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Lecture Hours: Section 002: MW 1:25pm - 2:15pm in Poole Agricultural Center C127  
Section 003: MW 2:30pm - 3:20pm in Poole Agricultural Center C127

Office Hours: MWF 9:30am - 10:45am  
Th 1:00pm - 1:50pm  
Other hours by appointment.

Preq: CPSC 1020 with a C or better or CPSC 1070 with a C or better  
Coreq: CPSC 2151

## Course Description

Intensive study of software development foundations. Advanced coverage of programming language primitives, function-level design principles, and standard development and debugging tools. Introductory coverage of module-level design principles, program specification and reasoning principles, and validation and verification techniques.

## Learning Outcomes

- Construct, execute, and debug programs using a modern IDE and associated tools such as unit testing tools and visual debuggers.
- Learn to use abstraction and design-by-contract principles to specify, develop, and reason about the behavior of a component.
- Construct and debug programs using the standard libraries available with a chosen programming language (Java).
- Understand how to use contracts, select test inputs, debug, or trace code to find and isolate errors, and to avoid errors.
- Be familiar with and use common design patterns.

## Textbooks and Lecture Materials

There is no textbook for this course. All lecture slides, videos, examples and other handouts will be posted on the course Canvas throughout the semester.

## iClicker Reef

We will be using iClicker Reef to track attendance and to take in class quizzes. You are required to have iClicker Reef installed on a smart phone, tablet or laptop that you will bring with you to class. Reef is a separate system than the old plastic clickers, so do not go buy a clicker. You will be able to register a free account, but will need to purchase access after the two week trial is over. The subscription is relatively cheap (less than \$20).

## Topical Outline

- Java interfaces, classes, abstraction, inheritance and generics
- Information hiding and separation of concerns
- Design by contract
- Unit and path testing
- Formal reasoning and code tracing
- Design patterns

## Attendance

Regular and punctual attendance is required and expected. With this class each lecture builds upon preceding lectures, so missing even a single class can make it difficult to keep up with the course material. Attendance is not recorded for a grade, but there might be assignments or unannounced quizzes that must be completed in class. Attendance will be taken each class using iClicker Reef and kept for my records.

Being absent, excused or not, does not change the responsibility for assigned work or material covered during the class. If you will be missing class for any reason and you let me know before hand, you may be able to make up assignments that you would miss in class (instructor's discretion). For University-sponsored events, students must provide written notice prior to the event. For all other excused absences, students should provide to the instructor as soon as possible, written documentation from an acceptable outside source (e.g., school administrator or physician).

Attendance is mandatory on exam days. **No make-up exams or quizzes** will be given without prior approval or valid medical emergency. If you arrive late on the day of a quiz or exam, you will be allowed to participate, but will not be given additional time to compensate for being tardy.

Any exam that was scheduled at the time of a class cancellation due to inclement weather will be given at the next class meeting unless contacted by the instructor. Any assignments due at the time of a class cancellation due to inclement weather will be due at the next class meeting unless contacted by the instructor. Any extension or postponement of assignments or exams must be granted by the instructor via email or Canvas within 24 hours of the weather related cancellation.

If I am more than ten (10) minutes late, you should assume that I am dealing with an emergency and will not make it to class. Check Canvas and your email in those circumstances for further explanation.

## Class Policies

- No food allowed in this class. Beverages are allowed.
- Unless otherwise authorized/specified, you are **not** allowed to use laptop/tablet computers or other electronic devices. Headphones must be put away and not draped around your neck.

## TAs and TA Office Hours

*This will be filled in when the TAs have set their office hours.*

## Contacting Your Instructors and TAs

The best way to contact me or TAs is through email. **You must email us from your Clemson email address.** Any emails coming from any other account will be ignored. Please allow 24 hours for instructor and TAs to respond to your email on weekdays, and 48 hours on weekends/breaks.

Office hours are a great time to come get help or ask questions. You do not need to make an appointment to come to office hours, you can just show up. Office hours are first come, first serve. If office hours do not work for you, you can make an appointment to meet with me at another time that works for both of us. Please do not request an appointment unless you cannot attend office hours due to a conflict with your class or work schedule.

## Grading Policy

Grades for all assignments, quizzes and exams will be posted on Canvas. Anything that done on paper will be returned to you in class. If you are not in class the day that a grade is handed out, you can come to my office to pick up the graded assignment. **I will not correspond with your parents or guardians about your grades.**

### 1. HOMEWORK ASSIGNMENTS (30%)

There will be 5 large homework assignments given during the semester. These assignments will be programming assignments that you will complete on your own. Group work is not allowed for homework assignments. **Late submissions will not be accepted and will receive a grade of zero (0).** It is best to complete and submit an assignment early rather than risk last-minute complications.

Even though we will be using the IntelliJ IDE for the assignments and most of the labs in the course, you will be required to turn in code that compiles and runs on the school Unix machines. There should be no issue with your code running on Unix, but always check before submitting assignments. The TAs will use Unix to grade the assignments because it is much easier to write scripts that run your program on several test cases on Unix. If your code does not compile and run on Unix, then the TAs will not be able to grade your assignment.

As a general rule, I may not be able to answer all the emailed questions that are sent within the 24 hour period immediately preceding the due date of an assignment. Please get started early on assignments, and take advantage of my office hours.

### 2. LABS (20%)

This course does have a lab component. For each lab, you will be given an assignment to complete, and you will submit the assignment. These assignments will be meant to help you learn the material presented in lectures, and you will be able to refer to notes for help, so make sure to bring your notes with you. TAs and/or myself will be available for help during the labs. However there will be more students than TAs, so try to solve the problem on your own before asking for help, as time may limit how many students we can help.

In many cases, lab assignments will be posted at the beginning of the week (Monday) and you will have until the end of the week (Friday) to complete it. Also in many cases you will be allowed, but not required, to work with a partner, as long as you indicate that you are doing so in your submission. Your partner must be in the same lab session as you, and you may need to

meet outside of the lab time to finish the assignment. If you work with more than one person, or work with a partner and do not let us know, you would be guilty of an academic integrity infraction.

In some cases the assignment may not allow you to or may require you to work with partners, or may require you to start and complete the assignment in the lab period. In cases where the assignment is available early and due at the end of the week, you are still required to attend the lab. The TAs and myself will not answer questions about the lab assignment outside of your designated lab time.

If you know that you will need to miss a lab, let me know as soon as possible. It may be possible for you to attend another section of the lab on a different day. There will not be labs during the week of a midterm, unless we have to schedule a makeup lab due to a school closing.

**Late submissions will not be accepted and will receive a grade of zero (0).**

### 3. LAB EXAM (10%)

During the last lab meeting you will be given a Lab Exam. The Lab Exam will be one or more programming prompts that you will need to complete on your own. Unlike a normal lab, the TA will only be able to answer clarifying questions about what the prompt is asking you to do, and not actually help you complete the assignment. You will not be able to use any class notes or outside sources during the lab exam.

### 4. QUIZZES (10%)

There will be several quizzes during the semester. Quizzes will be given during lab time and are not expected to take long to complete. In general there will be a quiz in every lab covering the material from the last few classes before the lab. **Missed quizzes will receive a grade of zero (0). There will be no make-up quizzes.**

### 5. MIDTERM EXAMS (20%)

There will be two midterm exams during the semester, each weighted 10%. **Any student that misses an exam without prior approval or valid medical emergency will receive a grade of zero (0).** Once the student who finishes first hands in their exam and leaves, no more exams will be issued.

### 6. FINAL EXAM (10%)

**Final Exam Time:** Section 002: Friday, May 3, 2019 at 3:00pm - 5:30pm  
Section 003: Thursday, May 2, 2019 at 3:00pm - 5:30pm

We will have a cumulative final exam in this course. If you have three or more final exams on the same day, let me know and we may be able to move your exam to a different time. I cannot change the time of the final exam. The schedule is set by the school. You can view the Clemson University Final Exam Schedule online. **There will not be any final exam exemptions for this course.**

## Re-Grade Requests

You may request a re-grade of any graded material. As a single .zip file, upload a PDF including detailed information about the request along with the material itself (scanned in, if needed) to the re-grade assignment on Canvas. Re-grade requests are due within one week after the instructor returns the graded material, regardless of whether the student is in class. Re-grade requests are

performed towards the end of the semester if a change in the assignment grade would facilitate a change in the overall course grade. For re-grade requests, the instructor will completely re-grade the assignment; thus a re-grade request might result in a lower overall grade.

## **Grading Scale**

90% - 100%	A
80% - 89%	B
70% - 79%	C
60% - 69%	D
Below 60%	F

This grading scale will not change, however a curve may be applied at the instructor's discretion at the end of the semester, or to individual exams, quizzes or assignments. Curves can only raise your grade, they can never lower it. Curves will never result in a student earning more than 100% in the class or an assignment. Curves are meant to correct for instructor error. If I give an exam that students are unable to finish in the allotted time, then I gave an unfair exam and a curve will be applied to correct that error.

## **Academic Integrity**

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.

Unless specifically assigned as a group assignment, all work for this course must be completed on your own. It is acceptable to discuss topics you do not understand with other students in the class, but do not discuss the specifics of any assignment or share assignments. Any specific questions regarding assignments and academic honesty policy should be directed to the instructor. Lack of knowledge of the academic honesty policy is not a reasonable explanation for a violation. Please note that the minimum sanction for a guilty verdict in an academic honesty hearing will be a course grade of F, even for first offenders.

## **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 professor 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](mailto: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 possible, but there could be a significant wait due to scheduled appointments. Students who receive Academic Access Letters are strongly encouraged to request, obtain and present these to their professors 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 here: <http://www.clemson.edu/campus-life/campus-services/sds/>.

### **Title IX (Sexual Harassment) 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 policy is located at <http://www.clemson.edu/campus-life/campus-services/access/title-ix/>. Ms. Alesia Smith is the Clemson University Title IX Coordinator, and the Executive Director of Equity Compliance. Her office is located at 110 Holtzendorff Hall, 864.656.3181 (voice) or 864.656.0899 (TDD).

### **Learning and Feedback**

I expect to foster a nurturing learning environment based upon communication and mutual respect in this class. I will give serious consideration to any suggestion as to how to further such a positive and open environment. I encourage you to give feedback on various aspects of the course, including but not limited to contents, assignments and exams, style, and treatment. I encourage active participation in the class. Your feedback is important for improving the quality of this course and that of undergraduate education in computer science, in general.

If you have a special need and feel that you need assistance with regard to lectures, reading assignments, or testing, please advise me of your needs as soon as possible.

### **Syllabus Changes**

The course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary. Deviations will be announced verbally in class and posted via announcement on Canvas.

### **Copyright Statement**

All materials found in this course are strictly for the use of students enrolled in this course and for purposes associated with this course; they may not be retained or further disseminated. Clemson students, faculty, and staff are expected to comply fully with institutional copyright policy as well as all other copyright laws.