

Course Syllabus – CEN 3031

Software Engineering

Contact Information

Instructor: Dr. Sanethia Thomas
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Office Hours: Immediately after Monday class; By appt, 24 hours advance via <https://calendly.com/drsanethiathomas/meeting>

Piazza Class Page: piazza.com/ufl/spring2020/cen3031

Course Information

This course aims to introduce students to current software engineering practices being used in industry. The course will cover Agile “Scrum” software development with an opportunity for students to work in teams of 5-6 members to develop a large scale web app project using Agile Scrum. Students enrolled in this course will be introduced to Full Stack Web developing using MERN,js (Javascript-based full stack). The course is organized around in-class lectures & labs, in-class activities, and hands-on projects where students will actively learning what they need to be successful on their project. Students will be responsible for developing and delivering a software product that works correctly, meets customer’s needs, and is on-time. Through this process, students will learn how to manage and track their time using project management tools (PivotalTracker) to estimate and revise how long it takes them as individuals and as a team to develop feature(s). Students will also learn how to use repository tools (GitHub) and workflow practices to develop and maintain a shared code base. Students will increase their interpersonal skills in the areas of oral/written communication, conflict resolution, public speaking, and collaboration with their fellow team members, peers, and clients.

Course Objectives

By the end of the semester, successful students should be able to:

- *Knowledge of & Experience using MERN.JS Full Stack Framework Knowledge of & Experience using of Agile “Scrum” Software Development Process*
- *Knowledge of and Experience using HTML, CSS, Bootstrap,*
- *Extensive Experience using Javascript for frontend and backend Web App development*
- *Extensive experience creating a web application for real clients (e.g., start- ups, small businesses, and/or university departments)*
- *Experience working on a team to complete a large-scale software product*
- *Experience communicating in a team and with clients*
- *Skills for life-long learning of software skills*

Course Materials

Required: GitHub account: <https://education.github.com/pack>

Recommended:

- *Software Engineering, 10th Edition* by Ian Sommerville - ISBN: 0137035152
- *Essential Scrum* by Mike Cohen and Ron Jeffries – ISBN: 9780137043293
- *Write Modern Web Apps with the MEAN Stack* by Jeff Dickey – ISBN: 9780133930153
- Various online tutorials (w3schools.com, guides.github.com, etc.)

Course Pre-Requisites

- COP 3502 – Programming Fundamentals I
- COP 3503 – Programming Fundamentals II
- COP 3550 - Data Structures and Algorithms

Mobile Computing Requirement

The College of Engineering requires students to have a mobile computing device (laptop) with 802.11 WiFi capability. Preferred methods for public and private communication regarding the course and a method for resolving technical issues (e.g. helpdesk.ufl.edu, 352-392-4357).

Course Overview

The following is a **tentative** overview of what we will examine during the course (**subject to change**):

| Week | Dates | Lecture | Due |
|-------|-----------------------|--|--|
| 1 | January 6-12 | Introduction; Software Engineering Fundamentals and Ethics | |
| 2 | January 13-19 | MERN Overview; Nodejs | Bootcamp #1 Due 1/22 |
| 3 | January 20-26 | React; MongoDB | |
| 4 | January 27-February 2 | SW Development | Bootcamp #2 Due 1/31 |
| 5 | February 3-9 | Express, Agile Scrum | Quiz #1 2/3 Bootcamp #3 Due 2/7 |
| 6 | February 10-16 | Scrum/Sprint; Team Dynamics | Bootcamp #4 Due 2/14 |
| 7 | February 17-23 | Managing Client Relationships; Pivitol Tracker | Sprint #1 Begins |
| 8 | February 24-March 1 | Wireframing | |
| Break | March 2-8 | BREAK | |
| 9 | March 9-15 | Documentation; Sprint Retro | Sprint #1 Presentation 3/10 |
| 10 | March 16-22 | Systems Models ; Testing | Sprint #2 Begins |
| 11 | March 23-29 | Testing; Usability | |
| 12 | March 30-April 5 | Sprint Retro | Sprint #2 Presentation |
| 13 | April 6-12 | User Centered Design | Quiz #2 4/6 Sprint #3 Begins |
| 14 | April 13-19 | Project Management | |
| 15 | April 20-22 | Project Management | Sprint #3 (Final Presentation) 4/21 |
| FE | Final Exam Week | Project Demo | |

Grading

Information on current UF grading policies for assigning grade points: catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/.

The grade breakdown is as follows:

| <u>Grade Category</u> | <u>Percentage</u> | <u>Letter</u> | <u>Range (%)</u> |
|-----------------------|-------------------|---------------|------------------|
| Participation | 10% | A | 93 – 100 |
| | | A- | 90 – 92 |
| Bootcamps | 20% | B+ | 87 – 89 |
| | | B | 83 – 86 |
| Quizzes (2) | 10% | B- | 80 – 82 |
| | | C+ | 77 – 79 |
| Final Project | 50% | C | 73 – 76 |
| | | C- | 70 – 72 |
| Peer Evaluation | 10% | D+ | 67 – 69 |
| Total | 100% | D | 63 – 66 |
| | | D- | 60 – 62 |

NOTE: A C- will not be a qualifying grade for critical tracking courses. In order to graduate, students must have an overall GPA and an upper-division GPA of 2.0 or better (C or better). Note: an average of C- is equivalent to a GPA of 1.67 and therefore does not satisfy this graduation requirement. For more information on grades and grading policies, please consult [the catalog](#).

Final grades will be rounded to the nearest whole percentage point. Grades will not be “bumped up”, and no additional credit will be offered at the end of the term – so **do not ask!** Any request for a final grade increase, via “bumping” or “extra credit” **will result in a deduction of 1% of the student’s final grade.**

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 (sccr.dso.ufl.edu/process/student-conduct-code/) specifies a number of behaviors that are in violation of this code and the possible sanctions. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Code Submissions

Functionality is key to success in software development and computer science, so it is **extremely important** that the guidelines are followed. Failure to follow these instructions will result in penalties.

- 1) Code must compile / run in debug and release mode. Debug information should never be released in the final version of a software project. **Projects that do not compile AND run will be marked zero.**
- 2) Include only those files specified by the documents in your archive. Projects should have no directory structure except as explicitly mentioned in the documentation (i.e., relevant files and folders should be submitted in the root of the zip file.) It should be possible to open the archive, copy your files directly into the project, compile, and then run the project without further steps. If the project has naming or organization error(s), its grade will be **zero**.

Expectations for the Class

Students are expected adhere to the following guidelines in this course:

Students are expected to attend every class and discussion session since the content will be drawn from various sources. Important content, announcements, Q&A, etc. will occur during class, and students will be held accountable for all information provided during class. Attendance will be checked periodically through in-class participation opportunities and assignments.

Academic Dishonesty will be dealt with strictly. Sharing / copying, “borrowing” of code structure, discussing code structure, looking at code from another student or providing such code, and plagiarism, in addition to other dishonest behaviors, are all considered academic dishonesty. Absolutely no information regarding assignment solutions may be shared by students except at a conceptual level. If students implement algorithms from other sources, they must cite those sources. Students may not copy code from the Internet or other sources under any circumstances. Any student found to have violated these rules, whether a provider or receiver or unauthorized help, will be given a zero and referred to the Honor Court. **When in doubt, ask.**

Grade reviews must be requested within one week of a grade being posted. After two weeks, no grade will be revisited. In the event of a grade review, the entire assignment will be reviewed.

All assignments are due by the time listed on Canvas. Projects and homework with a cascading deduction: one (1) business day late for 10% penalty; two (2) for 30% penalty; or three (3) for 60% penalty. Quizzes and tests may not be submitted late for credit except with instructor approval for extenuating circumstances (see below).

Exam and quiz make-ups will not be given except in extenuating circumstances. For make-up consideration students will be required to submit written documentation from a reputable source as evidence. For any planned event (such as a wedding), the student is expected to contact the instructor no less than two weeks in advance for consideration. Please note that there is no guarantee that requests will be accommodated. Social, networking, and club events may be taken into consideration strictly at the discretion of the instructor.

Requirements for class participation and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/

Quizzes may be reviewed during office hours but will not be distributed. Making good assessments takes time and testing. Unfortunately, some disreputable organizations and companies attempt to compromise exams to give some students an edge for a fee. To combat this, we will always allow students to review quizzes and exams during office hours but will not release them en masse.

Students should arrange for project help and grade questions during office hours. Online students should make plans to meet with the TA during scheduled office hours or try to arrange an appointment with the TA. Do not send email to, send private messages to, or “@” instructors or TAs about grades.

All correspondence should be engaged via email. In particular, slack or piazza is helpful for general questions and for students to help one another, but students should not expect a response to important questions via chat. Please allow 48 business hours for a response; the instructor and TAs have many responsibilities and respond to messages as efficiently as is practical.

Student Assistance

The following services are available to students requiring assistance:

Accommodations for Students with Disabilities – Students Requesting accommodation must first register with the Dean of Students Office. That office will provide the student with documentation that he/she must provide to the course instructor when requesting accommodation.

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.

UF Counseling Services – Resources are available on-campus for students having personal problems or lacking clear career and academic goals. The resources include:

- Career Resource Center, Reitz Union, 392-1601, Career development assistance and counseling
- University Counseling Center, 301 Peabody Hall, 392-1575, personal and career counseling
- SHCC mental Health, Student Health Care Center, 392-1171, personal counseling
- Center for Sexual Assault/Abuse Recovery and Education (CARE), Student Health Care Center, 392-1161, sexual assault counseling.

Software Use Policy

All faculty, staff and student 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.

Evaluations

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 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 ufl.bluera.com/ufl/. Summaries of course evaluation results are available to students at gatorevals.aa.ufl.edu/public-results/.

Academic Resources

E-learning technical support: Contact the UF Computing Help Desk at 352-392-4357 or **via e-mail at helpdesk@ufl.edu**

Career Connections Center: Career assistance and counseling services career.ufl.edu/

Library Support: cms.uflib.ufl.edu/ ask various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center: General study skills and tutoring. teachingcenter.ufl.edu/

Writing Studio: writing.ufl.edu/writing-studio/<http://writing.ufl.edu/writing-studio/>

Student Complaints On-Campus: sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/

On-Line Students Complaints: distance.ufl.edu/student-complaint-process/ /

Health and Wellness

U Matter, We Care: If you or someone you know is in distress, please contact umatter@ufl.edu, 352-392-1575, or visit umatter.ufl.edu/ to refer or report a concern and a team member will reach out to the student in distress.

Counseling and Wellness Center: Visit counseling.ufl.edu/ or call 352-392-1575 for information on crisis services as well as non-crisis services.

Student Health Care Center: Call 352-392-1161 for 24/7 information to help you find the care you need, or visit shcc.ufl.edu/.

University Police Department: Visit police.ufl.edu/ or call 352-392-1111 (or 9-1-1 for emergencies).

UF Health Shands Emergency Room / Trauma Center: For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, ufhealth.org/emergency-room-trauma-center.