Course Syllabus, OSE 4951/4953 Senior Design 1, Spring 2024
Lectures (in-person[1]): Dr. Chan /Dr. Wei, Tu and Th, 9:00 AM - 10:15 AM, (BA1 119, Follow EEL 4914)

Discussion (in-person): Tu, 10:30 AM – 11:20 AM, HS1 117 (OSE 4951/4953 students only)

Senior design lab: CREOL A207 (Make sure that you have completed the lab safety courses)

Instructor: Dr. Aravinda Kar
akar@creol.ucf.edu
Office CREOL 284
407-823-6921
Office Hours: By appointment

Catalog Description: OSE 4951/4953 OPT-OPT 3(3,0) Senior Design I: PR: OSE 3053 and OSE 4520; CR: OSE 4410 and OSE 4470 and Departmental Consent. Development of the technical, communication, and team skills for successful design of optical and photonic systems. Preparation of project proposals for Senior Design II.

Co-teaching with EEL 4914 Senior Design 1:

Photonic Science and Engineering (PSE) students are expected to engage in interdisciplinary projects with the electrical and computer engineering (ECE) students, or students from other departments such as the mechanical and aerospace engineering and the materials science and engineering. Depending on the technical content of the project, the PSE students will attend all classes with the ECE students enrolled in EEL 4914 Senior Design 1 or follow the policies of the other departments. Most assignments will be common to both EEL 4914 and OSE 4951/4953 courses, however, Dr. Kar will be responsible for assessment and grading of the students enrolled in OSE 4951/4953. The grading standards will be common to both courses, but if there is a strong difference in the level of the photonics versus the ECE aspects of the projects, there may be a difference in the final grades of the group members. The instructors of both OSE 4951/4953 and EEL 4914 must approve the projects that involve teams of OSE and EEL students. The instructors for EEL 4914 are Dr. Lei Wei, HEC 418; and Dr. Chung Yong Chan, HEC 407.

In addition to attending all EEL 4914 classes, the PSE students must attend the discussion session with Dr. Kar in-person in the classroom assigned to OSE 4951/4953. Attending the discussion session (OSE 4951/4953) via Zoom would be allowed only under emergency situations.

Project review meetings: As the semester progresses, each student group must schedule Project Review meetings, such as Project Report (Divide and Conquer) Review meetings, by ensuring that both Dr. Kar and one of the instructors of EEL 4914 can attend each meeting. The PSE students of each group must confirm the time with Dr. Kar before setting up an appointment with Dr. Wei or Dr. Chan depending on whether the student group number is odd or even respectively. Failure to do so may result in one letter grade deduction from the Final Grade of each photonics student in the group.

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[1]The lecture may be recorded in zoom at the discretion of the instructor. Contact UCF's Digital Learning Center (digitallearning@ucf.edu, (407) 882-0095) if you need help in accessing the class via Zoom.

Texts: 1. DESIGN FOR ELECTRICAL AND COMPUTER ENGINEERS, McGraw-Hill (Ch. 3)

                   2. SENIOR DESIGN FOR ELECTRICAL AND COMPUTER ENGINEERINGS STUDENTS,
                   Pearson Custom Publishing (**3 chapters**)

Software: Varies by Project, Circuit Simulation Software, Schematic Capture
                   Software, PCB Software, Matlab, Zeemax, Light Tools, etc.

Attendance in the lecture class and the discussion session is required.   The final grade will be based on your performance on attendance, exam performance, presentation performance, and final project documentation. In addition, failure to comply with course requirements or expectations may result in a lower grade as determined to be appropriate by the instructor. *Any act of academic dishonesty or unprofessional behavior will result in a failing grade on an exam or in the course.*

Course Information:

The OSE 4951 and OSE 4952 Senior Design courses are intended to serve as capstone courses for the Photonic Science and Engineering Bachelor of Science Degree. **These courses subject the students to an environment unlike majority of their previous curriculum.** Students will encounter aspects of engineering design not found in prior course works.   Students will be responsible for their own learning as a team. In other classes, students are given homeworks, quizzes, labs and tests in a structured and scheduled manner, but in Senior Design it is the team's responsibility to schedule their project, assign responsibilities, build the functioning device or system that meets specifications, document the results of the team's efforts in written reports.

Summary of primary activities in the semester: The weekly topics of this course are listed in the Table below. In addition to the OSE course requirements, follow the syllabus of EEL 4914 for deadlines to submit your reports and other assignments.

Week (Approx.)	Topic
1	Introduction and formation of groups. Initial project idea (individual)
2-4	**LECTURES:** Boot camp (January 30, 6 PM - 8 PM, attendance mandatory), Developing ideas, requirement specification, engineering management, engineering education, design constraints, standards.
4	Initial project documentation (group)
5	Meeting with professors to discuss initial project document.
6-12	Design Testing. Weekly design meeting, collecting data, recording in journal.
6	Submission of revised project documentation.
6	**Determination of requirements for prototyping and testing of critical photonics components and subsystems for Senior Design 1**
6	LECTURE: Engineering economics
7	LECTURE: Ethics
8	Mid-Term Demo: February 27 (9:00 AM – 11:00 AM, Rooms: CREOL A207, A210, and 265): Give a midterm demo in-person to show that a subset of your optical design works. The demo system must be set up before 9 AM so that the demo is ready by 9 AM. Failure to do so may result in one letter grade deduction from the Final Grade of each photonics student in a group.
8-12	Quizzes on lecture materials. No new lectures.
12	**60-page draft of Senior Design 1 report**.
13-16	Design Testing continues. Weekly design meeting, collecting data, recording in journal.
13	Meeting with professors to discuss report and progress.
14	**100-page draft of Senior Design 1 report.**
15	Final Demo: April 18 (9:00 AM – 11:00 AM, Rooms: CREOL A207, A210, and 265): Give a demo in-person to show that a subset of your optical design works. The demo system must be set up before 9 AM so that the demo is ready by 9 AM. Failure to do so may result in one letter grade deduction from the Final Grade of each photonics student in a group.
16,17	**Final exam week. Final report due. At least 120 pages per report for a group of four students. Each member in a group writes at least 30 pages.**

Assessments:

The final grade will be primarily based on the **final project documentation** and the **prototyping and testing of critical project elements.** However, the overall course grade may be modified by attendance and by performance in other elements that are turned in for grading, including the initial project idea, initial project documentation, several draft reports, and quizzes given on the course material. These elements are treated as content in which the students must demonstrate mastery of the material. No grades are assigned, only indications of completion are recorded. If a student fails to demonstrate competency on an assignment, the assignment must be repeated until mastered. All required elements of the course must be mastered to receive a passing final grade. All course elements are evaluated by the course instructor. All team members are usually awarded the same grade, however under certain circumstances team members may receive different grades. In cases where group members do not adequately contribute to the project, members may be dropped from the group and those students will receive an F grade for the course.

Process for determining scope, specifications, and constraints for the engineering design project:

The engineering design project is jointly agreed upon by the instructor and **a student team of 3 or 4 students, comprised of 1 or two photonics students with 2 or three electrical or computer engineering students.** The project must incorporate sufficient open ended design content such that the students demonstrate the ability to identify, formulate, and solve engineering problems. The student team studies the problem, develops design alternatives, and selects an approach which can be implemented. The project should utilize the students' advanced knowledge of photonics, electrical and computer engineering, depending on the team members' field of studies.

The student team may come up with their own ideas or may choose to work on a problem set by a faculty or industrial sponsor. Through writing of reports and discussions with the instructors in the first few weeks of the senior design 1 semester, the project may be changed in scope until the goals and specifications of the project are agreed upon jointly between the team and the photonics and ECE instructors.

Students are expected to acquire, prototype and test critical components and subsystems of the project during senior design 1 and provide evidence of this in the draft and final reports. In or around week 6, the instructor will meet with students to determine what are the critical photonics components and subsystems that need to be prototyped and tested. **Failure to do so will result in students' having to retake senior design in a future semester.** This prototyping and testing are required in senior design 1 so that the team is ready to build a functioning device or system that performs correctly and meets specifications during senior design 2.

List of Topics covered in lectures:
- Introduction
- The Engineering Design Process
- Goals, Objectives, Specifications and Requirements

- Realistic Design Constraints
- Standards Based Design Practices
- The History of Engineering Education
- The Engineering Profession
- Engineering Management
- Engineering Research and Development
- Intellectual Property Protection
- Engineering Economics
- Engineering Ethics
- Engineering Documentation and Technical Presentations

Course goals:

To provide students a complete design experience, including the necessity to set design goals and objectives, integrate knowledge, exercise engineering judgement, plan to meet a budget and a schedule, to work as a team member, and to communicate in writing.

Learning Outcomes:

This class is a required course for Photonic Science and Engineering students and serves as the first part of the capstone design course sequence. The course objectives are to enable students to:

- Gain an introduction to Engineering Education and the Engineering Profession,
- Learn fundamentals of Engineering Management,
- Develop knowledge of realistic design constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability,
- Learn standards-based design practices,
- Gain knowledge of Product Life Cycles, Research and Development, and Intellectual property,
- Incorporate appropriate human factors into designs,
- Develop knowledge of Engineering Economics,
- Recognize and address ethical issues related to design and engineering,
- Develop an understanding of the Engineering Design Process, Engineering Teamwork and Project Documentation.

Upon completing this course, the students will be able to:

- Identify specific goals of the designed system, including specifications and realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability constraints,
- Collect information on available components and standards related to design needs,
- Develop appropriate models and using computer tools for system analysis,
- Perform testing and failure analysis,

- Prepare written proposals and deliver technical information through oral presentations, reports and logbooks,
- Work in a team environment,
- Recognize and address ethical issues related to design and engineering,
- Develop a customer relationship and mentality.

Relationship of Course to ABET (Engineering Accreditation) Criteria

ABET Criteria	Level of Emphasis During Course (Low, Medium, High)
1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics	M
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	H
3. an ability to communicate effectively with a range of audiences	H
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	H
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	M
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions	H
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies	M

Course Notes:

Project Topics

Projects can be in any area of Photonic Science and Engineering but must also have elements that are suitable for members of the group who are electrical and/or computer engineers. Projects are subject to instructor's approval. The instructor may propose some projects. However, it is the student's responsibility to find a suitable project. All projects must be physically realized, documented, and demonstrated by the end of the semester.

Project Teams

Each project will be designed and implemented by a project team or group with a size restricted to only **groups of three or four members**. The instructor may assist in the formation of the teams, but you are encouraged to form your own working teams. If necessary, the instructor may dictate the group members. Photonics students are expected to team with electrical and/or computer engineering students. **A typical team would have one Photonics student, two electrical and one computer engineering student. It would be very unusual to have more than two photonics students on a team.**

Expenses

The university will not provide project parts beyond what is available in school laboratories. The cost of the project may be exclusively yours, exclusively your sponsor's, or may be shared. The most common case is that the project is funded by the student group, or by a sponsoring group, agency or corporation.

NOTE: If project expenses are paid in part or in whole by UCF, then the project becomes the property of the school and it must remain at UCF.

CREOL Purchasing Office: If your Senior Design project has received grants to cover the expenses partially or fully, you should utilize the CREOL Purchasing Office to buy components for your project instead of incurring out-of-pocket expenses. There have been some changes to the reimbursement process. To start, orders should be placed through creol-purchasing@creol.ucf.edu whenever possible. CREOL has accounts with Amazon (Prime), Fisher Scientific, Thorlabs, and many other frequently used vendors. Going through CREOL will make sure that you get the appropriate discounts and tax exemption. In the event, you do need to make an emergency purchase and get reimbursed, here is what you need to do:

1) Send an email to creol-purchasing@creol.ucf.edu detailing what was purchased, why it had to be done as a reimbursement, and provide an account number to charge. Attach copies of your receipts/invoices to the email. They must show what was bought, amounts, and confirm payment was made – an order acknowledgement will not be accepted.
2) Do not stockpile receipts/invoices over many weeks and months. To avoid accounting issues, the receipts/invoices should be submitted to Matt Petrone (creol-purchasing@creol.ucf.edu) as soon as possible. Reimbursements that exceed 60 days could be considered as taxable income or may be ineligible for reimbursement.
3) If you need to make an out-of-pocket purchase more than $500, check with Matt Petrone (creol-purchasing@creol.ucf.edu) first.

Reimbursements up to $250 will be paid out in cash; Tavis McLelland will contact you when it's ready for pickup. Reimbursements that are more than $250 will be processed through Accounting and be direct-deposited into your bank account. The turn-around is usually 1-2 months, depending on the volume of reimbursements. Do not make out-of-pocket purchases if two months without the money will cause you financial hardship.

If you have any questions, please feel free to reach out to Matt Petrone (creol-purchasing@creol.ucf.edu), Tavis McLelland (tavis@creol.ucf.edu) or Mark Wagenhauser (markw@creol.ucf.edu).

Laboratory

No formal laboratory work is required. However, virtually all projects require hardware prototyping which will include construction and testing. Laboratory space and facilities will be available for this purpose.

To protect project installations, only students that are registered in the class will be allowed in the lab. You can work in the EECS senior design laboratories during non-business hours and on weekends by using your college keycards, and if needed requesting entry to the engineering building from the UCF Police Department. Identification will be required. Due to the policy stated below, the police will not provide entry to a single student. A minimum of two students are required when working in the laboratory. Permission to use the Photonics senior design lab can be obtained through Mr. Michael McKee.

Machine shop course Photonics senior design students must complete a short machine shop course offered by the College of Optics and Photonics before the end of senior design 1 semester.

Safety

University policy requires that for safety reasons, at least **two people must be present in the laboratory premises** at any time. Violators will be asked to leave the laboratory premises. Since it is not possible to police this policy at all the times, violators will be working entirely at their own risk.

Consultations

Consulting on each project will be available either from the course instructor or from any other Optics or ECE Department faculty member who has expertise on the topics of your project. Each team is encouraged to find a faculty member who will act as a technical advisor for the project. Appointments should be made for consultation times.

Final Documentation The required final documentation consists of a formal technical document consisting of research, design, theory of operation, construction and testing.

Important: The grading in the OSE 4952 (senior design 2) course will require that your prototype **work as specified**. The final device or system must be a robust, engineered system. **Optical components mounted on a breadboard are no acceptable.** The machine shop course that students must take will help them learn how to make a robust mechanical system to house optical components, etc. Failure to meet this requirement will result in an F or I grade depending upon the circumstances as dictated by the course instructor.

Final reports for photonics projects MUST contain a section at the end which contains results of testing of the final device or system. Where appropriate, this section should describe any explanation of why specifications or constraints were not met.

<mark>Academic activity verification:</mark>

Students' academic activity is required by UCF to be recorded at the beginning of each course. To document that you began this course, please complete the following academic activity. **The assignment to complete the academic activity is for all students to submit your name and a written description of an idea for a senior design project to the OSE 4951 webcourses site on or before Friday in the first week of classes.** Failure to do so may result in a delay in the disbursement of your financial aid.

University of Central Florida

College of Optics and Photonics

OSE 4951/4952

Outline of Senior Design I (SD1) and Senior Design II (SD 2) Grading Rubrics

The final goal is to design and build a workable prototype which can be demonstrated to faculty reviewers during the one-hour Presentation and Demonstration (PD) at the end of Senior Design 2. This document first outlines the grading rubric for Senior Design II, followed the Senior Design I rubric, which is aimed at ensuring students' success in Senior Design II. Due to the complex nature of senior design and the large number of students and projects, this document may not cover all eventualities. Instead, students should use it as a general guideline to understand the grading policy for Photonics Senior Design 1 and 2 at UCF.

Senior Design II Grading Rubric:

Group Base Grade (GBG):

The *base* grade for a group in SD2 is determined by averaging over reviewer panel scores after PD with minor adjustment by the instructors (for example, accounting for reviewers' bias, level of photonics content, etc.). The range of average scores and the corresponding grades shown in parenthesis are 90-100 (A), 80-90 (B), 70-80 (C), 60-70 (D), 60 and below (F). If a PSE student is in a group with students of another Senior Design course different from EEL 4914, the students' performance evaluation procedure and the grading rubric of that course will be followed to grade the PSE student. The Reviewer scoring form can be found in the file "Project Reviewer Evaluation Form" in webcourses.

> ***Note 1:*** It is the group's responsibility to form a review panel and submit Project Reviewer Commitment Form on time. Panels for Photonics groups must have representation from Optics and Photonics Faculty. If the group fails to form a panel, then the group will receive F.

> ***Note 2:*** If the group fails to show up at scheduled presentation or arrive late for 15 minutes or more, then the group will receive F. If one member fails to show up at the final presentation, then this individual will receive F and redo SD1 and SD2.

> ***Note 3:*** If the group fails to demonstrate their project as workable during the 10-minute demonstration time allocated within the one-hour PD to reviewer panel, then the group needs to reschedule the demo within a week (before the final submission date) and receive one letter grade deduction in GBG. If the group cannot demonstrate their project to be workable by then, then the group will receive an F grade.

> ***Note 4:*** The Photonics Science and Engineering program requires that the project must have substantial photonics design content, and the photonics systems must be well-constructed consistent with the intended use of the product (not using tape, flimsy materials, and usually not optical breadboard). Also, the final report must include results of testing of the final device or system. The ECE program requires that the project include substantial Printed Circuit Board (PCB)

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design. Noncompliance may affect the photonics and ECE students differently – see part (A) on individual grades below.

For any group that receives an F grade, the whole group must EITHER: Redo SD2 if the whole group can re-enroll together OR: redo SD1 if the whole group cannot hold together or if the Photonics and ECE instructors decide that the group needs to be broken up.

Group Final Grade: Once the Group Base Grade (GBG) is decided, the Photonics and ECE instructors will check the following items to determine the **Group Final Grade** (GFG). Failure to meet any one of the following requirements will result one letter grade deduction from the GBG. Multiple failures may result in multiple letter grade deductions.

(1) Does the SD2 final report meet the requirements? (page, content, submission on time, hard copy, soft copy). The SD2 report requirements are identical to the SD1 report requirements.
(2) Were all group activities on time? (absence in Critical Design Review (CDR) presentation? Final presentation on time? CDR meeting on time, middle term demo on time? reviewer commitment form on time?)
(3) Is the group Website ready? Has the group presented at Senior Design Showcase?

All team members will typically receive the GFG as his or her individual grade for most groups, but each member of some groups may receive a different grade according to the following rules.

Justification of each individual grade:

Each team member's grade can be altered from GFG, i.e., each team member may receive a different grade due to following factors. Multiple violations may result multiple letter grade deduction. For example, a student who fails to attend ABET section for 3 times may receive 3 letter grade deductions.

(A) Issues with clearly identifiable parts of the project: For example, if the photonics part of the project is trivial, then photonics student(s) will receive a lower grade, or if the PCB does not work, then the ECE student will receive a lower grade. Additionally, if the final report does not include evidence of testing of the final device or system, the photonics student(s) will receive a letter grade penalty.   Also, if, for example, faculty reviewers note that "power did not work", the person in charge of power may receive a lower grade. Another example, "optics part is great", so the person in charge of optics may receive a better grade.
(B) Peer review form (team member peer review form can alter an individual grade, either lower or higher)
(C) Instructor's judgement (the entire SD2 performance and attendance of each individual at "ABET" classes, or attendance in group meetings with instructors can alter an individual grade, either lower or higher).

Senior Design I, Grading Rubric:

Group Base Grade (GBG):

The base grade for a group in SD1 is determined by three factors: (1) Is the project running on time? (2) Does the project contain substantial design? (3) Do the reports meet the requirements? In an A grade report, we need to see the evidence of all the above.

(1) Is the project running on time? At the end of SD1, each team must show evidence of prototyping and testing of the critical components and subsystems identified with the Photonics Senior design instructor in week 6. This testing must be sufficient to assure the instructors that the project has a good chance of working by the end of senior design 2. If this criterion is not met, the photonics students may have to repeat senior design 2.

(2) Does the project contain substantial design? If the project does not contain substantial design, (particularly optical/photonics design for PSE students and PCB design for ECE students), then the whole project will run into problems in SD2. ECE students must go beyond amateurish or hobbyist-like activities. For example, today, a hobbyist can spend several afternoons to order a few development boards and download a few software programs to perform some nice functions or demonstrate some nice actions. But these hobbyists typically have no idea what are behind these boards and software. Similarly, you can buy photodiodes, LEDs, lasers, etc. that come with spec sheets that offer up circuit designs. You, as a photonics engineer, must add something more than this. Your project must, to some extent, rely on the advanced concepts you have learned in your photonics coursework. If the photonics part of the project is something an electrical engineer could have done, then it is not going to merit an A-grade. Also, your ECE team members must comply with the ECE Major PCB policy, that is, each team must have substantial PCB design and implementation in their project. To ensure this, at the end of SD1, we must see in the A grade report substantial schematic design which can be turned into PCB layout in SD2.

(3) Does the report meet the final report requirement? Details can be found in Project Documentation Guidelines. In summary, length: 30 originally authored pages per person; line space: 1; page size: 8.5" x 11", with 1" margins (top, right, and bottom), 1.5" left for binding; paragraph: fully justified. Starting from Executive summary, containing Standard and design constraints. Content that is superfluous, irrelevant, or does not directly relate to your project will not be counted towards the page count. In summary, put limitation on the following: white spaces, copy of data sheet material and tutorial material, photos of common items, debug windows, software codes, etc.

Group Final Grade (GFG): Once we decide (GFG), the instructor will check the following items to determine GFG. Failure to meet the following requirement (any one aspect) will result one letter grade deduction from GBG. Multiple failures may result multiple letter grade deductions.

(1)   Was the SD1 final report submitted on time? (Hard copy, softcopy).
(2)   Were all group activities on time? (Divide and Conquer submission and team meeting on time? 60 page, 100-page Draft document submission on time, sufficient page, and meeting on time?)

The Instructors will further check the following factors to determine individual grades:

(A) Successful prototyping and testing of critical photonics components and subsystems. – The photonics students in a group are responsible for this and may receive grade deductions if this is not satisfactorily carried out.

(B) Attendance at "ABET," classes, bootcamp, and Team meetings with instructors (late or absence). Each absence may result one letter grade deduction and can be accumulated.

(C) Passing quizzes. Failure to pass one quiz may result one letter grade deduction, which can be accumulated.

(D) Instructor judgement based on the entire SD1 performance of each individual or group peer review form. The Instructor may request each individual member in a team to submit his or her individual portion of contribution to the teamwork or use the Group Peer Review Form. These mechanisms aim to identify those individuals who substantially fail to deliver their parts of work in SD1. Consequently, some individuals may be removed from the team and they will have to redo SD1 in future.

Statement Regarding COVID-19

University-Wide Face Covering Policy for Common Spaces and Face-to-Face Classes

To protect members of our community, everyone is required to wear a facial covering inside all common spaces including classrooms (https://policies.ucf.edu/documents/PolicyEmergencyCOVIDReturnPolicy.pdf. Students who choose not to wear facial coverings will be asked to leave the classroom by the instructor. If they refuse to leave the classroom or put on a facial covering, they may be considered disruptive (please see the Golden Rule for student behavior expectations). Faculty have the right to cancel class if the safety and well-being of class members are in jeopardy. Students will be responsible for the material that would have been covered in class as provided by the instructor.

Notifications in Case of Changes to Course Modality

Depending on the course of the pandemic during the semester, the university may make changes to the way classes are offered. If that happens, please look for announcements or messages in Webcourses@UCF or Knights email about changes specific to this course.

COVID-19 and Illness Notification

Students who believe they may have a COVID-19 diagnosis should contact UCF Student Health Services (407-823-2509) so proper contact tracing procedures can take place.

Students should not come to campus if they are ill, are experiencing any symptoms of COVID-19, have tested positive for COVID, or if anyone living in their residence has tested positive or is sick with COVID-19 symptoms. CDC guidance for COVID-19 symptoms is located here: (https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html)

Students should contact their instructor(s) as soon as possible if they miss class for any illness reason to discuss reasonable adjustments that might need to be made. When possible, students should contact their instructor(s) before missing class.

In Case of Faculty Illness

If the instructor falls ill during the semester, there may be changes to this course, including having a backup instructor take over the course. Please look for announcements or mail in Webcourses@UCF or Knights email for any alterations to this course.

Course Accessibility and Disability COVID-19 Supplemental Statement

Accommodations may need to be added or adjusted should this course shift from an on-campus to a remote format. Students with disabilities should speak with their instructor and should contact sas@ucf.edu to discuss specific accommodations for this or other courses.

Academic Integrity
Students should familiarize themselves with UCF's Rules of Conduct at <https://scai.sdes.ucf.edu/student-rules-of-conduct/>. According to Section 1, "Academic Misconduct," students are prohibited from engaging in

1. Unauthorized assistance: Using or attempting to use unauthorized materials, information or study aids in any academic exercise unless specifically authorized by the instructor of record. The unauthorized possession of examination or course-related material also constitutes cheating.
2. Communication to another through written, visual, electronic, or oral means: The presentation of material which has not been studied or learned, but rather was obtained through someone else's efforts and used as part of an examination, course assignment, or project.
3. Commercial Use of Academic Material: Selling of course material to another person, student, and/or uploading course material to a third-party vendor without authorization or without the express written permission of the university and the instructor. Course materials include but are not limited to class notes, Instructor's PowerPoints, course syllabi, tests, quizzes, labs, instruction sheets, homework, study guides, handouts, etc.
4. Falsifying or misrepresenting the student's own academic work.
5. Plagiarism: Using or appropriating another's work without any indication of the source, thereby attempting to convey the impression that such work is the student's own.
6. Multiple Submissions: Submitting the same academic work for credit more than once without the express written permission of the instructor.
7. Helping another violate academic behavior standards.
8. Soliciting assistance with academic coursework and/or degree requirements.

Responses to Academic Dishonesty, Plagiarism, or Cheating
Students should also familiarize themselves with the procedures for academic misconduct in UCF's student handbook, *The Golden Rule* <https://goldenrule.sdes.ucf.edu/>. UCF faculty members have a responsibility for students' education and the value of a UCF degree, and so seek to prevent unethical behavior and respond to academic misconduct when necessary. Penalties for violating rules, policies, and instructions within this course can range from a zero on the exercise to an "F" letter grade in the course. In addition, an Academic Misconduct report could be filed with the Office of Student Conduct, which could lead to disciplinary warning, disciplinary probation, or deferred suspension or separation from the University through suspension, dismissal, or expulsion with the addition of a "Z" designation on one's transcript.

Being found in violation of academic conduct standards could result in a student having to disclose such behavior on a graduate school application, being removed from a leadership position within a student organization, the recipient of scholarships, participation in University activities such as study abroad, internships, etc.

Let's avoid all of this by demonstrating values of honesty, trust, and integrity. No grade is worth compromising your integrity and moving your moral compass. Stay true to doing the right thing: take the zero, not a shortcut.

Course Accessibility Statement

The University of Central Florida is committed to providing access and inclusion for all persons with disabilities. Students with disabilities who need access to course content due to course design limitations should contact the professor as soon as possible. Students should also connect with Student Accessibility Services (SAS) <http://sas.sdes.ucf.edu/> (Ferrell Commons 185, sas@ucf.edu, phone 407-823-2371). For students connected with SAS, a Course Accessibility Letter may be created and sent to professors, which informs faculty of potential course access and accommodations that might be necessary and reasonable. Determining reasonable access and accommodations requires consideration of the course design, course learning objectives and the individual academic and course barriers experienced by the student. Further conversation with SAS, faculty and the student may be warranted to ensure an accessible course experience.

Campus Safety Statement

Emergencies on campus are rare, but if one should arise during class, everyone needs to work together. Students should be aware of their surroundings and familiar with some basic safety and security concepts.

- In case of an emergency, dial 911 for assistance.
- Every UCF classroom contains an emergency procedure guide posted on a wall near the door. Students should make a note of the guide's physical location and review the online version at <http://emergency.ucf.edu/emergency_guide.html>.
- Students should know the evacuation routes from each of their classrooms and have a plan for finding safety in case of an emergency.
- If there is a medical emergency during class, students may need to access a first-aid kit or AED (Automated External Defibrillator). To learn where those are located, see <https://ehs.ucf.edu/automated-external-defibrillator-aed-locations>.
- To stay informed about emergency situations, students can sign up to receive UCF text alerts by going to <https://my.ucf.edu> and logging in. Click on "Student Self Service" located on the left side of the screen in the toolbar, scroll down to the blue "Personal Information" heading on the Student Center screen, click on "UCF Alert", fill out the information, including e-mail address, cell phone number, and cell phone provider, click "Apply" to save the changes, and then click "OK."
- Students with special needs related to emergency situations should speak with their instructors outside of class.
- To learn about how to manage an active-shooter situation on campus or elsewhere, consider viewing this video (<https://youtu.be/NIKYajEx4pk>).

Campus Safety Statement for Students in Online-Only Courses

Though most emergency situations are primarily relevant to courses that meet in person, such incidents can also impact online students, either when they are on or near campus to participate in other courses or activities or when their course work is affected by off-campus emergencies. The following policies apply to courses in online modalities.

- To stay informed about emergency situations, students can sign up to receive UCF text alerts by going to <https://my.ucf.edu> and logging in. Click on "Student Self Service" located on the left side of the screen in the toolbar, scroll down to the blue "Personal Information" heading on the Student Center screen, click on "UCF Alert", fill out the information, including e-mail address, cell phone number, and cell phone provider, click "Apply" to save the changes, and then click "OK."
- Students with special needs related to emergency situations should speak with their instructors outside of class.

Deployed Active Duty Military Students

Students who are deployed active duty military and/or National Guard personnel and require accommodation should contact their instructors as soon as possible after the semester begins and/or after they receive notification of deployment to make related arrangements.

Make-Up Assignments for Authorized University Events or Co-curricular Activities

Students who represent the university in an authorized event or activity (for example, student-athletes) and who are unable to meet a course deadline due to a conflict with that event must provide the instructor with documentation in advance to arrange a make-up. No penalty will be applied. For more information, see the UCF policy at https://policies.ucf.edu/documents/4-401.pdf

Religious Observances

Students must notify their instructor in advance if they intend to miss class for a religious observance. For more information, see the UCF policy at http://regulations.ucf.edu/chapter5/documents/5.020ReligiousObservancesFINALJan