day between 8:30 and 4:30 to schedule an initial contact appointment. Visit the CAPS website at www.fgcu.edu/caps for more information. CAPS offers a 24/7 Helpline at (239) 745-3277 (EARS).

[Distance-Learning](#)

Information on distance learning courses and technology requirements is available online [here](#).

[Name and Address Change](#)

It is the student's responsibility to report any name or address change to the Office of the Registrar.

[Scholarships](#)

FGCU offers University Foundation Scholarships awarded on the basis of academic achievement, financial need, and/or other specifications set by donors. To apply for FGCU Foundation Scholarships, students must fill out the online scholarship application. The application will be available on-line annually between November 15th and March 1st for the following academic year. Useful link for scholarship information can be found [here](#).

[Service Learning](#)

Information on service learning at FGCU is available online [here](#).

[Student Observance of Religious Holidays](#)

All students at Florida Gulf Coast University have a right to expect that the University will reasonably accommodate their religious observances, practices, and beliefs. Students, upon prior notification to their instructors, shall be excused from class or other scheduled academic activity to observe a religious holy day of their faith. Students shall be permitted a reasonable amount of time to make up the material or activities covered in their absence. Students shall not be penalized

due to absence from class or other scheduled academic activity because of religious observances. Where practicable, major examinations, major assignments, and University ceremonies will not be scheduled on a major religious holy day. A student who is to be excused from class for a religious observance is not required to provide a second party certification of the reason for the absence.