CPSC 4910 / 4911

Professional Issues II Capstone | Fall 2021

INSTRUCTOR INFORMATION

Professor Carrie L. Russell
Office: McAdams 214
Email: crusse4@clemson.edu
Office Hours: MW 10:30-11:45

CLASS MEETING TIMES

Lecture:
MW 1:25 – 2:15p

Lab (required):
CPSC 4911, F 1:25 – 3:05p

PREREQUISITES

CPSC 3720 and junior standing

TEXTBOOK

Required:

Essential Scrum: A practical guide to the most popular Agile process.

Addison-Wesley, 2020

COURSE DESCRIPTION

Considers the impact of computing systems development on society. Discusses ethical issues in the design and development of computer software. Students discuss standards for professional behavior, the professional's responsibility to the profession, and techniques for maintaining currency in a dynamic field.

CAPSTONE VERSION OF 4910

You will have the opportunity to work closely with your industry mentors, course instructor, and teammates on a wide range of professional, interpersonal, and technical skill development, including:

1. Evaluating the core business and adjacent market space of a specific industry partner to understand and communicate the potential value to business of a proposed project.
2. Conducting real-world interviews to collect, interpret, and document project requirements, including user stories, user acceptance criteria and tests, workflow, and functional specifications.
3. Assessing the strengths and limitations of different applications or technologies for a proposed project and recommending solutions that meet or exceed documented project requirements and client expectations.
4. Recognizing and appropriately responding to emerging issues within the project environment, including teamwork process breakdown, requirement or scope changes, and newly discovered technical limitations.

LEARNING OUTCOMES

At the end of the semester, students who successfully complete CPSC 4910 will be able to:

1. Discuss common behaviors that contribute to the effective functioning of a team.
2. Describe the mechanisms that typically exist for a professional to keep up to date.
3. Identify ethical issues that arise in software development.
4. Generate documentation for a team-based project that meets standards.
5. Describe ways to manage work-life balance.
6. Define and implement a software system based on specifications.

SUPPLEMENTAL MATERIALS

Additional reading material will be assigned throughout the course. This material will be drawn from resources available via Safari Books Online.

As a student at Clemson, you can access the Safari Books Online content free of charge using your Clemson email address. Follow the link above to create a Safari account.

PROFESSIONAL SOCIETY MEMBERSHIP

There are two leading organizations for computer professionals:

- Institute of Electrical and Electronics Engineers (IEEE) https://www.ieee.org/
- Association for Computing Machinery (ACM) https://www.acm.org/

Both organizations offer student memberships and a large collection of publications and other resources to help you in your classes and future career. They support the professional growth of their members by providing opportunities for life-long learning, career development, and professional networking. It is strongly suggested that you have a membership in one of these organizations.

As professionals in computing, you are expected to keep up to date with advancements in the field and engage in life-long learning; a membership in one (or both) of these organizations will help you.

COURSE TECHNOLOGIES

CLEMSON CANVAS

We will use Canvas (http://www.clemson.edu/canvas/) for all course announcements and assignments. There will be a weekly announcement outlining the assignments and readings due that week. The course schedule will be conveyed via Canvas.

ZOOM

We will use Zoom on an as-needed basis for lecture and lab sessions. The meeting times and links to the Zoom classroom are available through the Canvas course page.

COURSE DELIVERY FORMAT

This course will be delivered in-person for the Fall 2021 semester. This means that you will attend all lectures and labs in-person on Clemson's main campus.

ABOUT ME

Professor Carrie L. Russell

EDUCATION

BS, I/O Psychology
Arizona State University

MS, Computer Science
Clemson University

PROFESSIONAL

US Air Force, 1999-2009
- Comm Electronics Systems
- Project Engineering

US Army, 2009-2014
- Engineering Consultant, Enterprise Information Sys

ACADEMIC COURSES TAUGHT

- CPSC 1010/1011
  Intro to Computer Science I
- CPSC 1110/1111
  Intro to Programming in C
- CPSC 4910/4911
  Senior Design (Capstone)

RESEARCH INTERESTS

- Teamwork Science and Collaboration Technology

HOBBIES

- Scuba Diving: PADI OWSI Egypt, Myanmar, Thailand, Indonesia
- Travel: Europe, Middle East, Africa, SE Asia
- Hiking/Backpacking: Rockies, Pacific Northwest, Blue Ridge/Appalachians

If I am unable to physically attend a class session due to a COVID-related event, or if all classes are temporarily moved to an online format, you will access the Zoom classroom from our main Canvas course page. Click on the Zoom link and join the meeting in iROAR.

TIPS FOR WORKING IN A TEAM

We will be working as a team this semester. It is imperative that you work collaboratively with your teammates, clients, TAs, and instructor. We will discuss some core concepts of effective teamwork, including:

- Communication and coordination
- Shared understanding and common goals
- Mutual trust
- Performance monitoring and backup behaviors
- Leadership

STUDENT TECHNOLOGY REQUIREMENTS

HARDWARE

You are required to have a functioning laptop computer with a webcam and microphone for this course. Your laptop should be running Windows 10 or Macintosh OS X 10.14 or later on a bootable partition.

During exams and quizzes, you may be required to use proctoring software. This software uses your webcam to observe you while taking the exam or quiz.

You are also strongly encouraged to have a working set of headphones with a microphone for situations where privacy may be warranted, such as discussing course grades or extenuating circumstances with your instructor.

INTERNET CONNECTION

A reliable broadband internet connection is required for engaging in the virtual (online) portions of the class. If you do not have access to a reliable internet connection, please email ithelp@clemson.edu for assistance.

TECHNOLOGY RECOVERY

If the instructor has technical difficulties, students should use the available class time to review the lecture content and work on assignments. If the problems persist, the instructor will send an announcement with instructions for the missed material.

If you have technical difficulties joining the online session:

- Use the call-in number and participate via audio.
- Email both the instructor and TA for help, including a screenshot of the issue when possible.

ACADEMIC CONTINUITY PLAN

Clemson has developed an Academic Continuity Plan for academic operations. Should university administration officially determine that the physical classroom facility is not available to conduct classes, class will be conducted in a virtual (online) form. The university issues official disruption notifications through email, website, text notification and Social Media. When notified, use one of the following links to navigate to Clemson Canvas where you will find important information about how we will conduct class:

- Primary access link: http://www.clemson.edu/canvas
- Secondary access link, if needed: https://clemson.instructure.com/
- You can also use the Canvas Student App. Visit the downloads page for this app.

Course activities will occur through the Canvas course.

COMMUNICATION

It is your responsibility to check Canvas and your Clemson email at least twice a day.

All emails to instructors and TAs must come from your Clemson email address. Please allow 24 hours for the instructor and TAs to respond to your email on weekdays, and 48 hours on weekends/breaks.

Neither the instructor or the TA will correspond with your parents or guardians about your grades.

ATTENDANCE POLICY

Attendance during lectures and lab sessions is mandatory unless explicitly excused by the instructor. Attendance may be taken randomly in class and in lab. If you miss a class, check the announcements in Canvas and reach out to your classmates about important material.

You will need to notify the instructor in advance of a planned absence, except in cases of extreme or emergency circumstances, that will result in your missing more than one week of classes. Excessive missed classes will impact your final grade. If you have any concerns about your ability to regularly attend lecture or lab, please email the instructor directly.

CLASS CANCELLATION

Students are expected to wait for 15 minutes after the beginning of a lecture before leaving if the instructor is late and no announcement has been posted to Canvas.

ACADEMIC INTEGRITY STATEMENT

As members of the Clemson University community, we have inherited Thomas Green Clemson's vision of this institution as a "high seminary of learning." Fundamental to this vision is a mutual commitment to truthfulness, honor, and responsibility, without which we cannot earn the trust and respect of others. Furthermore, we recognize that academic dishonesty detracts from the value of a Clemson degree. Therefore, we shall not tolerate lying, cheating, or stealing in any form.

All infractions of academic dishonesty by undergraduates must be reported to Undergraduate Studies for resolution through that office. In cases of plagiarism instructors may use the Plagiarism Resolution Form.

See the Undergraduate Academic Integrity Policy website for additional information and the current catalogue for the policy.

MAJOR ASSIGNMENTS

The major semester assignments are briefly outlined below.

Detailed written instructions, including deadlines, formatting, collaboration expectations, and submission requirements will be provided on Canvas for every assignment and project.

Late work will not be accepted for credit; however, submitting all assignments will work in your favor in case of borderline grades.

INDIVIDUAL ASSIGNMENTS

Individual assignments are completed online in Canvas. These activities encourage you to engage with the concepts you are learning, rather than just reading through the textbook or articles.

WEEKLY AGILE PLANNING / DEMO

After week 4, your team will work as a scrum team on a one-week development cycle, with work distributed among team members. Your work will be supported by weekly technical reviews, sprint planning, and demos. Participation in these weekly activities is crucial to make your project and team successful. Missing these activities and not completing your work will not only let your team down, but also give a poor impression of your reliability and quality of work to your client.

PARTICIPATION

Participation measures whether you have tried to make your capstone project successful, your manner of interacting with others in your group, and the quantity and quality of your contributions to the project. This participation grade will not be given until the end of the semester and will be informed by a review of your activity on the group project's GitHub repository and peer evaluations during and at the end of the semester. Extra points for participation may be given as per the instructor's discretion.

Please be aware, if there are significant and serious issues within a team, you may be removed from the team and the class.

MIDTERM PRESENTATION

The midterm presentation is given in a classroom setting, and is used to practice presenting technical information and project status to both technical and non-technical stakeholders.

TEAM PROJECT, FINAL PRESENTATION, REPORT

The overall extent and quality of your final product, client presentation, and technical documentation makes up 50% of your total grade. Detailed instructions for each assignment can be found on Canvas, and will be discussed at length throughout the semester.

LABS

The lab component (CPSC 4911) generally provides an opportunity for you to work with your team on the semester project; however, the labs may introduce some new material or may require you to apply the material in new ways.

The labs are also designed for you to present your weekly individual and team task work and project progress to the instructor or TA. Attendance in lab is REQUIRED.

The grades you receive in lab are part of the overall course grade, and you MUST pass your lab section to pass the course.

GRADING INFORMATION

Type of Assessment	~ Points per Assessment	Total Points	Weighted % of Final Grade
Participation		100	8.33%
Individual Assignments	5 – 20	100	8.33%
Weekly Team Agile Planning	10	100	8.33%
Weekly Team Agile Demo	10	100	8.33%
Personal Agile Planning and Code	10	100	8.33%
Midterm Project Presentation		100	8.33%
Team Project, Final Presentation, and Report		600	50%
Total Points Possible		1200	100%

LETTER GRADES

Letter grades are assigned according to the standard 10% scale (A = 90-100%, B = 80-89%, C = 70-79%, D = 60-69%, F = below 60%). Assignment point totals may be changed during the semester. Extra credit opportunities may arise throughout the semester; however, no extra credit opportunities will be offered after the last day of classes.

Late work will not be accepted for credit.

RE-GRADE REQUESTS

You may request a re-grade of any graded material. Email your request to the instructor, including detailed information about the original assignment and the reasons for your request. You must include your original submission (scanned in, if needed).

Re-grade requests are due within one week after the instructor or lab TA returns the graded material, even if you are not in class.

Please be aware that the course instructor will respond to all re-grade requests. The instructor will completely re-grade the assignment, and a re-grade request may result in a lower overall grade.

CLASSROOM ETIQUETTE

LAPTOP USAGE

You will need your desktop or laptop every day for lecture and labs, and you may use it for quizzes, exams, programming exercises, and collaborating with classmates.

As a courtesy to your classmates and to ensure that every student has the best opportunity for a positive learning experience, please observe the following classroom rules:

- Laptop and mobile phone speakers and alarms must be set to mute or turned off before coming to class.
- All social media sites, games, etc. must be turned off during class. If you engage in unauthorized communication or entertainment during class (e.g. surfing the internet, instant messaging, playing games, etc.), you will be asked to close your laptop for the remainder of the class period. These activities are distracting to you and the people around you. If such activities occur during an exam or quiz, it constitutes academic dishonesty (see section below).
- The use of headphones is prohibited during lecture; however, you may use a headphone when collaborating with a virtual classmate in a Zoom breakout room.

RECORDING DEVICES

Lectures may not be recorded without the written permission of the instructor, and you do not have the instructor's permission to use notes from the lectures for commercial lecture note purposes.

INCLEMENT WEATHER POLICY

In case a scheduled class meeting is cancelled due to inclement weather, any assignments due or examinations scheduled for that day will move to the next regularly scheduled class meeting, unless otherwise announced by the instructor.

ACCESSIBILITY STATEMENT

Clemson University values the diversity of our student body as a strength and a critical component of our dynamic community. Students with disabilities or temporary injuries/conditions may require accommodations due to barriers in the structure of facilities, course design, technology used for curricular purposes, or other campus resources.

Students who experience a barrier to full access to this class should let the instructor know and make an appointment to meet with a staff member in Student Accessibility Services as soon as possible. You can make an appointment by calling 864-656-6848, by emailing studentaccess@lists.clemson.edu, or by visiting Suite 239 in the Academic Success Center building. Appointments are strongly encouraged – drop-ins will be seen if at all possible, but there could be a significant wait due to scheduled appointments.

Students who have accommodations are strongly encouraged to request, obtain and send these to their instructors through their AIM portal as early in the semester as possible so that accommodations can be made in a timely manner. It is the student's responsibility to follow this process each semester.

You can access further information at the Student Accessibility website. Other information is at the university's Accessibility Portal.

TITLE IX (SEXUAL HARASSMENT) STATEMENT

The Clemson University Title IX statement: Clemson University is committed to a policy of equal opportunity for all persons and does not discriminate on the basis of race, color, religion, sex, sexual orientation, gender, pregnancy, national origin, age, disability, veteran's status, genetic information or protected activity in employment, educational programs and activities, admissions and financial aid. This includes a prohibition against sexual harassment and sexual violence as mandated by Title IX of the Education Amendments of 1972. This Title IX policy is located on the Campus Life website.

Ms. Alesia Smith is the Clemson University Title IX Coordinator, and the Executive Director of Equity Compliance. Her office is located at 223 Brackett Hall, 864.656.0620. Remember, email is not a fully secured method of communication and should not be used to discuss Title IX issues.

CHANGES

Lecture topics and assignments are subject to change as needed as the semester progresses. The course syllabus is a general plan for the course; however, deviations to the class may be necessary and will be announced by the instructor.

TENTATIVE COURSE SCHEDULE

Note: Dates and topics subject to change. See our Canvas course page for a day-to-day schedule and detailed assignment instructions.

Week	Date	Lecture Topics	Notes (see Canvas)
1	8/18 – 8/21	Course Intro and Syllabus	
2	8/22 – 8/28	Agile Project Management	APM readings, bios
3	8/29 – 9/4	Professional Communication Estimating Work (backlog/user stories)	Client meeting prep / interviews Azure DevOps / GitHub Setup
4	9/5 – 9/11	AWS EC2 Guest Lecture – Accessibility	Needs analysis / requirements / project planning
5	9/12 – 9/18	Tech Review - backlog	Sprint 1
6	9/19 – 9/25	Guest Lecture – Resume Prep	Sprint 2 / Career Fair
7	9/26 – 10/2	Tech Review	Sprint 3
8	10/3 – 10/9	Tech Review	Sprint 4
9	10/10 – 10/16	Fall Break	Sprint 5 / Midterm presentation
10	10/17 – 10/23	Tech Review / Report Draft 1: Outline	Sprint 6
11	10/24 – 10/30	Tech Review / Report Draft 2: Intro/Background, Schedule, and Scope	Sprint 7
12	10/31 – 11/6	Technical Writing: User Guide	Sprint 8
13	11/8 – 11/12	Technical Writing: Developer Guide	Sprint 9
14	11/15 – 11/19	Tech Review	Sprint 10
15	11/22 – 11/26	Thanksgiving Break	Report Draft 3: User and Developer Guides
16	11/29 – 12/3	End of semester event prep	Poster + promo video
Finals	12/6 – 12/10	Final Exams	Final Presentation /Reports Due