



# FAMU-FSU Engineering

Civil and Environmental Engineering

## **UNDERGRADUATE ACADEMIC ADVISING GUIDE & ASSESSMENT PROCEDURE MANUAL**

2021-2022

**ACADEMIC ADVISING GUIDE  
and ASSESSMENT PROCEDURE MANUAL  
For the undergraduate program in Civil Engineering  
2021-2022**

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## 1. Introduction and additional resources

The Department of Civil and Environmental Engineering (CEE) offers an undergraduate program leading to the degree of Bachelor of Science in Civil Engineering with two majors: Civil Engineering and Environmental Engineering. The undergraduate curriculum incorporates the state mandated requirements, university requirements, and the requirements of the Accreditation Board for Engineering and Technology (ABET). This guide is designed to assist new and transferred students in making informed decisions for the upcoming academic year. The guide covers current general education requirements and departmental requirements, and documents other departmental policies and procedures. It complements information contained within the current **FAMU Undergraduate Catalog** and **FSU General Bulletin**, available on the websites of each institution. Additional resources available to CEE students include:

- **Main CEE office** and staff, including the **CEE academic and advising coordinator**, also known as the academic coordinator. The office is located in room A-129 of the College of Engineering building. You can reach any member of the CEE office staff by calling (850) 410-6139 or via e-mail. See [www.eng.famu.fsu.edu/cee/people](http://www.eng.famu.fsu.edu/cee/people) for a current list of contacts and email addresses.
- Your **academic advisor** is also a major resource for curriculum information. The faculty advisors can be reached in person, by phone, or via e-mail. Advisor contact information is posted in the CEE display case; phone numbers and email addresses are also available online at [www.eng.famu.fsu.edu/cee/people](http://www.eng.famu.fsu.edu/cee/people).
- The COE's **Office of Student Services** is available when you need help from the Dean. The office is located in room B-111 and their staff can be reached at (850) 410-6361.
- The COE **Undergraduate Student Guide** provides detailed information on college-level policies and services, including the Pre-Engineering program, as well as scholarships, transportation, and other services, is available at [www.eng.famu.fsu.edu/current/undergraduate/guide.html](http://www.eng.famu.fsu.edu/current/undergraduate/guide.html).
- **This Week in Engineering** (TWIE) is a weekly newsletter put out by Student Services and distributed through the CoE email network. TWIE contains important deadlines and information on student organization activities, scholarships, and other time-sensitive events.
- **Department homepage**, located at [www.eng.famu.fsu.edu/cee](http://www.eng.famu.fsu.edu/cee). Important information on this page includes advising materials and a faculty directory. You should access this homepage whenever you need to obtain up-to-date information or just want to catch-up on news within the CEE department.

## 2. ABET requirements

The undergraduate program in Civil Engineering is accredited by the Accreditation Board for Engineering and Technology (ABET). Any accredited program must meet a strict set of program educational objectives and student outcomes required by ABET to ensure the highest standards of professional engineering education. Know what ABET stands for, and the four objectives and eleven outcomes listed below. You will find this information at the department web site, in the course selection guide, and in classroom syllabi.

## **2.1. Program educational objectives**

The Civil Engineering program has established program educational objectives (PEOs) that are consistent with university and program mission statements, and that are reviewed and updated through a process of stakeholder input on an ongoing basis. Constituencies include students, faculty, employers, alumni, and professional societies. Students may provide input on PEOs, as well as any other aspect of the CEE program, through annual Student-Faculty forums, or by speaking to any CEE faculty member or the academic coordinator in the CEE main office.

Consistent with the mission and goals of the FAMU-FSU College of Engineering and based upon the input and needs of its constituents, the civil engineering program will produce graduates who will achieve the following program educational objectives (PEOs) several years after graduation:

1. Progress in successful professional careers in civil and environmental engineering or related fields, and/or enroll in studies at the graduate level;
2. Apply engineering principles to address the needs of society, including sustainability, and practice effective management, communication, and leadership skills;
3. Respond to the rapid pace of change in civil and environmental engineering by becoming professionally licensed, engaging in ongoing continuing education, and participating in professional society activities; and
4. Contribute to work force diversity as members and leaders of multidisciplinary teams.

The objectives were developed in concert with the missions of the department, college, and both universities, based on input from stakeholder groups, especially faculty and the advisory board. To ensure that they reflect the current needs of the program's constituents, stakeholder review occurs at least once every two years. Any deficiencies noted by stakeholders would initiate a revision process, described in the next paragraph. The current version was approved in 2018.

Revision of the PEOs typically begin at the recommendation of the ABET coordinator, undergraduate committee, or other stakeholder, based on assessment data and the current goals. The recommended changes are presented and discussed at a CEE faculty meeting or the spring faculty retreat. The faculty makes final recommendations regarding any updates to the program educational objectives and discusses a draft of the specific language if different from that currently in effect. Then during corresponding annual advisory board meetings, the department chair and ABET coordinator present the recommended PEO changes to the advisory board and solicit feedback from the members, who represent alumni, employers, and members of professional societies. Students are given an opportunity to review and comment on both the PEOs and SOs annually at the Student-Faculty forum. To conclude the process, the CEE faculty votes on adopting the final statement of the PEOs before sending it for publication and distribution.

## **2.2. Student outcomes**

The student outcomes (SOs) of the CE program reflect the skills, knowledge, and attributes that students develop through the curriculum and experiences gained while in the program. By the time they graduate from the civil engineering program, students should have attained the eleven student outcomes. SOs were established based on ABET Criterion 3 and the Program Criteria for Civil and Similarly Named Engineering Programs, as well as on

the program educational objectives of the Civil and Environmental Engineering Department. The SOs are periodically reviewed in a manner similar to that described previously for the PEOs.

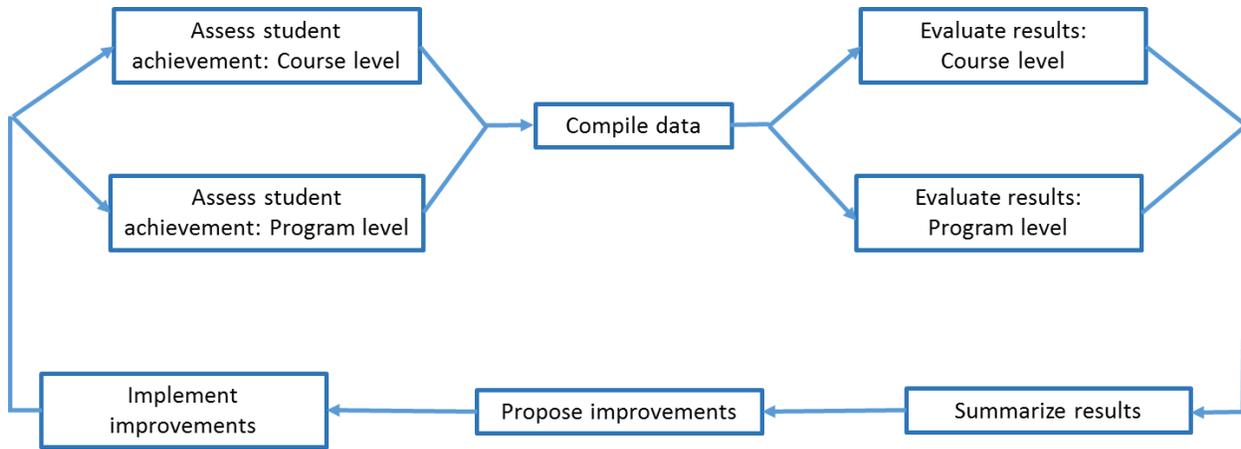
Graduates of the B.S. in Civil Engineering program are expected to have acquired the following outcomes (or attributes) at the time of their graduation.

1. An ability to identify, formulate, and solve engineering problems by applying principles of engineering, science, and mathematics.
2. An ability to apply both analysis and synthesis in the engineering design process, resulting in designs that meet desired needs.
3. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
4. An ability to communicate effectively with a range of audiences.
5. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
6. An ability to recognize the ongoing need for additional knowledge and locate, evaluate, integrate, and apply this knowledge appropriately.
7. An ability to function effectively on teams that establish goals, plan tasks, meet deadlines, and analyze risk and uncertainty.

The SOs are periodically reviewed in a manner similar to that described previously for the PEOs. The current SOs were adopted by the department in 2018.

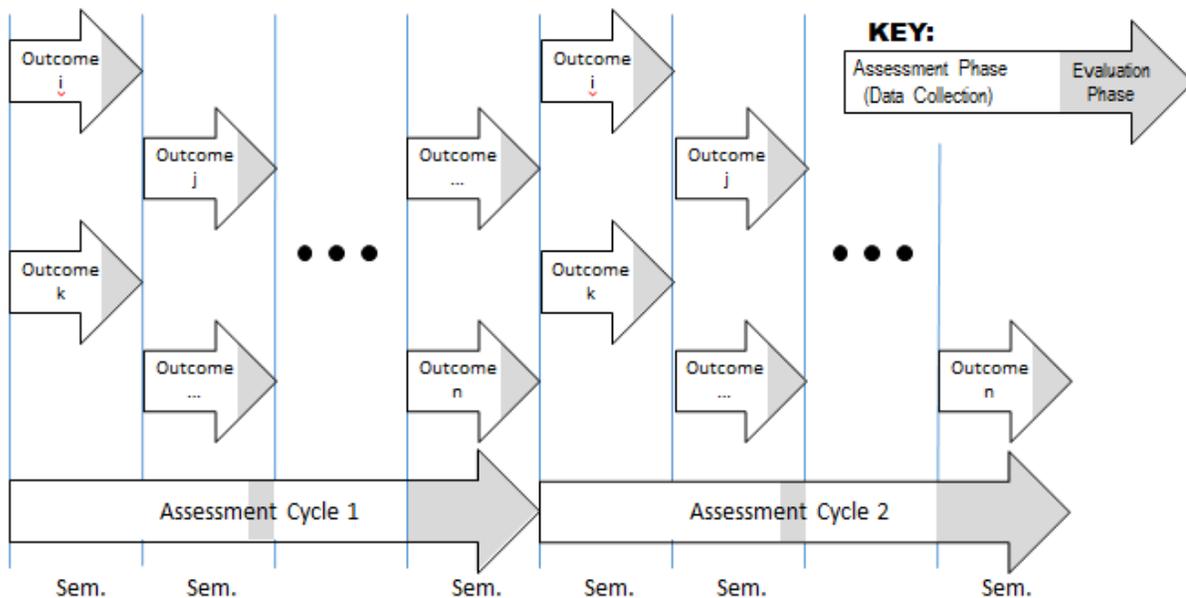
### **2.3. Student outcomes assessment**

This subsection describes the assessment and evaluation processes that the FAMU-FSU Civil Engineering program uses to periodically document and demonstrate the degree to which the student outcomes are attained. The outcomes assessment and evaluation process is composed of multiple components that function at multiple levels and frequencies; Figure 2.1 provides an overview of the cyclic process of continuous improvement.



**Figure 2.1:** Continuous outcomes assessment process

The assessment cycle can also be represented as a function of time, as in Figure 2.2. The large arrows represent a multi-semester assessment and evaluation cycle. At least two assessment cycles are completed during every six-year ABET accreditation cycle. Within each assessment cycle, all outcomes are assessed using a variety of techniques (including SLT-based assessments, student self-assessment surveys, exit interviews, alumni surveys, and employer surveys). Each of these assessment tools is described in more detail below. The bulk of the direct assessment data is obtained through SLT-based assessments conducted each semester by course instructors. Student self-assessment surveys are also conducted each semester to assess students' perceptions of outcome attainment. As shown in Figure 2.2, the course-based assessments (represented by short arrows) are conducted for select outcomes each semester; all outcomes are assessed at least once during the assessment cycle, and at least twice during the six-year ABET accreditation cycle.



**Figure 2.2:** Outcomes assessment within ABET assessment cycle

The assessment (data collection) phases are followed by intermittent evaluation phases, represented by the shaded portions of the arrows. The semester-based assessments are conducted primarily at the course level and the results are used by the instructor to make improvements to the individual course. Then, the data from selected courses is compiled with assessment data from other sources to conduct program level evaluation. Based on the results of the outcomes assessment and evaluation process, the departmental faculty, with the assistance of the ABET coordinator, makes decisions regarding necessary program improvements. The department conducts regular ABET workshops, typically on an annual basis. Workshops include both planning and evaluation activities, including identifying areas of student weakness and planning actions to ameliorate those deficiencies. Data is also evaluated by alumni and employers at the annual advisory board meetings, with guidance and direction from the department's ABET coordinator.

All student outcomes are measured and assessed on a four-category scale, as follows:

- 4 = Exemplary
- 3 = Satisfactory
- 2 = Developing
- 1 = Unsatisfactory

The exact student performance required to achieve each level varies according to the outcome being addressed. Full performance criteria and rubrics for measurement of achievement of each outcome are given in Section 2.3.3. In 2014, the program established a benchmark of 80% of responses indicating achievement of the level of *Satisfactory (3)* or *Exemplary (4)* as the expected level of attainment for each of the student outcomes.

### 2.3.1. Outcomes assessment tools

A series of tools are used to provide a holistic assessment of the level of achievement of student outcomes. A combination of both direct and indirect assessment methods are used, depending on the context of the assessment. A summary of the assessment tools is shown in Table 2.1: *Assessment Frequency* refers to the frequency with which each item is collected, and *Evaluation Frequency* refers to the frequency with which the instructor or program uses the data to make improvements (to the course or program, respectively). The instruments are described in detail below.

**Student Learning Task (SLT) based assessments:** Student learning tasks (SLTs) are the primary mechanism through which achievement of the SOs is assessed. SLTs include student activities and assignments such as homework assignments, writing assignments, laboratory reports, quizzes, exams, and projects. They are used to demonstrate and assess student achievement of course learning outcomes (CLOs), student outcomes, and performance criteria. A set of CLOs is developed for each CEE course. These CLOs are mapped to the student outcomes and that mapping is described in the course syllabi. Instructors use rubrics based on performance criteria to review the SLTs to assess achievement of student outcomes. Each semester, SLT-based assessments are conducted by instructors of select courses to examine specific outcomes.

**Table 2.1:** Summary of assessment tools for Student Outcomes, Program Educational Objectives (PEOs), and other components of the program

Assessment Tool	Type	Maximum Assessment Frequency	Minimum Evaluation Frequency	Contribution Towards Assessment of:		
				SOs	PEOs	Program
Student Learning Task (SLT) based assessments	direct	every semester <sup>1</sup>	every semester (instructor); once per cycle (program)	high	none	high
Student SSA surveys	indirect	every semester <sup>1</sup>	every semester (instructor); once per cycle (program)	moderate	none	moderate
Student-faculty forums & surveys	indirect	annually	once per cycle	moderate	none	moderate
Exit interviews and surveys	direct & indirect	every semester	once per cycle	moderate	low	high
Alumni surveys	indirect	annually	once per cycle	moderate	high	high
Employer surveys	indirect	annually	once per cycle	moderate	high	high
FE exam scores	direct	annually	once per cycle	low	none	low

<sup>1</sup> select courses/outcomes according to outcomes assessment plan

**Student Self-Assessment (SSA) Surveys:** SSA surveys are anonymous surveys given to students in each CEE course to allow them to rate their level of achievement of the course learning outcomes. The SSA surveys provide indirect assessment of outcome achievement through student perception of their achievement. The department administers the surveys each semester using the Qualtrics survey tool, and collects and distributes the results. The SSA results are provided to individual instructors along with student comments, and compared to faculty direct SLT-based assessment via performance criteria rubrics at annual faculty workshops and at the end of each assessment cycle, to provide a broader picture of the level of achievement of the student outcomes within the curricula.

**Exit Surveys:** An extensive senior exit survey is given to each graduating senior to complete anonymously in order to provide feedback on any issues students would rather not discuss with a faculty or staff member. The main emphasis of the exit survey is to determine whether the program has achieved the student outcomes, to learn about what professional societies that students have participated in, whether they are pursuing licensing by taking the Fundamentals of Engineering (FE) exam, and to gather feedback on the program in general. The survey questions related to outcomes provide quantitative data for assessment while the free response questions provide opinions on the program strength and areas that need improvement as well as suggestions on how to improve those areas.

The CE program administers the Senior Exit survey electronically using the Qualtrics software. The survey responses are aggregated and a summary is distributed to the faculty and advisory board at the end of each assessment cycle at minimum.

**Student-Faculty Forums:** Student-faculty forums are used to convey information from the faculty regarding program educational objectives, student outcomes, curriculum updates, and provide a stage for student feedback about various aspects of the program, including the relevancy of the PEOs and SOs, student achievement of SOs, and perceptions regarding the program's successes and areas needing improvement. The forums are conducted at least once a year.

**Alumni Surveys:** The alumni survey is sent to graduates who have been out of the program for a year or more. The survey consists of requests for information on licensing and participation in professional societies, opportunity to provide a scaled response to statements concerning graduate achievement of SOs and PEOs, plus free response questions addressing aspects of the program that should be retained or that could be improved. The alumni survey is sent out electronically using Qualtrics. Reports from these surveys are compiled and presented to the faculty and advisory board at the end of each assessment cycle at minimum.

**Employer Surveys:** The employer survey is sent to current and recent employers of the program's graduates. Employers are asked to rate graduates on their level of achievement of the student outcomes and Program Educational Objectives. Employers also have the opportunity to provide comments on the professional strengths of our graduates as well as areas they lack. The employer survey is sent out electronically using Qualtrics.. Reports from these surveys are compiled and presented to the faculty and advisory board at the end of each assessment cycle at minimum.

**FE Examination Scores:** Students are strongly encouraged to take the Fundamentals of Engineering (FE) examination while they are enrolled in the CE program. Student scores in the different sections of the FE exam, as well as overall passing rates, are used to assess student achievement of relevant student outcomes. Their scores also are compared with national averages in the evaluation process to gauge the success of our program relative to other programs. These results are presented to the faculty and advisory board at the end of each assessment cycle at minimum. The advisory board, in particular, is interested in reviewing graduates' performance on the FE and PE (Professional Engineer) exams. Because the FE exam results only link to certain student outcomes, the department considers them to be a minor contributor to the outcomes assessment process.

### **2.3.2. Relationship of the curriculum to the program educational objectives**

The curriculum (both civil and environmental engineering majors) has been planned to support achievement of the student outcomes and prepare our graduates to achieve the program educational objectives (PEOs) within several years after graduation. The curriculum is not mapped directly to the PEOs; instead courses in the curricula address the eleven student outcomes listed in Criterion 3, which in turn support the achievement of the PEOs.

### **2.3.3. Relationship of the curriculum and prerequisite structure to student outcomes**

The department maintains a detailed matrix that indicates which courses contribute to which student outcomes. The mappings were developed based on extensive discussion and input from the undergraduate committee, ABET coordinator, and course instructors, and relies on completion of material in pre-requisite courses for full mastery of subsequent course content. This matrix is reviewed and updated as needed as course content evolves.

Table 2.2 shows how the ABET student outcomes (SOs) are provided by all required courses taken by students in the CE program. Additional coverage of SOs is provided by five elective courses and other general education and non-departmental courses. A course is identified as supporting an outcome if one or more of the associated performance criteria are covered in the course; this is indicated in Table 2.2 by the letters *a*, *b*, *c* and/or *d* at the intersecting cell. The outcomes in boldface type are used to assess student mastery. Tables 2.3a-g provide the full description of each criteria and the assessment rubrics by which student mastery are measured.

**Table 2.2:** Mapping of Student Outcomes to required courses in the program

			Apply math to solve problems	Design with constraints	Communication	Ethics, professional issues	Teams and leadership	Experiments, data analysis	Create new knowledge	
			Fa 20 - Sp 21 & every other year thereafter			Fa 19 – Sp 20 & every other year thereafter				
NUMBER	COURSE DESCRIPTION	Req/Elec	1	2	3	4	5	6	7	#
CCE 3101	Construction Materials	Required	<b>a,b,c,d</b>	a				c,d	ab	4
CEG 2202	Intro to Geomatics Engr	Required	a,b,c,d					<b>c,d</b>	ab	4
CEG 2202L	Intro to Geomatics Lab	Req/Lab	a				<b>a,b,c</b>	a,b,c,d	ab	4
CEG 3011	Soil Mechanics	Required	a,c,d	a					<b>a</b>	3
CEG 4801	Geotechnical Design	Required	a,b,c	a,b,c				b,c,d	<b>a,b</b>	4
CGN 3508L	Civil Eng. Materials Lab	Req/Lab	c,d		<b>a,b,c,d</b>		<b>a,b,c</b>	a,b,c,d	a,b	5
CGN 4800	Senior Design I	Required	a,b,c,d	b,c,d	<b>a,b,c,d</b>	<b>a,b,c</b>	a,b,c		a,b	5
CGN 4802	Senior Design II	Required	a,b,c,d	<b>a,b,c,d</b>	a,b,c,d		<b>a,b,c</b>		a,b	5
CWR 3200L	Env/Hydraulics Lab	Req/Lab	c		a,c,d			<b>a,b,c,d</b>		2
CWR 3201	Hydraulics	Required	<b>a,c</b>							1
EES 3040	Intro to Environ Engineering	Required	a,c,d	b,c,d	a,c	<b>a,b,c</b>			a,b	5
EGM 3512	Engineering Mechanics	Required	<b>a,b,c,d</b>							1
EGN 3331	Strength of Materials	Required	a,c	<b>b,c</b>						2
TTE 3004	Transportation Engineering	Required	a,b,c,d	a,b,c	a,c,d			<b>a,b,c,d</b>	a,b	5
ENV 4001	Environmental Engineering	Req (Env)	b,c	<b>a,d</b>	a,b,d	a,c	a,b		a	6
CES 3100	Structural Analysis	Req (Civ)	a,b,c,d		<b>a,c,d</b>				b	3
CES 4702	Concrete Design	Choice	a,b,c,d	a,c			a,b,c		<b>a,b</b>	4
CES 4605	Steel Design	Choice	a,b,c,d	a,c					<b>a,b</b>	3

**Table 2.3a-g:** Performance criteria and assessment rubrics for Student Outcomes

*Outcome: 1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.*

<b>Performance Criteria</b>	<b>Exemplary 4</b>	<b>Satisfactory 3</b>	<b>Developing 2</b>	<b>Unsatisfactory 1</b>
a. Identify the appropriate formula(s) or model for a system, process or design problem.	All elements of the appropriate formula(s) or model	Most elements of the appropriate formula(s) or model	A few elements of the appropriate formula(s) or model	None identified
b. Propose possible solution approaches and alternatives to solve complex problems.	Multiple appropriate solution approaches and alternatives	Several appropriate solution approaches and alternatives	Limited appropriate solution approaches and alternatives	No solutions proposed
c. Apply concepts of engineering, science, math to solve problems.	Concepts are applied to solve problem correctly	Application is mostly correct	Limited application; some errors	No application demonstrated
d. Verify feasibility and reasonableness of the result.	Solution method is correct; thorough verification given	Solution method is correct; limited verification	Some errors in solution method; no verification	Problem solving not attempted

*Outcome: 2. 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.*

<b>Performance Criteria</b>	<b>Exemplary 4</b>	<b>Satisfactory 3</b>	<b>Developing 2</b>	<b>Unsatisfactory 1</b>
a. Incorporate established design criteria for an engineering system, component, or process while considering public health, safety, and welfare.	Extensive inclusion of criteria and constraints are considered	Key criteria included; constraints are generally considered	A few criteria included; constraints are somewhat considered	No criteria incorporated; constraints are not considered
b. Identify the global, cultural and social impacts of engineering designs.	Extensive, in-depth, and multiple impacts identified	Key impacts identified, with specific descriptions	A few impacts identified, with vague descriptions	None identified
c. Evaluate the economic impact of engineering designs.	Extensive and in-depth evaluation of impacts	Some evaluation of impacts	Limited evaluation of impacts	No evaluation
d. Explain the environmental impact of engineering designs.	Extensive and in-depth explanation of impacts	Some explanation of impacts	Limited explanation of impacts	No explanation

*Outcome: 3. an ability to communicate effectively with a range of audiences.*

<b>Performance Criteria</b>	<b>Exemplary 4</b>	<b>Satisfactory 3</b>	<b>Developing 2</b>	<b>Unsatisfactory 1</b>
a. Write a technical document that is clear, concise, and well organized and that presents background, methodology, results, analysis, and recommendations, as appropriate.	Detailed content; almost always clear and concise, and well organized	General content; mostly clear, concise, and well organized	Limited content; not clear and concise in some areas and needs some organization improvements	Writing is not clear and concise in most areas and is poorly organized
b. Plan, prepare, and deliver an oral presentation that is well organized, clear, and appropriate for the target audience.	Almost always clear explanations, concise, and well organized	Mostly clear explanations, concise, and well organized	Limited information; not clear and concise in some areas; needs organization improvements	Presentation is not clear and concise in most areas and is poorly organized
c. Use visual aids and graphics that are easy to read, appropriate, and clear.	Always easy to read, concise, and clear	Mostly easy to read, concise, and well organized	Not easy to read in some instances; some organization and content concerns	Not easy to read in most instances; poor organization
d. Submit work with minimal errors in spelling, punctuation, grammar, and usage.	Very few and minor errors	A few errors in some areas	Some errors in multiple areas	Many errors in multiple areas

*Outcome: 4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.*

<b>Performance Criteria</b>	<b>Exemplary 4</b>	<b>Satisfactory 3</b>	<b>Developing 2</b>	<b>Unsatisfactory 1</b>
a. Demonstrate knowledge of professional ethics and responsibilities.	Extensive and in-depth discussion of ethics and responsibilities	Some discussion of ethics and responsibilities	Limited discussion of ethics and responsibilities	No discussion of ethics and responsibilities
b. Apply codes of ethics to make informed decisions and/or judgments about engineering dilemmas.	Detailed reference to specific sections of code(s) of ethics	Some reference to code(s) of ethics	Limited reference to code(s) of ethics	No reference to code(s) of ethics
c. Identify the global, economic, environmental, and societal impacts of situations or events.	Extensive, in-depth, and multiple impacts identified	Key impacts identified, with specific descriptions	A few impacts identified, with vague descriptions	None identified

*Outcome: 5. 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.*

<b>Performance Criteria</b>	<b>Exemplary 4</b>	<b>Satisfactory 3</b>	<b>Developing 2</b>	<b>Unsatisfactory 1</b>
a. Contribute individual skills and knowledge to meet team objectives.	Contributes extensive detailed and relevant skills and knowledge	Contributes key skills and knowledge, mostly relevant	Contributes some skills and knowledge, some relevant	Does not contribute
b. Demonstrate leadership by setting goals, and planning tasks, and completing them in a timely manner.	Always sets clear goals and plans, and completes in a timely manner	Frequently sets clear goals and plans, and completes in a timely manner	Sometimes sets clear goals, and plans and completes in a timely manner	Does not set clear goals, and plans or complete in a timely manner
c. Give and receive constructive feedback with team members in a collaborative and inclusive environment.	A fair amount of relevant feedback; highly responsive and inclusive	Some relevant feedback; mostly responsive and inclusive	Limited relevant feedback; mostly not responsive or inclusive	Does not interact or listen to others most of the time

*Outcome: 6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.*

<b>Performance Criteria</b>	<b>Exemplary 4</b>	<b>Satisfactory 3</b>	<b>Developing 2</b>	<b>Unsatisfactory 1</b>
a. Use existing theory and knowledge to design an experiment.	Extensive theory and knowledge used; appropriate experiment design	Some theory and knowledge used; a few errors in experiment design	Limited theory and knowledge used; some errors in experiment design	No theory or knowledge used
b. Conduct an experimental procedure in laboratory or field with minimal supervision.	Independent work; appropriate and in-depth procedure(s)	Minimal supervision and appropriate procedure(s)	Some supervision & some appropriate procedure(s)	Significant supervision required
c. Use appropriate tools to analyze data and apply statistical procedures where appropriate.	Extensive use of appropriate tools and statistics; thorough analysis	Moderate use of appropriate tools and statistics; basic analysis	Limited use of tools and statistics; some errors	No appropriate tools or statistical procedures used
d. Interpret data in the appropriate context to draw conclusions and/or make recommendations.	Extensive and appropriate interpretation, detailed conclusions or recommendations	General and appropriate interpretation, general conclusions or recommendations	Limited interpretation with some errors, limited conclusions or recommendations	No interpretation attempted

*Outcome: 7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.*

Performance Criteria	Exemplary 4	Satisfactory 3	Developing 2	Unsatisfactory 1
a. Retrieve and apply relevant and current literature, codes, and standards.	Extensive and appropriate application	General and appropriate application	Limited application, and/or application with extensive errors	No application
b. Independently use software, tools, and equipment to solve engineering problems.	Extensive and appropriate usage	General and appropriate usage	Limited usage, and/or usage with extensive errors	Not used

### 3. General education course requirements and electives

The first source of information for General Education and liberal studies requirements is the undergraduate catalog or bulletin for the respective universities. This section is intended to summarize major requirements for the current catalog year, especially those fulfilled by courses in the CEE Department. In case of questions, or for students governed by an older catalog, refer to undergraduate advisors at your home university, the Pre-Engineering Advisor at the COE, or the CEE academic coordinator.

Both universities revised their liberal studies programs effective Fall 2015, in keeping with new state general education requirements. Some of these requirements are undergoing a phased implementation. The latest information can be obtained from:

- FAMU students: <http://catalog.famu.edu/content.php?catoid=2&navoid=68>
- FSU students: <http://liberalstudies.fsu.edu/LiberalStudies.html>

**First time in college (FTIC), and transfer students with less than 60 hours** who have not met all general education requirements of their previous institution (as indicated on the student's transcript of accepted courses by FAMU or FSU) **must meet all of the general education requirements** of their respective university. For these students, the same course may not be applied to more than one area of the program of studies. FTIC students must also take nine credit hours during one or more summer terms.

All general education math and science requirements are met with the calculus, chemistry, and physics requirements of the CEE Department, which are listed in Section 4 of this guide. Table 3.1 summarizes the remaining liberal studies course requirements. Most liberal studies courses do not have pre-requisites; however, students are advised that pre-requisites vary according to the course selected, and they should check the university catalog/bulletin for details.

To check your outstanding university requirements, links are provided below:

- FAMU students: Campus Solutions; Campus Community; enter student ID #; Student Center; Academic – dropdown menu, select ‘academic requirements’ then click circle.
- FSU students: <https://sc.my.fsu.edu/students/how/access-your-academic-requirements-report>

**Table 3.1:** Liberal studies requirements of CEE curriculum

General Education/Liberal Studies - English, Humanities, and Social Science		
Course Num	Course Title	Credits
ENC 1101	English I	3
ENC xxxx	English II elective	3
XXX xxxx	Quantitative and Logical Thinking	6
XXX xxxx	History and Social Sciences	6
XXX xxxx	Humanities/Cultural Practice and Ethics	3
<b>Sub-total</b>		<b>21</b>

**FSU REQUIREMENTS:** [http://registrar.fsu.edu/bulletin/undergraduate/information/undergraduate\\_degree/](http://registrar.fsu.edu/bulletin/undergraduate/information/undergraduate_degree/)  
**FAMU REQUIREMENTS:** <http://catalog.famu.edu/content.php?catoid=5&navoid=218>

The **speech requirement** of both universities (known as the Oral Communication Competency Requirement at FSU) are met through the following sequence of required courses: CGN 4800 Senior Design I and CGN 4802, Senior Design II. In order to fulfill the universities' speech requirement, the student must earn a "C" or better in both courses, and in order to receive a "C" or better in these courses, the student must earn at least a "C" on the oral communication competency component of the course. For both courses, if the student does not earn a "C" or higher on the oral communication competency component of the course, the student will not earn an overall grade of "C" or better in the course, no matter how well the student performs in the remaining portion of the course.

The **computer literacy** or computer competency requirement of both universities is met through CEG 2202L Introduction to Geomatics Engineering Laboratory, which is a required course for Civil Engineering and Environmental Engineering majors. In order to fulfill the computer literacy requirement, the student must earn a "C" or higher in the course.

The **Upper Division Writing (UDW)** requirement at FSU is met by CGN 4800 Senior Design I, which is a required course for Civil Engineering and Environmental Engineering majors. In order to fulfill FSU's Upper-Division Writing requirement, the student must earn a "C" or higher in the course, and earn at least a "C" average on the required writing assignments. If the student does not earn a "C" average or higher on the required writing assignments, the student will not earn an overall grade of "C" or higher in the course, no matter how well the student performs in the remaining portion of the course.

FSU students must complete one **Scholarship in Practice (SIP)** and one Formative Experience (FE) course prior to graduation. CGN 4800 Senior Design I has been approved as a SIP course, and CGN 4802 Senior Design II has been approved as a SIP course; both courses are required for Civil Engineering and Environmental Engineering majors. To fulfill FSU's SIP and FE requirements, the student must earn a "C" or higher in the respective courses.

**FTIC FSU students** must meet the multicultural component of the liberal studies requirements. At least six of the credit hours required in the history, social sciences or humanities areas must be multicultural in focus. Three hours must focus on cross-cultural studies (x), and three must address diversity in Western experience (y). Suitable courses are indicated in the *General Bulletin*. **FSU students** must also meet the Literature (\*) requirement, Gordon Rule or writing (w), and oral competency (speech) and computer competency requirements. **FSU students who enter with a Florida AA degree** are not required to meet the Literature (\*) requirement or Gordon Rule, however, they must meet the oral and computer competency requirements and either the x or y multicultural component.

**FTIC FAMU students** must meet Gordon Rule requirements and the African-American history requirement, which may be met by taking AMH 2091, African American History, AFA 3104 African American Experience, or any other AFA xxxx course. **FAMU students who enter with a Florida AA degree** are not required to meet these requirements.

#### 4. Department requirements for both CIVIL and ENVIRONMENTAL engineering majors

The department offers two majors: civil engineering and environmental engineering, within the undergraduate program leading to the B.S. degree in Civil Engineering. Most course requirements are common to both majors. This section outlines the departmental requirements that are identical for both the civil engineering and environmental engineering majors.

##### 4.1. Mathematics and basic sciences

To provide a solid foundation in mathematics and the natural sciences, students must take the Mathematics and Basic Sciences courses listed below. Depending on their background, some students may be required to take preparatory course work prior to enrollment in these courses. See the undergraduate bulletins for more information.

**Table 4.1:** Math and Basic Sciences requirements of CE and EnvE curriculum

<b>Mathematics and Basic Sciences</b>			
<b>Course Num</b>	<b>Course Title</b>	<b>Credits</b>	<b>Prerequisites</b>
MAC 2311	Calculus with Analytic Geometry I	4	MAC 1114, MAC 1140 or MAC 1147
MAC 2312	Calculus with Analytic Geometry II	4	MAC 2311
MAC 2313	Calculus with Analytic Geometry III	5	MAC 2312
MAP 2302/3305	Ordinary Differential Eq. OR Engineering Math I	3	MAC 2313 or MAC 2312 with grade B
PHY 2048C	General Physics with Laboratory I	5	MAC 2311
PHY 2049C	General Physics with Laboratory II	5	MAC 2312, PHY 2048C
CHM 1045	General Chemistry I	3	MAC 1105; Pre-calculus
CHM 1045L	General Chemistry I Laboratory	1	MAC 1105; Pre-calculus
(__ ) ____	Group A Science <sup>1</sup>	3	Varies according to course selected
STA ____	Group D Statistics <sup>1</sup>	3	Varies according to course selected
<b>Sub-total</b>		<b>36*</b>	

<sup>1</sup> See Section 7 for a list of course options.

***\*Students who transfer may have taken math or science courses with less credit hours than shown above. In such cases students must meet with the Academic Coordinator to discuss these deficiencies.***

## 4.2. Basic engineering science and civil/environmental engineering core

To provide students with a thorough background in basic engineering knowledge and an introduction to various engineering disciplines, the following courses are required of all CEE engineering undergraduates. Most of these courses are offered both spring and fall semesters.

**Table 4.2:** Basic Sciences/Engineering Core requirements of CE and EnvE curriculum

Basic Engineering Sciences/Civil or Environmental Engineering Core			
Course Num	Course Title	Credits	Prerequisites
EGN 1004L	First Year Engineering	1	MAC 2311
CEG 2202	Intro to Geomatics Engineering	3	MAC 2311
CEG 2202L	Intro to Geomatics Engineering Lab	1	MAC 2311
EGN 3613	Principles of Engineering Economy	2	MAC 2313
EML 3100 OR EEL 3003	Thermodynamics	2	MAC 2312, CHM 1045C, PHY 2048C
	Intro to Electrical Engineering	3	MAC 2312, PHY 2049C
EGM 3512	Engineering Mechanics	4	MAC 2312; PHY 2048C
EGN 3331	Strength of Materials	3	EGM 3512
CCE 3101	Construction Materials	3	EGN 3331
CEG 3011	Soil Mechanics	3	Pre or co-req. EGN 3331
CGN 3326	CE Graphics & Design Tools	3	CEG 2202 & Lab
CES 3508L	Civil Engineering Materials Lab	1	EGN 3331; pre or co-req: CCE 3101 or CEG3011
EES 3040	Intro to Environmental Engineering	3	CHM 1045C, MCA 2311, PHY 20448C
CWR 3201	Hydraulics	3	EGM 3512
CWR 3200L	Environmental/Hydraulic Engineering Lab	1	Co-req: CWR 3201 OR EES 3040
TTE 3004	Transportation Engineering	3	STA XXXX, CEG 2202, CEG 2202L
<b>Sub-total</b>		<b>38/42</b>	

## 4.3 Engineering design and professional courses

The following courses, taught in the Department of Civil and Environmental Engineering, are required of undergraduates working towards the either the civil or environmental engineering major. They provide students with a thorough knowledge in all aspects of civil engineering science and design. A written request from the student is required for any exception from the curriculum as listed below.

**Table 4.3:** Engineering Design and Professional requirements of CE and EnvE curriculum

<b>Civil or Environmental Engineering Design and Professional</b>				
<b>Course Num</b>		<b>Course Title</b>	<b>Credits</b>	<b>Prerequisites</b>
OR	CEG 4801	Geotechnical Design	3	CEG 3011, co or pre-req. CGN3508L
	CEG 4111	Foundation Design		CEG 3011, co or pre-req. CGN3508L
OR	CCE 4__	Construction Elective	3	Varies according to course selected
	TTE 4__	Transportation Elective		Varies according to course selected
	(__ ) 4__	Group B Elective (Eng/Math/Sci) <sup>1</sup>	3	Varies according to course selected
	(__ ) 4__	Group B Elective (Eng/Math/Sci) <sup>1</sup>	3	Varies according to course selected
	(__ ) 4__	Group B Elective (Eng/ Math/Sci) <sup>1</sup>	3	Varies according to course selected
	(__ ) 4__	Group C Elective (Prof/Tech) <sup>1</sup>	3	Varies according to course selected
<b>Sub-total</b>			<b>21</b>	

<sup>1</sup>See Section 7 for a list of course options.

#### 4.4. Major design experience

Totaling five credits in two courses, the major design experience begins by focusing on professional issues (ethics, licensure, communication, design process, etc.) and culminates in a capstone design project with realistic constraints (economic, environmental, design/building code, site-specific, client-specific, etc.) and industry mentoring. All students enroll in the same capstone design sequence, regardless of major.

**Table 4.4:** Major Design Experience requirements of CE and EnvE curriculum

<b>Major Design Experience</b>			
<b>Course Num</b>	<b>Course Title</b>	<b>Credits</b>	<b>Prerequisites</b>
CGN 4800	Senior Design I	3	Senior standing, CEG 2202L
CGN 4802	Senior Design II	3	CGN 4800, last full semester in CEE program
<b>Sub-total</b>		<b>6</b>	

#### 5. Department requirements for CIVIL engineering majors ONLY

The following courses are required only for students in the civil engineering major.

**Table 5.1:** Course requirements of Civil Engineering majors ONLY

<b>Basic Engineering Sciences/Civil or Environmental Engineering Core</b>			
<b>Course Num</b>	<b>Course Title</b>	<b>Credits</b>	<b>Prerequisites</b>
CES 3100	Structural Analysis	4	EGM 3512; pre or co req. EGN 3331, MAP 2302 or 3305
<b>Civil or Environmental Engineering Design and Professional</b>			
<b>Course Num</b>	<b>Course Title</b>	<b>Credits</b>	<b>Prerequisites</b>
OR	CES 4605	3	CES 3100, EGN 3331; pre or co-req. CGN3508L
	CES 4702		CES 3100, EGN 3331; pre or co-req. CGN3508L
OR	ENV 4__	3	Varies according to course selected
	CWR 4__		Varies according to course selected
<b>Sub-total</b>		<b>10</b>	

**6. Department requirements for ENVIRONMENTAL engineering major ONLY**

The following courses are required only for the environmental engineering major only.

**Table 6.1:** Course requirements of Environmental Engineering majors ONLY

<b>Mathematics and Basic Sciences</b>			
<b>Course Num</b>	<b>Course Title</b>	<b>Credits</b>	<b>Prerequisites</b>
(__ ) ____	Chemistry II w/Lab or Microbiology w/Lab 1	4	Varies according to course selected
<b>Civil or Environmental Engineering Design and Professional</b>			
<b>Course Num</b>	<b>Course Title</b>	<b>Credits</b>	<b>Prerequisites</b>
ENV 4__	Environmental Engineering Elective	3	Varies according to course selected
CWR 4__	Water Resources Elective	3	Varies according to course selected
<b>Sub-total</b>		<b>10</b>	

## 7. Group A, B, C, and D electives

Five selected electives are required in four areas, identified as Groups A through D, as shown in Tables 4.1 and 4.3 above. Lists of approved courses that meet these requirements are provided in this section. Approved courses change on occasion; check the most recent advising guide or academic map for an updated list.

Several courses on the approved lists are offered as Special Topics courses, typically numbered 4930 or 4936, and indicated by asterisks. Several different Special Topics courses may share the same number. When selecting Special Topics courses, take care that you are selecting the correct section with the correct course name. Credit will not be given for courses not on the approved list when taken because of selection errors.

Courses that do not appear on the approved lists, whether taken at FAMU or FSU, or transferred from other institutions, may be considered for Group A through D elective credit, provided that the course is in the appropriate area and at the correct level, and meets any additional requirements listed below. Students wishing to propose a course substitution must make that request in writing with sufficient documentation to enable evaluation (course description, syllabus, etc.). Requests will be evaluated by the CEE academic coordinator and associate chair, with the assistance of the undergraduate committee as needed. Approval of course substitutions is entirely at the discretion of the department. Students are encouraged to pursue approval in advance, prior to taking the proposed course, whenever possible.

### 7.1 Group A science electives

To provide students with the ability to apply science in an additional area beyond chemistry and physics, all students must take one science elective course from the list below. Potential substitute courses must be of sufficient rigor, breadth in an area other than chemistry and physics, and supportive of the civil/environmental engineering curriculum and ABET student outcomes. See above for application process.

- **FAMU**
  - BSC 1010C General Biology I (4)
  - EVR 3235 Atmospheric Processes (3)
  - GLY 2010 Principles of Geology (3)
  - PCB 2033 General Ecology (3)
  - EVR 3023 Introduction to Marine Environment (3)
  
- **FSU**
  - BSC 2010 Biological Science (3)
  - MET 2700 General Meteorology (3)
  - GLY 2010C Physical Geology (4)
  - GLY 1030 Environmental Issues in Geology (3)
  - PCB 3043 General Ecology (3)

- OCE 4008 Principles of Oceanography (3)

## 7.2 Group B math/science/engineering electives

Group B electives provide depth in technical areas of engineering. As such, the primary source of Group B courses are courses offered in the Department of Civil and Environmental Engineering. Select math, science, and engineering courses outside of the Department of Civil and Environmental Engineering have been approved to complement course offerings in the department. These courses may be offered infrequently and/or subject to limited out-of-major enrollment. Potential substitute courses must be 3000 or 4000 level courses, in areas of science, math, and engineering that are supportive of the civil/environmental engineering curriculum and ABET student outcomes. See above for application process.

Students must take three Group B courses. **At least two Group B course must come from the CEE department; however, both Group B courses may come from the CEE Department.**

- **CEE Department:**
  - CCE 4xxx Any 4000-level CCE course not meeting another requirement
  - CEG 4xxx Any 4000-level CEG course not meeting another requirement
  - CES 4xxx Any 4000-level CES course not meeting another requirement
  - CWR 4xxx Any 4000-level CWR course not meeting another requirement
  - ENV 4xxx Any 4000-level ENV course not meeting another requirement
  - TTE 4xxx Any 4000-level TTE course not meeting another requirement
  - CGN 4930 Select 4000-level CGN Special Topics (see Academic Coordinator for more info)
- **COE:**
  - ESI 3312C Operations Research I: Deterministic (3)
  - EML 4930\* Experimental Methods in Nanoscale Science & Engineering (3)
- **FSU**
  - GLY 4730 Marine Geology (3)
  - GLY 4884 Environmental Geology I (3)
  - GLY 4820 Principles of Hydrology (3)
  - OCC 4060 Environmental Science Modeling (3)
  - OCE 4631 Aquatic Pollution (3)
  - URP 4936\* International Transportation Planning (3)

\*Note: Multiple special topics (4930/4936) courses may share the same course number. Make sure you are enrolling in the correct section.

- **FAMU**
  - EVR 3028: Environmental Modeling Principles (3)
  - EVR 3867: Environmental Risk Analysis (3)

### 7.3 Group C professional/technical electives

Group C electives are courses outside of the CEE department emphasizing professional development, computing, and other professional/technical skills. Students should select one group C list from the following list.

- **COE:**
  - CGN 3145 Blending STEM and Public Policy (3)
  - EIN 4445 Technology Entrepreneurship and Commercialization (3)
- **FSU**
  - CGS 3406 Object-Oriented Programming in C++ (3)
  - COP 3014 Programming I (3)
  - ENC 4212 Editing: Manuscripts, Documents, Reports (3)
  - GIS 2040 Essentials of Geographic Information Systems (3)
  - GIS 4043 & Lab Geographic Info Processing & Systems (3+1)
  - PAD 4380 Disasters: From Shock to Recovery (3)
  - URP 4710 Intro to Transportation Issues and Transportation Planning (3)
- **FAMU**
  - COP 3014 Fundamentals of Programming (3)
  - ENC 3243 Technical Report Writing (3)
  - GIS 1040 Intro to GIS (3)
  - AGR 4430C Geographic Information Systems (4)

\*Note: Multiple special topics (4930/4936) courses may share the same course number. Make sure you are enrolling in the correct section.

### 7.4 Group D statistics

Group D courses cover statistical methods and data analysis. Students should select one group D list from the following list.

- **FAMU**
  - STA 3034 Mathematical Statistics(3)

- **FSU**
  - STA 2122 Introduction to Applied Statistics (3)
  - STA 2023 Business Statistics (3)
  - STA 3032 Applied Statistics for Engineers and Scientists (3)

## 8. College and departmental requirements and policies

In accordance with ABET criteria, all Civil and Environmental Engineering students are subject to a uniform set of academic requirements agreed to by both universities. These requirements have been established to ensure that program graduates receive a quality education and make reasonable progress toward satisfying engineering major degree requirements. They are annually reviewed and revised as needed by the Executive Council of the College of Engineering. College-wide policies pertaining to Civil and Environmental Engineering students are listed below. In certain cases, the Department of Civil and Environmental has adopted policies that are more stringent than college policies, and which therefore supersede the corresponding college policy. These policies are so marked in the list below.

### Pre-Engineering Requirements and Admission to Engineering Major

- All students who request engineering as a major will be coded “Pre-Engineering” and advised by a Pre-Engineering advisor appointed by of the Office of the Engineering Associate Dean for Student Affairs and Curriculum.
- Students must achieve a grade of "C-" or better, from any institution attended, in First Year Engineering Laboratory, Calculus I, Calculus II, and General Physics I to be admitted to the Civil or Environmental Engineering major. A single repeated attempt in only one of the four courses listed above with no more than one grade below "C-" is allowed.
- Any student who needs two repeated attempts to complete the four Pre-Engineering is considered “conditional” and must satisfy the additional major specific course and grade requirements before being permitted to transfer from pre-engineering to an engineering major. For the Civil and Environmental Engineering Department, students must obtain a grade of C or better in EGM 3512 Engineering Mechanics.
- Students must have an overall GPA of 2.0 or better to be admitted to any engineering major.
- Transfer students may receive an exemption from EGN 1004L First-Year Engineering Laboratory, if they have completed all of the other courses listed above prior to their matriculation to the College. Students should contact the College of Engineering if they feel they qualify for an exemption.
- After a student satisfies all pre-engineering requirements, the student should see a pre-engineering academic advisor to review the student’s transcript. After verification, the student’s major is changed from Pre-Engineering to Civil or Environmental Engineering. The student will then be advised by the CEE department.
- Students will not be allowed to register for any 4000 level engineering course until they have declared an engineering major.

## First-day Class Attendance Policy

- First-day class attendance is mandatory for all students. Any student who does not attend the first-day of a class may be administratively withdrawn from the course. Students should check the course syllabi for additional policies concerning course attendance.

## Course Grading Policies and Practice

- It is the practice of the College not to use “Plus and minus (+/-)” grading for any engineering course.
- A student who is failing a course cannot receive a grade of Incomplete (I). A grade of "I" can only be given to a student who is passing a course and who has completed at least one-half of the course work by the end of the term. The student must make up any missing work during the next term they are enrolled.
- Students must achieve a grade of “C–” or better in all transfer courses and in all courses that are prerequisites to any required or elective engineering course. In extenuating circumstances, a maximum of one “D” may be waived. The waiver shall not be applied to Senior Design, nor to a course that is a prerequisite for a course in the CEE department. (CEE Department policy)

## Course Repeat Policy

### Criteria

- A student in the Department of Civil and Environmental Engineering will be placed on probationary status if the student falls into any of the following situations:
- Accrued two grades below C- in a single engineering course that is required under his/her curriculum, or in MAC 2313, MAP 3305/2302, or PHY 2049C, or CHM 1045/1046, or in any Group A, B, C, D Electives.
- Accrued a total of three grades below C- in all engineering courses that are required under his/her curriculum, MAC 2313, MAP 3305/2302, and PHY 2049C, or CHM 1045/1046, or in any Group A, B, C, D Electives.
- Has an overall GPA below 2.0.

### Consequences

A student who meets the above criteria will be placed on academic probation during the subsequent semester and will be required to sign an academic probation/readmit contract with the department. **A student may not graduate while on probation.**

### Reinstatement

To be reinstated, the following conditions must be met:

- The student will have one semester (the probationary semester) to raise his/her GPA above 2.0
- The student must retake all courses that were the cause for probation according to an agreed upon schedule (during the probationary semester, if available) and achieve a grade of “C–” or better.

### Dismissal

A student on probation will be permanently dismissed from the CEE program and will not be eligible for further reinstatement upon the following conditions:

- If a student who is on probation does not raise his/her GPA above 2.0 and/or achieve a grade of “C–” or better in all courses taken during the probationary semester.
- If a student who has been reinstated to the program subsequently falls below an overall GPA of 2.0 and/or fails to achieve a grade of “C–” or better in any math, science, or engineering course.
- A student who has already reached or exceeded the course repeat limits stated above prior to declaring the civil or environmental major is considered to be on reinstatement, and must achieve a grade of “C–” or better in all subsequent courses to avoid permanent dismissal.

### **Engineering Course Prerequisites Policy**

- It is the policy of Department of Civil and Environmental Engineering that a student must receive grades of “C–” or better in all prerequisite courses prior to enrolling in a CEE course. All prerequisites of the prerequisite course must be completed.
- Co-requisite courses must be taken concurrently with one another, e.g. CEG 2202 and CEG 2202L. Exceptions may be made in rare extenuating circumstances, such as medically-necessitated drops.
- Courses labelled as “co- or prerequisite” must be taken at the same time or before enrolling in the subsequent course.
- Registering for and remaining in a course without having completed all of the pre- and co-requisite courses as well as all their prerequisites can result in the Department or the College of Engineering administratively canceling your course enrollment at any time during the semester and with no refund of fees.
- University catalogs and bulletins are often finalized many months before publication. When a co- or prerequisite is added to a course, a grace period of approximately one year is applied prior to enforcement, to allow distribution of information through university catalogs/bulletins, and to enable students to adjust schedules. When a co- or prerequisite is removed from a course, it may appear in the catalog/bulletin for several semesters after it is removed. In all such cases, the CEE undergraduate committee shall serve as the authority regarding which prerequisites are in force during a given semester. Current course descriptions and prerequisites are available on the CEE web site and from the academic coordinator. (CEE Policy)
- It is the student’s responsibility to be aware of the prerequisites of an engineering course prior to enrollment. If a student feels that he/she meets course prerequisites due to courses taken at another institution that do not appear on CEE prerequisite lists, it is the student’s responsibility to present sufficient evidence for evaluation to the CEE academic coordinator. (CEE Policy)
- In the case of transfer or other non-standard courses, it is possible for a course to be deemed sufficient to serve as co- or pre-requisite to another CEE course, but not sufficient to serve as an equivalent to the named CEE prerequisite. In such cases, the student will be required to make up any required credits through supplemental coursework at the discretion of the CEE academic coordinator, associate chair, and/or undergraduate committee. For example, transferring a Vector Statics course (without a corresponding Vector Dynamics course) is sufficient as a pre-requisite to CES 3100 Structural Analysis; regardless, the student must make up the dynamics portion of Engineering Mechanics by either enrolling in EGM 3512 or an alternate dynamics course. (CEE Policy)

## **Course Drop/Withdrawal Policy (Effective Fall 2017 Semester)**

The Course Drop/Withdrawal policy at the College of Engineering is different from the policy used at either university. Undergraduate engineering students may “drop” (or withdraw) from any course in the current semester for any reason up-to and including the 7th week of classes. There may be financial aid, excess credit hours and other implications for dropping a course, so you should always contact with your academic advisor first. Engineering "Late Drop" period goes into effect after the 7th week and up-to the late drop deadline of each semester. Depending on your academic classification, there are restrictions on the number of times you will be permitted to “late drop” a course during this period.

They are as follows: all pre-engineering students and students classified as Basic Division (UGST) by FSU are limited to a total of two (2) “late drops” only. Students who reach their “two late drops” limit will NOT be permitted another late drop until they enter their intended engineering major and for FSU students leave Basic Division. Students who are coded in a degree granting engineering major and are not classified as Basic Division (UGST) for FSU students are permitted a grand total of three (3) “late drops” only.

No drops will be permitted after the “late drop” period except in documented cases of administrative error, death in the immediate family, personal illness, or military service obligation. The drop/withdrawal deadlines are posted on the College of Engineering webpage each semester and provided in an email sent to all students with engineering accounts. Students will be responsible for the grades they receive in all courses enrolled in the semester after the course drop/withdrawal deadline.

### **Late or Retroactive Course Withdrawal/Drop Policy**

- No drops will be permitted after the “late drop” period except in documented cases of administrative error, death in the immediate family, personal illness, or military service obligation. The drop/withdrawal deadlines are posted on the College of Engineering webpage each semester and provided in an email sent to all students with engineering accounts. Students will be responsible for the grades they receive in all courses enrolled in the semester after the course drop/withdrawal deadline.
- An engineering student who desires to withdraw from or drop a course after the course withdrawal/drop deadline must have his or her request evaluated by the COE Council of Academic Program Coordinators (CAPC) before a decision is rendered by the engineering dean. All requests for a late or retroactive course withdrawal/drop must be made within one calendar year of the original course attempt.

### **Engineering Degree Progression**

- Any engineering student who has been academically suspended or dismissed must petition to resume taking courses as an engineering major. Reinstatement back into the engineering program will depend on the grade point deficit and number of previous suspensions.

### **Senior Design I and Senior Design II Sequencing**

- Students shall take CGN 4800 Senior Design I and CGN 4802 Senior Design II in sequence. Students shall take CGN 4802 Senior Design I during their last full semester of their undergraduate program. Students who do not meet these requirements are subject to being dropped from those courses. Exceptions may be made in rare extenuating circumstances, such as medically-necessitated drops.

## **9. Academic procedures**

This section includes information on a number of common procedures frequently requested by undergraduate students. For additional information on these and other departmental procedures, see your faculty advisor or the academic coordinator in Room A-129C.

### **9.1. Obtaining a college internet account**

A college internet account is required to access College of Engineering computers and services including course-specific websites (through CourseInfo/Canvas) and e-mail service. This is a separate account from the one given to you by your home university. To obtain an account, you must first complete a verification form (available in Room B-111 at the College) and have it signed by the department's academic coordinator or your academic advisor. Bring your form and a valid university ID to Room A-332 and you will be issued an engineering computer account.

### **9.2. Transferring courses**

Courses taken at other public institutions in Florida that have the same course number as the FAMU-FSU equivalent are guaranteed to transfer to other Florida institutions, in accordance with the statewide course numbering system, and will generally be applied to any CEE course requirement having an identical SCNS number. Courses which do not have identical numbers, or which originate at schools other than Florida public institutions, must be reviewed by the CEE department to determine whether they are equivalent in content and rigor to courses taught at the FAMU-FSU College of Engineering and its supporting departments. Just because a course is transferred by FSU or FAMU does not guarantee that it will meet a requirement of the CEE department.

Civil engineering students wishing to apply course credits transferred from another higher education institution to their CEE course requirements should contact the CEE academic coordinator to initiate a review process. The department will make arrangements for the credits to be evaluated for equivalence by the appropriate faculty and/or staff, and, if necessary, transferred to the student's transcript. Students will need to provide evidence of grade/credit received and a course syllabus for each course for which evaluation is required. A current list of course equivalencies is available in the CEE academic coordinator's office.

### **9.3. Dropping a class**

The Course Drop/Withdrawal policy at the College of Engineering is different from the policy used at either university. See Section 8 above or the COE Student Handbook for details. The procedures to drop (withdraw from) a course are as follows:

1. Obtain a College of Engineering Drop form and Course Withdrawal form from the office of Student Services (COE Building B-111).
2. Obtain the following signatures: a) course instructor, b) your advisor, c) ECEE department chairperson (COE A-129), and d) Associate Dean (Office of Student Services in COE B-111).
3. Turn your form into your University registrar's office on main campus.

Dropping a course or falling below a certain number of credit hours may impact scholarship and financial aid eligibility. Make sure that you have reviewed and understood all relevant requirements before proceeding.

#### 9.4. Enrolling in a Directed Individual Study (DIS) course

Directed Individual Study (DIS) provides an opportunity for exceptional undergraduate students to explore engineering areas other than those available through the regular course work offered by the department. Undergraduate students may receive course credit for DIS work by enrolling in EGN 4906r Directed Individual Study. DIS courses must be completed under the direction of a CEE faculty member, **and may not be used to duplicate or replace courses already offered within the CEE curriculum. Further, DIS courses may not be used to meet any curricular requirements, including Group B or C electives.** Following are additional requirements necessary for DIS approval:

1. Written request from the student to the department chair, supported by the faculty advisor,
2. Completion of DIS request form, including a syllabus and a brief (about one page) written outline of the proposed plan of DIS and,
3. Cumulative GPA requirement of 3.5 or better,

The student must complete and submit all assignments proposed in the syllabus established for the DIS, and a final written report must be presented to the faculty advisor and the department chair, to receive academic credit for the DIS at the end of the semester. Student are only allowed to register for a maximum of three (3) semester hours of DIS.

#### 9.5. Requesting an excused absence

The department recognizes an “Absence from Class” for the following reasons: 1) participation in recognized university activity (a note from the university sponsor is required), 2) illness certified by the health center or personal physician, and 3) emergency caused by circumstances beyond your immediate control.

An excused absence does not necessarily excuse you from any missed course work. You must contact your course instructor to determine if you are eligible for any make-up assignments. Students should request an excused absence immediately upon their return to campus and must bring verifiable documentation to justify the excuse. Excessive delay in requesting an excused absence or proving appropriate documentation may result in the request being denied. Deliberately providing false, forged, or misleading documentation may result in academic sanctions applied against the student.

Bring your proof to the B-111 Student Services at the College of Engineering (COE) Building, and request an “Excused Student Absence” form. If your proof is verified, you will be given an official excused absence to give to your course instructor.

## 9.6. Applying for reinstatement or readmission

Students who wish to be readmitted to an engineering major will need to first complete an application request for readmission at their home university. For students in good academic standing at time of the readmission, their major department will review their application to determine if the student will be readmitted.

Any student who is not in good academic standing (e.g. suspension, dismissal, expulsion, etc) at the time of readmission may need to complete an “Engineering Appeals Application” to be reviewed by the College. This form is available online at Quicklinks, Appeals Process at [www.famu.edu/engineering](http://www.famu.edu/engineering) or [www.eng.famu.fsu.edu](http://www.eng.famu.fsu.edu). If you have any questions, please go to Student Services, room B111.

Please note it may take up to one semester to review requests for readmission. So, students are encouraged to apply early. Please email [studentsupport@eng.famu.fsu.edu](mailto:studentsupport@eng.famu.fsu.edu) for more information.

## 9.7. Applying for graduation

At the beginning of the semester you expect to graduate, you must apply for graduation. Note: if you apply for graduation and fail to graduate for any reason, you must re-apply for graduation the next semester.

1. Two semesters before applying for graduation, request a graduation check from your academic advisor. Both FAMU and FSU students must apply for graduation by their respective deadlines during the semester that the student is graduating. Deadlines can be found under Quicklinks, Academic Deadlines located at [www.famu.edu/engineering](http://www.famu.edu/engineering) or [www.eng.fsu.edu](http://www.eng.fsu.edu).
  - a. FSU students must apply for graduation online through Student Central.
  - b. FAMU students must complete and submit a Student Intent to Graduate form to their academic advisor. The intent form can be found on the FAMU Registrar’s website under Forms. Once approved, students will be able to submit an application for graduation online via iRattler.

## 9.8. Registering for the Fundamentals of Engineering (FE) exam

To practice as a civil or environmental engineer, it is often necessary to have one’s Professional Engineering license. The first steps to professional licensure are graduating from an ABET accredited engineering program, and passing the Fundamentals of Engineering (FE) exam, thus obtaining the status of Engineering Intern (EI). The department strongly encourages all students to take the FE exam during the senior year, prior to graduation. Application forms for FE exams, instructions, deadlines and fees can be found on the website of the Florida Board of Professional Engineers at <http://www.fbpe.org>.

## 10. University honor policies and student codes of conduct

All matters pertaining to grade appeals, general academic appeals, the **Academic Honor System**, and **student conduct** must be handled in accordance with the procedures outlined in the current FAMU or FSU Bulletin and Student Handbook, as the case may be.

## 11. Academic advising and assistance

Academic advising plays an important role in the timely completion of your graduation requirements. Initially you will meet with the department academic coordinator. Within the first semester in the program you will be assigned a permanent academic advisor from among the faculty. Find your advisor by referring to lists of advisors and advisees posted in the CEE display case in the Civil & Environmental Engineering Hallway, COE Building A.

### 11.1 Advising and registration

Advising is mandatory during the pre-registration periods for all semesters. **To ensure that students confer with their academic advisors each semester, advising holds are placed on all Civil & Environmental students' registrations.** To have the hold removed, follow these steps:

1. See your academic advisor every spring and fall semester.
  - Advisor contact information is posted in the CEE display case; phone numbers and email addresses are also available online at <http://eng.famu.fsu.edu/cee/people/>.
  - Although some faculty members have an open door policy, most post and want their office hours respected. PLAN AHEAD. CALL AHEAD or email your advisor to make an appointment. Avoid dropping in and assume your advisor will be able to see you.
2. With your advisor, plan your schedule for next semester and complete an academic advising form
  - Each semester prior to seeing your advisor, review requirements in your intended major by checking academic maps, class schedules, and policy guides. Academic maps (curriculum flow charts) and CEE class schedules for the upcoming semester are posted in the CEE display case; academic maps are also available online at <http://eng.famu.fsu.edu/cee/academicmaps>.
  - Complete an academic map for your records and update it each semester. Have a general sense of what you should be taking and their pre-requisites.
  - Complete an advising form listing the courses you are planning to take. Advising forms are available in the main Civil & Environmental Engineering Office (Room A127) or from your academic advisor. Discuss your long and short term plans with your advisor. Both you and your advisor must sign the advising form.
3. Take the completed advising form to Tom Trimble, the CEE academic coordinator.
  - Upon satisfactory review, Mr. Trimble will remove your advising hold.
4. When your registration window opens, you can register for classes.
  - Only students who have completed the above process will be permitted to register.
  - For information on registration windows for fall, spring, and summer classes, check your University website, available online at FAMU (<http://www.famu.edu/index.cfm?Registrar&Calendars>) and FSU ([http://registrar.fsu.edu/dir\\_class/registration\\_windows.html](http://registrar.fsu.edu/dir_class/registration_windows.html))

## 11.2 Advising tips and assistance

1. Make an agreement with yourself to attend classes each day from the first day of instruction. Make use of office hours offered by instructors and teaching assistants.
2. Confer with your instructor and your advisor prior to withdrawing from a course.
3. The CASE Laboratory in A225 provides tutorial support for many of the entry-level engineering courses offered by the various academic departments within the College of Engineering.

## 11.3 Academic and advising coordinator

Additional information and help in advising can be obtained from Mr. Thomas Trimble, CEE academic and advising coordinator. You should contact Mr. Trimble if:

- You are a new transfer student
- You are looking for your faculty advisor
- Your regular advisor is not available during his/her posted office hours for any reason
- You have over **100** credit hours and are planning to graduate
- You wish to change your major or transfer classes taken elsewhere
- You need to verify departmental graduation certification requirement sheet
- You have any other questions regarding general advising, degree requirements, FE exam, job search and interview, etc.

Contact Info:

Thomas Trimble  
trimble@eng.famu.fsu.edu  
(850) 410-6140  
Office: A 129 C