

# CPSC 2150 – Software Development Foundations

Spring 2017  
M,W 11:15 am – 12:05 pm  
Room: McAdams 119  
Section 002

Instructor: Kevin Plis  
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Office Hours: or by appointment

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## **Contacting Your Instructor**

The best way to contact me is through email. The number listed is for the phone in my office, and requires me to be in my office to answer it. I can see and respond to email anywhere. I do my best to respond to emails within 24 hours. I have over 150 students each semester and I will respond to emails in the order that they come in, so do not expect an immediate response especially during high volume times (i.e. the night before an assignment is due).

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 show up at my office unannounced outside of office hours. I will often be in my office working on something (grading, preparing lecture slides, creating exams and assignments etc.). By showing up unannounced, you put me in an awkward position to either say no to your request for help, or spend time that I had allotted for another task helping you, and throw off my schedule for the day.

I also request that when you come to me for help, you have specific questions prepared. Office hours or meetings with me are not a time for you to work on the assignment in my office. Vague emails about needing help will receive a response asking for specific questions, and given the delays that can occur with emails that exchange can take quite some time, leaving you less time to complete your assignment.

Also, I have a simple request. If you want something to be a priority for me, make sure it is a priority for you as well. If you have issues with attending class regularly, do not expect me to sit down and reteach the material just for you. If you wait until the last minute to start an assignment, do not expect me to be sitting by my computer anxiously awaiting any last second emails with questions. Again, expect a significant delay in response time for emails.

## **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.

**Textbook:**

There is no textbook for this course. All necessary materials will be freely available. Materials will either be created by the instructor and presented for free on Canvas, or be freely available online with the links posted on Canvas.

You may find the following references helpful.

Online Java tutorials: <http://docs.oracle.com/javase/tutorial/index.html>

Online Java libraries API: <http://download.oracle.com/javase/7/docs/api/>

B. Kjell, Intro to Computer Science using Java:

<http://chortle.ccsu.edu/cs151/cs151java.html>

C.S. Horstmann, Big Java Late Objects, John Wiley and Sons, 2012

J. Bloch, Effective Java, 2nd ed., Prentice Hall, 2008

**iClicker REEF:**

We will be using Reef to track attendance and to take in class quizzes. You are required to have 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. Clemson University is currently part of a Beta test for Reef, which means that you will be given an access code free of charge for this semester. If you have an access code from another class, you will not need to use a new access code.

**Attendance:**

Attendance is not recorded for a grade; however, there may be assignments or unannounced quizzes that must be completed in class. If you are not in class, you will not be able to complete the assignment. So while there is no place in the gradebook marked "Attendance" missing class will have a negative

impact on your final grade. Attendance will still be taken in each class through Reef. Again, this attendance will not factor into your grade, it is just for my records. In the event that a student fails a course I need to report details regarding that student's attendance to the school. Also there is a push to crack down on student loan fraud, so I am required to take attendance. You do not need to notify me about absences unless there is an exam or quiz on that date, or if you want to ask about any assignments or what topics you will miss.

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). The more notice I have about a missed class the easier it will be to make arrangements for in class assignments. Missed quizzes and exams can only be made up with significant prior notice, at least 24 hours in advance, or in the case of extreme circumstances (car wreck, hospitalization, etc) which will require some form of evidence. Unannounced quizzes cannot be made up in the event that you miss class (even with prior notice); however, there is a 10% curve added to the unannounced quiz grade. So you can safely miss 10% of the unannounced quizzes without negatively affecting your grade.

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 assignments that are turned in remotely (email, blackboard, canvas, etc.) will still be due at their normal due date even in the case of inclement weather. 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.

Students are expected to wait 10 minutes after the scheduled start of class for the instructor to arrive. After 10 minutes, if the instructor has not arrived, assume the class was cancelled. I will do everything I can to make sure you are aware of any class cancellations. This policy is for extreme circumstances, such as a car wreck or hospitalization on my end.

**Grading:**

You are responsible for keeping track of your own grades. I will post grades for individual assignments on Canvas, but Canvas does not keep track of the way that grades are weighted for the final grade. You will need to do so yourself in order to have an accurate picture of your grade in the class. Exam and Quiz grades may not appear on Canvas, but they will be returned 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. Any emails regarding your grade must be sent from your Clemson.edu email address. I cannot discuss grades with an unverified email without risk of violating FERPA laws.

**Lab Assignments:**

This course does have a lab component. In each lab, you will be given an assignment to complete, and you will submit the assignment at the end of the lab period. 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. TA's and/or myself will be available for help during the labs. However there will be more students than TA's, so try to solve the problem on your own before asking for help, as time may limit how many students we can help.

Part of the requirement of the lab assignment is that you complete it in the allotted time in front of the TA or instructor. This means that attendance in the lab is required. You cannot just submit the lab from home and receive credit. Because of this, the assignment will not be available until the start of your lab time. If you get the assignment from another student in an earlier lab you will A.) have committed and academic honesty infraction and B.) likely have completed different assignment than the assignment given to your lab section. If you show up to the lab and instantly submit the assignment, then the only explanation is that you were given the assignment by a student from an earlier lab.

Unfortunately, there is no good way to allow students to make up a lab assignment that they miss. Lab space is limited, and the time of the TA/Instructor is even more limited. We simply don't have the time to sit down with students individually so they can complete the assignment. Allowing a student to complete the assignment outside of the lab environment and opens up potential for a student to cheat on the assignment, or to have more time to complete the assignment than other students. Neither is acceptable. 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. To allow for normal illnesses and misses, at the end of the semester the lowest lab grade will be dropped. Any further adjustments based on individual circumstances will be considered at the instructor's discretion.

Lab assignments will be worth 10% of your final grade

#### Lab Exam

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. The lab exam will be worth 5% of your final grade.

#### Homework Assignments:

There will be several homework assignments given throughout the semester, about 4 or 5 is the current plan. These assignments will normally be a programming assignment that you will complete on your own. Even though we will be using the IntelliJ IDE 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. Homework assignments will be worth 30% of the final grade in the course.

Homework assignments will normally have an 11:59 pm deadline. That deadline is a firm deadline. Any submission after that time will be considered late and receive a penalty (normally 20% of for each day late, but it could be a harsher penalty). Even a minute late counts as late. We all know that things can go

wrong while trying to submit an assignment. Your laptop battery could die, the wi-fi could stop working, Canvas could crash or be slow, etc. If I don't have proof that the assignment was completed before the deadline, then it is late. Give yourself the time to finish the assignment earlier in the day so when something goes wrong you have time to fix it or find another way to submit the assignment before the deadline.

Quizzes: There will be announced quizzes during the semester. Quizzes will be given during lab time and are not expected to take long to complete. Announced quizzes will account for 15% of your final grade.

Pop Quizzes:

Unannounced quizzes will be very short (a few questions) and will be much easier questions, and they will be proctored using Reef. They will be used as recall exercises and as a way for everyone to gauge their progress in learning the material. They will be very common occurring at least once a week, and potentially during every lecture. Unannounced quizzes cannot be made up in the event that you miss class (even with prior notice); however, a 10% curve is added to the unannounced quiz grades. Half of the grade on a pop quiz will be based on participation, the other half will be based on correctness. Pop Quizzes will be worth 5% of your final grade.

Mid-term Exams: There will be two mid-term exams worth 12.5% of the final grade each, for a total of 25% of the final grade. Notice of the midterms will be given well in advance to allow plenty of time for preparation.

The following dates are tentative and subject to change

Midterm 1: Wednesday, October 4th

Midterm 2: Monday, November 6th

Final Exam: The final exam will be worth % of your final grade. The final exam will be given on Tuesday, December 12<sup>th</sup> at 8:00 am in the normal classroom. I cannot change the final exam time. 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 do not allow anyone to exempt the final exam. It is worth far too much of the final grade. If you are doing well in the course and learning the material (actually learning, not cramming), you should have no problem with the final exam and it should not be a source of too much stress.

Extra Credit: There will be no extra credit for this course.

Grading Scale:

Percent Grade	Letter Grade
$\geq 90\%$	A
$<90\%$ AND $\geq 80\%$	B
$<80\%$ AND $\geq 70\%$	C
$<70\%$ AND $\geq 60\%$	D
$<60\%$	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:**

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 the assignment should be directed to the instructor.

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.

University policy requires that I report any possible Academic Integrity infractions to the university. I am not allowed to handle any issues on my own. Once the issue has been reported, the university handles the whole process from there. This protects the students from any unfair treatment at the hands of a biased instructor, and protects the instructor and the university from claims of unfair treatment. While it is an effective process, it is an unpleasant process that takes several weeks to resolve. The University also sets guidelines for punishment. For a first offense the punishment ranges from a 0 on the assignment, to failing the course, depending on the severity of the infraction. For a second infraction, the student automatically fails the course and is recommended for expulsion. From a risk vs. reward perspective, it is absolutely not worth getting caught. It can be tempting to think that since students were all given the same assignment, that we will see very similar submissions. The truth is that there is far more variation than anyone expects, and similar submissions stand out.

**Accessibility:**

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 at all 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/>.

If you need any special accommodations due to accessibility issues, please visit Student Accessibility Services as soon as possible. You do not need to inform me of the reason that you need accommodations, you will work that out with someone at Student Accessibility Services, and they will instruct you and I on how we can properly accommodate you. They know how to arrange all of that far better than I do, so talk to them first. If you need to use the test proctoring center for exams, you need to send the request to the test proctoring center at least one week in advance.

**Equal Opportunity:**

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/>. Mr. Jerry Knighton is the Clemson University Title IX Coordinator. He also is the Director of Access and Equity. His office is located at 110 Holtzendorff Hall, 864.656.3184 (voice) or 864.656.0899 (TDD).

**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.