

**University of Florida
Herbert Wertheim College of Engineering
Department of Civil and Coastal Engineering**

**CCE 4015 (22358)
Civil Engineer Estimating
Spring Semester 2022**

SYLLABUS

Instructor:

Prof. Denise R. Simmons, PhD, PE, M.ASCE, PMP

**Lectures: Tuesdays & Thursdays Period 1 & 2
Hybrid – in person & online
Time: Refer to the Canvas Page**

[Last Update: January 10, 2022]

TABLE OF CONTENTS

I.	Contact Information	4
	Instructor	4
	Teaching Assistant.....	4
II.	Course Description	4
	Course Learning Objective	4
	Topics that might be Included.....	5
	Zoom Meet Etiquette and Requirements	5
	Instructional Approach	5
	Character of the Course	6
III.	Course Organization	6
	Lectures.....	7
	On-Line Quizzes.....	7
	Required and Supplemental Readings	7
	Textbook	7
IV.	Course Evaluation	7
	Grading Policy.....	7
	Electronic Submission of Assignments	8
	Final Project	8
	Evaluation of Assignments	8
	Extra Credit	8
V.	Other Course Policies	9
	Protect Everyone In Your Class	9
	In-Class Recording	9
	Honor Code	9
	Course Evaluation	10
	Commitment to a Safe and Inclusive Learning Environment	10
	Sexual Discrimination, Harassment, Assault, or Violence	11
	University-Sponsored Athletic and Scholarly Activities	11
	Software Use	11
	Student Privacy.....	11
	Online Course with Recorded Materials.....	11
VI.	Special Needs	11
VII.	Campus Resources	13
	Health and Wellness	13

Academic Resources..... 13

I. Contact Information

Instructor

Dr. Denise R. Simmons

Associate Professor
Department of Civil and Coastal Engineering
Herbert Wertheim College of Engineering
University of Florida
460D Weil Hall
(352) 294-6967 (office)
www.denisersimmons.com

Office hours: 10:00 AM – 11:30 AM Tuesdays.
At all other times by appointment.

Teaching Assistant

Hwangbo Bae

Doctoral Student
Department of Civil and Coastal Engineering
Herbert Wertheim College of Engineering
University of Florida
447 Weil Hall
Website: <https://faculty.eng.ufl.edu/simmons-research-lab/hwangbo-bae-2/>

Office hours: 10:00 AM – 11:00 PM Thursdays.
At all other times by appointment

II. Course Description

The following sections detail the objectives of the course, instructional approach as well as the particular character of this course and how it is different from many other engineering courses.

Design of systems for estimating and cost control of man-machine productivity for civil engineering projects. Analysis of cost factors required for optimization of engineering-investment efficiency.

Course Learning Objective

Upon completion of the course, students will be able to:

1. Demonstrate **fundamental knowledge of estimating** the cost of projects to be constructed.
2. Define and compare **types of cost estimations** during the project life-cycle.
3. Implement **cost analysis methods** to review and evaluate each element of a cost estimate.
4. Evaluate a client's conceptual design and provide broad, **conceptual cost estimates** commensurate with the level of detail available.
5. Generalize **parametric estimates** that measure individual tasks within the project to get a high accurate cost.
6. Determine the cost of work crews by analyzing **labor, material and equipment** rates and develop detailed estimates based on crew costs and crew productions.
7. Measure **earthwork and excavation** work and recognize the principal activities involved.
8. Develop cost estimates for **concrete and steel structures**.
9. Appraise **risks and changes** of cost estimation during the construction project.

In addition to the learning objectives, students completing the course will develop skills in **collaboration, preparing a written report and giving an oral/visual presentation.**

Topics that might be Included

Introduction and History of Cost Estimation
Contracts and Bid Documents
Cost Estimation Process
Conceptual Estimating
Parametric Estimating
CSI & Master Format
Labor and Productivity Analysis
Cost of Equipment
Computer Based Estimating
RS Means
Reading and Interpreting Blueprints
Reading and Interpreting Specifications
Earthwork and Excavation
Conceptual Cost Estimation using Historical Data
Concrete Structures
Steel Structures
Project Control and Change Management
Risk Management, Overhead and Contingencies

Zoom Meet Etiquette and Requirements

- All meetings will be recorded.
- I would prefer to have you turn the camera on to promote the active learning process. In case you cannot have the video on, I do ask that you include a PG-rated/professional selfie picture of Bitmoji image of yourself. Also, please include your name and preferred pronoun(s).
- Review what can be seen in the background to ensure it is appropriate for the school setting.
- Having the camera is mandatory to facilitate remote test-proctoring, so I want to know any issues with the camera one week before the test.
- Keep the meeting discussion academic with appropriate (no cursing or pejorative words) language.
- Keep comments and feedback positive and appropriate.

Instructional Approach

Learning is expected to occur by four processes:

1. Lectures/exercises in the classroom
2. Assignments from an integrated case studies on management and a project's life cycle
3. Professional seminars (includes those offered for extra credit)
4. Reading assignments from the text and supplementary materials.

Learning is expected to occur via synchronous and asynchronous meetings:

For Synchronous meetings, classes will be divided into three parts:

- a. Instructor meets with students and delivers lectures
- b. Students participate in in-class activities
- c. Instructor facilitates discussion or debriefing

For Asynchronous meetings, classes will be divided into two parts:

- a. Students review lecture materials with guidance
- b. Students complete activities and assignments

The instructor is conscious of the fact that all students are either involved in a professional career or will soon embark on a professional career. Interactions between students and the instructor are, thus, expected to be maintained at a professional level. This applies to the quality and timeliness of all work products as well as the friendship, collegiality, and ethical behavior expected between professional colleagues.

You should attempt to complete the reading materials assigned for a particular class session prior to that session. Please note whether an on-line quiz is administered for a particular reading assignment as indicated in the Course Schedule (See Canvas). Assignments reinforce all of the material covered, and are required to be submitted by the due date indicated on the Schedule of Sessions.

Here are some recommendations for good quality homework and in-class work:

1. Provide a logical presentation, such as each paragraph discussing a single topic with a few supporting sentences, checking for grammar and punctuation errors, including citations and a reference list, etc.
2. Prepare graphs and/or figures where appropriate.
3. Use engineering computation paper for your in-class calculations. Staple the pages together with your memorandum (only applies to in-class work).
4. Work neatly and provide enough space on the page so that your homework is easy to read.
5. Show your work. Use an appropriate number of significant figures so that your answers do not imply more accuracy than your data.
6. Exemplary submissions will be those that reflect deep thinking of the concepts covered in the course and integration of supporting material you find on your own.
7. Be comfortable with the uncomfortable. Since estimation is not an exact science, there are various approaches to solve problems. You are free to use any appropriate formats and assumptions for your estimation as long as you provide adequate justifications and references for your work.
8. Although there are no points for attendance, there are points for participation in the in-class activities. Therefore, please attend the class to achieve points for in-class activities. For in-class activities, please remember to submit your work on Canvas. For the in-class activities you will not be penalized for errors. In other words, you will receive full credit for your participation.

When team work is involved, teams must avoid splitting the assignments in pieces whereby each student is responsible for only one aspect of the assignment and then copy-and-paste all the pieces for a single submission. Frequent team meetings are required for success in this class so be sure to make use of the asynchronous class periods for meeting times.

Character of the Course

Unlike many engineering courses, you will likely find the quantitative aspects of this course to be only marginally challenging. In fact, most of the quantitative work requires only the use of algebra and geometry. However, the instructor believes that you will find that this course will present a number of new and interesting concepts, so most of the challenge associated with the course will be in grasping the concepts presented and applying to a project of your choosing. Moreover, the course has a very practical nature to it. You will likely find that much of the material is directly related to the “**practice**” of engineering and construction as opposed to the “**science**” of engineering. In essence, in this course you will learn the vocabulary of the A/E/C industry.

III. Course Organization

The following paragraphs detail the organization of the lectures, readings as well as the evaluation of the

students' work and involvement in the class.

Lectures

The course materials will be taught through a series of lectures and discussions. Lectures are scheduled for Tuesdays and Thursdays. Lecture time is available on the Canvas page. Lecture time will be used for teaching course materials and class discussions.

On-Line Quizzes

On-line quizzes will be administered through Canvas and will relate to the reading assignments. On-line quizzes occur for readings with a "Q#" in the "On-line Quiz" column of the Schedule of Sessions (See Canvas). These quizzes will be available from 8:00 AM the day prior to the scheduled session until 12:00 PM noon the day of the scheduled session. For example, if an on-line quiz is associated with the readings for Session 6, which is on Thursday, Sep 5, the on-line quiz will be available starting at 8 AM on Sep 4 and will remain available until noon on Sep 5. These quizzes should take no more than 5-10 minutes to complete if you have done the assigned readings.

Required and Supplemental Readings

For most lectures there will be a set of required readings. All required reading materials are listed on Canvas. Additional readings may be added (i.e., assigned during class or communicated through Canvas).

You should read the reading materials assigned thoughtfully and carefully. The instructor may not discuss all aspects of the text directly during the course, but the readings reinforce the discussions in class.

Textbook

The required textbook is:

Estimating Construction Costs, sixth edition by Robert Peurifoy, Garold Oberlender published by McGraw-Hill Higher Education. ISBN: 0-07-253626-8

IV. Course Evaluation

Grading Policy

All work will be evaluated and assigned a grade on the "A" to "F" scale with final grades computed on a plus and minus scale. No rounding of final grades will occur in this course. An explanation of the grade ranges follows:

Percent	Grade	Grade Points
93.4 - 100	A	4.00
90.0 - 93.3	A-	3.67
86.7 - 89.9	B+	3.33
83.4 - 86.6	B	3.00
80.0 - 83.3	B-	2.67
76.7 - 79.9	C+	2.33
73.4 - 76.6	C	2.00
70.0 - 73.3	C-	1.67
66.7 - 69.9	D+	1.33
63.4 - 66.6	D	1.00
60.0 - 63.3	D-	0.67
0 - 59.9	E	0.00

The final course grade will be a weighted aggregation based on the following:

Components	Grading Percentage
Homework (H1-H6)	171 points
In-class activities (IC2 – IC27) (19 activity x 6 points/activity)	114 points
Quizzes (Q1-Q6) (6 quizzes x 15 points/quiz)	90 points
Major Assignment (MA1 – MA12)	337 points
Course Project (P1-P3)	278 points
Pandemic *	10 points
Total	1000 points
Extra Credit (E1-E3) Extra credit: 3 White Papers and 1 Attendance Assignment - anyone attending 100% of the classes and appearing on time (without absence and tardiness) and participate each day will earn one full credit extra credit assignment grade	up to 35 points in total on White Papers (3.5%) Attendance (1%)

*I acknowledge the challenges that the COVID-19 pandemic has presented all of us and that places a responsibility on me to ensure I am supporting students in the highly uncertain learning environment we all find ourselves in. Therefore, I am starting every student off with a few extra points. I know delivering and taking courses are more difficult than usual at this moment.

Electronic Submission of Assignments

You should electronically turn-in assignments when they are due. We will use Canvas for electronic submission of assignments. Late assignments will be penalized according to the following system:

- 0-24 hours late – deduct 50%.
- More than 24 hours late – deduct 100%.

NOTE: For homework only, you may have a **one time**, 24 hour, no late penalty submission. Please mark the assignment "24hr Grace".

Final Project

The final project will allow you to apply a number of the skills and concepts learned throughout the semester. The project will be your responsibility to identify and then describe and perhaps require that you meet with others (e.g. your former internship employer, university personnel). Additional information will be provided during the final project briefing.

Evaluation of Assignments

I will endeavor to return all assignments within one week. If you have questions about assignments, you should contact the instructor. However, you should not consult the instructor until you have made a reasonable effort to address the assignment and you have already checked the Canvas Discussion Section for interpretation and suggestions on how to address the assignment. By doing so, the interactions between us will be more efficient and productive.

Extra Credit

You have the opportunity to earn credit that will count towards your **Homework** grade. For example, participating in the three Ask Me Anything (AMA) webinars of the National Academy of Construction (NAC) <https://www.naocon.org/nac-ask-me-anything/> and submit your writing on Canvas. While additional opportunities for extra credit may be announced, no extra credit will be negotiated with students individually or collectively.

V. Other Course Policies

PROTECT EVERYONE IN YOUR CLASS

- **You are expected to wear approved face coverings at all times during class and within buildings even if you are vaccinated.** Please continue to follow healthy habits, including best practices like frequent hand washing. Following these practices is our responsibility as Gators.
- **If you are sick, stay home and self-quarantine.** Please visit the UF Health Screen, Test & Protect website about next steps, retake the questionnaire and schedule your test for no sooner than 24 hours after your symptoms began. Please call your primary care provider if you are ill and need immediate care or the UF Student Health Care Center at 352-392-1161 (or email covid@shcc.ufl.edu) to be evaluated for testing and to someone who has tested positive or have tested positive yourself. Visit the UF Health Screen, Test & Protect website for more information.

In-Class Recording

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A “class lecture” is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To “publish” means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

Honor Code

UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in

doing this assignment.” The Honor Code (<https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

All assignments submitted shall be considered graded work, unless otherwise noted. All aspects of your coursework are covered by the honor system. All assignments, all exams, as well as the in-class, and on-line quizzes are measures of individual performance. For group assignments, group performance is expected with uniform participation across team members. Team members will provide feedback about self and team member involvement. Differential grades are possible. Any suspected violations of the honor code will be promptly reported. Honesty in your academic work is a reflection of your professional integrity. The faculty and students of the University will not tolerate any form of academic dishonesty. Class attendance will be taken as input to the class participation grade and thus, the student is expected to sign for himself/herself. Signing in and leaving class prematurely is considered a violation.

Assignments serve the following two purposes:

- Assignments are seen as educational devices to help students master the course material. This includes the concepts, theories, methodologies, and tools presented in class and recitation as well as such skills as working in teams.
- Assignments help the faculty evaluate how well each student has mastered the course material.

Thus, the Honor System is intended to balance these two purposes and, unless otherwise stated, apply to all assignments.

Students currently taking this class can work together to conceptualize general approaches to assignments. However, unless otherwise specified for a particular assignment (e.g., for group assignments), the work you submit must be done completely on your own. This includes text, numerical calculations, mathematical derivations, diagrams, graphs, computer programs and output. You are also expected to properly reference the source of any information used in a submission that is not your own. This includes any book, article, web page, MS PowerPoint presentation or personal correspondence from someone else that you used to create your work.

It is also inappropriate to use assignments, problem sets, examinations or projects submitted in previous years (e.g., Koofers) as a source, unless otherwise authorized. If you have any questions about how these policies relate to a specific situation, please speak to the teaching staff of this course for clarification. Just remember, when you have doubts, ask the instructor for assistance.

Course Evaluation

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

Commitment to a Safe and Inclusive Learning Environment

The Herbert Wertheim College of Engineering values broad diversity within our community and is committed to individual and group empowerment, inclusion, and the elimination of discrimination. It is

expected that every person in this class will treat one another with dignity and respect regardless of gender, sexuality, disability, age, socioeconomic status, ethnicity, race, and culture.

If you feel like your performance in class is being impacted by discrimination or harassment of any kind, please contact your instructor or any of the following:

- Your academic advisor or Graduate Program Coordinator
- Robin Bielling, Director of Human Resources, 352-392-0903, rbielling@eng.ufl.edu
- Curtis Taylor, Associate Dean of Student Affairs, 352-392-2177, taylor@eng.ufl.edu
- Toshikazu Nishida, Associate Dean of Academic Affairs, 352-392-0943, nishida@ufl.edu

Sexual Discrimination, Harassment, Assault, or Violence

If you or a friend has been subjected to sexual discrimination, sexual harassment, sexual assault, or violence contact the Office of Title IX Compliance, located at Yon Hall Room 427, 1908 Stadium Road, (352) 273-1094, title-ix@ufl.edu.

University-Sponsored Athletic and Scholarly Activities

If you participate in university sponsored athletic and/or scholarly activities and will or may possibly miss any class meetings, please contact the instructor in writing by the end of the second week of classes with the 1) name of the activity for each date missed or anticipated to miss and 2) your plan for how you will be sure you submit assignments on time and gain notes for missed classes.

Software Use

All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

Student Privacy

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see: <https://registrar.ufl.edu/ferpa.html>

Online Course with Recorded Materials

Our class sessions will be audio visually recorded for students in the class to refer back and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.

VI. Special Needs

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting <https://disability.ufl.edu/students/get-started/>. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

If you need adaptations or accommodations because of a disability (e.g. learning, attention deficit disorder, psychological, physical, etc.), or if you have emergency medical information to share, or if you need special arrangements in case the building must be evacuated, you must identify this need to the teaching staff by the end of the first week of classes.

VII. Campus Resources

Health and Wellness

U Matter, We Care:

Your well-being is important to the University of Florida. The U Matter, We Care initiative is committed to creating a culture of care on our campus by encouraging members of our community to look out for one another and to reach out for help if a member of our community is in need. If you or a friend is in distress, please contact umatter@ufl.edu so that the U Matter, We Care Team can reach out to the student in distress. A nighttime and weekend crisis counselor is available by phone at 352-392-1575. The U Matter, We Care Team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing staff, and the Counseling and Wellness Center. Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.

Counseling and Wellness Center: <http://www.counseling.ufl.edu/cwc>, and 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

Sexual Discrimination, Harassment, Assault, or Violence

If you or a friend has been subjected to sexual discrimination, sexual harassment, sexual assault, or violence contact the [Office of Title IX Compliance](#), located at Yon Hall Room 427, 1908 Stadium Road, (352) 273-1094, title-ix@ufl.edu

Sexual Assault Recovery Services (SARS)

Student Health Care Center, 392-1161.

University Police Department at 392-1111 (or 9-1-1 for emergencies), or <http://www.police.ufl.edu/>.

Academic Resources

E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu. <https://lss.at.ufl.edu/help.shtml>.

Career Resource Center, Reitz Union, 392-1601. Career assistance and counseling. <https://www.crc.ufl.edu/>.

Library Support, <http://cms.uflib.ufl.edu/ask>. Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. <https://teachingcenter.ufl.edu/>.

Writing Studio, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers. <https://writing.ufl.edu/writing-studio/>.

Student Complaints Campus: https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf.

On-Line Students Complaints: <http://www.distance.ufl.edu/student-complaint-process>.