

CS 149: Introduction to Programming  
Sections 002  
James Madison University  
Spring 2019 (3 credits)

## 1 Basic Course Information

### 1.1 Meeting Times and Locations

Section	Days	Time	Location
002	T/R	12:30-13:45	ISAT/CS Building Room 250

### 1.2 Instructor

<i>Name</i>	Dr. Kevin Molloy
<i>Office</i>	ISAT/CS 216
<i>Email</i>	molloykp@jmu.edu
<i>Office Hours</i>	Tuesday 10:00 - 12:00 Wednesday 14:15 - 16:00

### 1.3 Website: [https://w3.cs.jmu.edu/molloykp/teaching/cs149/cs149\\_2019Spring/](https://w3.cs.jmu.edu/molloykp/teaching/cs149/cs149_2019Spring/)

Much of the information for this course will be disseminated via this website. You should check this website often (at least once a week) for announcements and updates.

### 1.4 Prerequisites

You must have completed **MATH 155**, **MATH 156**, or *obtained a sufficient score on the Mathematics Placement Exam*.

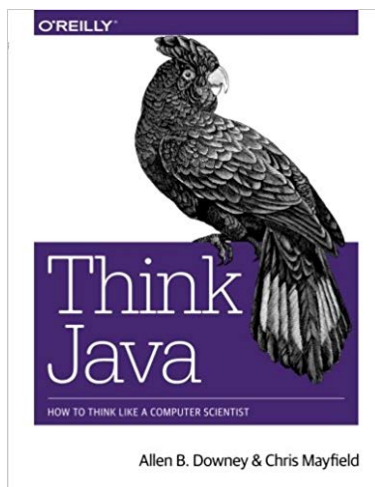
### 1.5 Course Description and Goals

*Official course description:* Fundamental problem-solving techniques using a modern programming language. Topics include variables, input/output, decisions, loops, functions, arrays, and objects.

Students learn about algorithm development, testing strategies, and software tools. By the end of this course, you should be able to:

- Explain fundamental programming concepts (e.g, variables, methods, decisions, loops, arrays, objects) using appropriate terminology.
- Describe basic elements of high-level programming languages, including expressions, statements, functions, modules, and libraries.
- Read and interpret software specifications and write source code from them.
- Use automated software tools and processes to test your programs thoroughly.
- Distinguish appropriate collaboration from cheating on assignments and exams.
- Evaluate your own work for compliance with requirements and style guidelines.
- Develop correct and efficient algorithms to solve problems using computation.

## 1.6 Required Texts



*Think Java: How to Think Like a Computer Scientist, 2nd Ed.* by Allen Downey and Chris Mayfield. Green Tea Press, Needham, MA. <http://thinkjava.org>. This course aligns with this open-source textbook. The pdf is available [online](#), or you may purchase an inexpensive hard copy from the [bookstore](#) (spiral bound). If you don't like the book, you are certainly welcome to use additional resources, including other textbooks. **BEWARE**, Amazon sells the first edition of this book, and you want the second edition.

## 1.7 Computing Resources

You will require access to a computer for this class. A machine running Windows, Mac OS, or Ubuntu/Linux will work fine. My opinion is that Mac OS and Ubuntu/Linux machines are easier to use. Information is available on the website on how to utilize a virtual machine that will supply all the software you will need for this class (and provide a common environment to what you will experience in the labs).

## 1.8 Expectations/Keys to Success

### Homework

In a three-hour course, you should expect **six hours** of homework per week. How you manage your schedule is up to you, but do spend some time each day on this course.

### Preparing for Class

Each class will consist of a short lecture and time to work on in-class exercises and your weekly programming assignments. The material (reading and/or videos) for each class is detailed on the class calendar (available on the website). You will have a **quiz each week** based on this material, so, a key to success is reading this material **BEFORE** class.

### Programming Assignments

Two programming assignments will be due in the last third of the semester. They are designed to take about 8 hours to complete. The key to completing these assignments is to start earlier (ask anyone who has taken CS 149).

### Seeking Help

Generally, I do **not** answer Piazza questions over the weekend. If you choose to complete assignments at the last minute or after the deadline, especially after the first PA, you have significantly decreased your chances of successful completion. I will make sure any questions posted over the weekend are answered on Monday. Please ask questions using Piazza first if at all possible. I have it set up so that I get an email when a question is posted to Piazza, so emailing me is not quicker and by posting to Piazza you will have a chance of being answered by a classmate, TA, or another faculty member. Email should be reserved for questions whose answers would only benefit you personally or only I would know the answer to.

## 1.9 Communication

We will use a number of different tools for communication in this course. These include:

- [https://w3.cs.jmu.edu/molloykp/teaching/cs149/cs149\\_2019Spring](https://w3.cs.jmu.edu/molloykp/teaching/cs149/cs149_2019Spring) is our central course web site. The announcements, discussion board, videos, and documents posted there are part of the required reading for the course.
  - Use public posts on Piazza to discuss the material related to this course.
  - **Canvas** and **Autolab** will be used to submit assignments and disseminate grades

- **Mail the professor** if you have logistic or personal issues to discuss such as setting up an appointment outside of office hours, if a health problem arises, or if you have a personal emergency.
- **Office Hours** No appointments are required to attend office hours or you can make an appointment with me.

## 1.10 Attendance and Participation

Attendance is not mandatory, but participation will be used as a part of your lab/quiz grade portion. I strongly encourage you to attend every class session and participate fully in order to derive the maximum benefit of this course. If you believe that there is something I could change about the way I am handling the course in order to improve its effectiveness for you, please let me know via email or office hours.

*Please silence your cell phone while class is in session.* If you have a laptop or tablet, you are encouraged to bring it to class and use it to work along with programming examples and exercises. Mute the volume to avoid unintended interruptions, and do not use any electronic devices for activities that may distract other students. Repeated violations of this policy may result in disciplinary action or a grade penalty in the course.

I strongly encourage you to check the main website and the Piazza web forum regularly for important announcements (usually regarding programming projects). You may also use the Piazza forum to ask general questions of interest to the class as a whole (e.g., administrative issues or project clarification questions) as well as to offer each other general advice on class assignments. However, do not post any information that would violate the university academic integrity policy. If you are unsure about this, please email me for approval before you post.

## 2 Teaching Assistants

Undergraduate assistants are generally available in the labs from 5:00 PM to 11:00 PM on Monday through Thursday and 1:00 PM to 11:00 PM on Sunday. A detailed schedule will be available 2-3 weeks into the class. Do not rely on them to fix your code, as you won't have TAs during exams. Do go to TAs and come to my office for clarification on concepts, ideally before you are working on the PA.

### 2.1 Role

When available, their job is to help you learn the course material. Lab assistants should/will not fix your code and/or write code for you. They will *try* and answer your questions of a general nature, *try* to help you find your mistakes, and *try* to help you interpret error messages and output. To some extent, they will also *try* to help you understand assignments.

## 2.2 Prerequisites for Getting Help

The lab assistants can't provide effective help unless you can both read code and refer to it using the appropriate terminology. Hence, before you are entitled to ask a question of the lab assistants you must be able to ask it intelligently (and using the correct terminology), discuss it, and understand the answer.

A lab assistant who decides that you have not asked a question properly or that you are not prepared to understand the answer, may politely inform you that she/he can't help. Such situations are your fault, not the fault of the lab assistant.

## 2.3 Your Responsibilities

Remember that lab assistants are students. In fact, they are students that only recently completed the course that you are taking. They sometimes make mistakes, give bad advice, and point you in the wrong direction. They are trying to help, but may not be able to. Sometimes, they even make things worse.

You are ultimately responsible for all of the assignments in this course. The lab assistants are in no way responsible for your work. They provide advice, you must decide whether you should heed their advice or not. Also, you must be sure not to ask them questions that would violate the Honor Code.

# 3 Methods of Evaluation and Grading Policies

You are responsible for all material discussed in lecture and discussion section and posted on the class web page, including announcements, deadlines, policies, etc.

Your final course grade will be determined according to the following percentages:

Component	Weight
Reading Quizzes/Other Work	10%
Programming Assignments	15%
Midterm Exam 1	20%
Midterm Exam 2	25%
Final Exam	30%

## 3.1 Quizzes

This portion of your grade will be based on graded labs, reading quizzes, and any homework problems assigned. I will drop a to be determined amount (probably 1) of quizzes, labs, homework assignments at the end of the semester to account for the 'bad day' or unforeseen circumstances for missing a particular day.

## 3.2 Midterms/Final

We will have two midterms in class (you must be present or give a valid doctors excuse or similar note confirming your absence if you miss any exam) and a comprehensive exam during finals week. The first exam will consist of a single 75 minute exam that will comprise a written portion and a coding portion.

The second exam will be two hours: one for written problems, one for coding problems (across 2 classes). If you must be absent during an exam for a legitimate reason, you must contact me at least one week beforehand to make special arrangements. Failure to make prior arrangements for a missed exam will result in a zero grade. **Students who do not earn 60% of the points on the final exam will receive a letter grade no higher than C for the course.** Except in extraordinary situations, you will not be excused from exams. Your instructor will be the sole arbiter of whether a situation qualifies as extraordinary. Hence, you should behave as if you will not be excused from exams for any reason.

Letter grades will be assigned on the scale A=90-100, B=80-89, C=70-79, D=60-69, F=0-59, with potential minor adjustments after considering the overall performance of the class and actual distribution of numeric scores. I will use + and - grades at my discretion.

## 3.3 Grading Disputes

If you believe I have made an error while grading your work or calculating your final score, please bring it to my attention after class or during office hours. If I determine that there has been a simple mistake, I will fix it immediately and no formal request is necessary.

If you believe an exam question or assignment has been graded unfairly, you must submit a written formal request for a regrade via email. Such requests must be submitted within one week of when the assignment in question is returned to you. **Any coursework submitted for reconsideration may be regraded in its entirety, which could result in a lower score if warranted.**

## 4 Course Policies

Important announcements will be made in class and/or on the class website. Please make it a habit to check the web page daily.

Although every effort has been made to be complete and accurate, unforeseen circumstances arising during the semester could require the adjustment of any material given here. Consequently, given due notice to students, I reserve the right to change any information on this syllabus or in other course materials.

You are permitted to use course materials for your own personal use only. Course materials may not be distributed publicly or provided to others (excepting other students in the course), in any way or format unless explicitly allowed.

## 4.1 Programming Assignments(PA's)

The weekly programming assignments and the larger ones at the end of the semester must be submitted electronically following the instructions given in class and on the website. Assignments may not be submitted by any other means (e.g., do not email your projects to me unless I request that). It is your responsibility to test your program and verify that it works properly before submitting it.

All assignments are due at 23:00 (11:00pm) on the day indicated on the assignment unless noted otherwise.

Assignments may be submitted up to 24 hours late for a 10% penalty. For example, a submission that would have earned 90 points in an on-time submission will earn  $90 \times 0.9 = 81$  points if submitted up to 24 hours late. If you make multiple submissions, I will typically grade the latest submission. If you wish me to grade a different submission, you must indicate this before the 48-hour late period is over.

Regardless of the above policy, I reserve the right to refuse to grade any programs submitted after the beginning of the second class period following the project deadline, because I may discuss the solution in class.

Project extensions will not necessarily be granted due to server congestion, system problems, network problems, power outages, etc., so do not wait to submit a program until the night it is due. No consideration in grading will be made for errors made in transferring files or submitting the wrong version of your project. Having a working, non-submitted version will not count; only submitted code will be counted.

You will be responsible for developing your own techniques for testing your projects before submitting it. I will grade your assignment based on test cases not provided to you in advance. Because grading may be done automatically, you must follow the project specification exactly.

Your code will be graded on a combination of correctness, completeness, documentation, and code style.

Any "hard coding" in a project assignment will result in a score of zero for that assignment, and is considered a bad-faith effort. Hard coding refers to attempting to make a program appear as if it works correctly, when in fact it does not. One example of hard coding would be printing the desired output instead of computing it. If you have any questions as to what constitutes hard coding for a particular assignment, be sure to ask ahead of time.

## 4.2 Important Notes

You must achieve a B- or better grade to continue on to CS 159.

### 4.3 Adding and Dropping the Course

Students are responsible for adding and dropping the course and verifying these actions in My-Madison. The last date to drop this class with a "W" grade is March 15, 2019. Please consult the appropriate [academic calendar](#) for other deadlines. I will not give “WP” or “WF” grades to students requesting a drop after the deadline except in extraordinary circumstances.

### 4.4 Disability Accommodations

If you need an accommodation based on the impact of a disability, you must contact the [Office of Disability Services](#) if you have not previously done so. Disability Services will provide you with an Access Plan letter that will verify your need for services and make recommendations for accommodations to be used in the classroom. Once you have shown me this letter, we will sit down and review the course requirements, your disability characteristics, and your requested accommodations to develop an individualized plan appropriate for this course. I will not make any accommodations without the appropriate documentation, as I am not qualified to diagnose disabilities.

### 4.5 Excused Absences

Besides the policies in this syllabus, the University’s policies apply during the semester. Various policies that may be relevant appear in the Undergraduate Catalog.

If you must be absent during an exam for a legitimate reason, you must contact me at least one week beforehand to make special arrangements. Failure to make prior arrangements for a missed exam will result in a zero grade. Excused absences will be granted at my discretion and only with appropriate documentation. Please contact me as soon as possible if you wish to request an excused absence.

Missing an exam for reasons such as illness, religious observance, participation in required university activities, or family or personal emergency (such as a serious automobile accident or the funeral of a close relative) all are circumstances that *may* qualify as an excused absence. Where possible you should attempt by all means necessary to attend and take exams at their regularly scheduled class period.

### 4.6 Behavior and Accommodations

Students are expected to maintain a high level of civility for all participants in and out of class meetings. This includes respecting the beliefs of participants of all genders, ethnicities, and social backgrounds. Harassment of any type will not be tolerated and failure to behave in a respectful manner will result in referrals to University Counseling or the Office of Student Judicial Affairs. Any instances of sexual harassment will be reported to the Office of Equal Opportunity according to the following policy:

<https://www.jmu.edu/JMUpolicy/policies/1340.shtml>



Observance of religious events will be accommodated for students of any faith.

## 4.7 Inclement Weather

In case of inclement weather, we will hold class online via Webex (unless I specifically make alternate arrangements). A link will be sent via an announcement in Canvas. Otherwise, this class will operate in accord with JMU's official cancellation policy.

# 5 Academic Honesty and Collaboration

## 5.1 Academic Honesty

You are expected to comply with the JMU Honor Code as stated in the Student Handbook and available from the [Honor Council website](#) on all assignments, projects, and exams.

Consulting with other students about problems and solutions is not necessarily a violation of the honor code, depending on the particular assignment. All final work turned in for an assignment must be your own unless it is a group project. In particular, you may not share source or binary code on programming assignments unless the project specification explicitly allows it. If you are in doubt about whether something is an honor code violation, please contact me immediately.

If I find evidence of a violation of the honor code, I will bring the matter to the attention of the involved individuals via email and request a face-to-face meeting. As per section IV of the honor code, first time student offenders may agree that a violation has occurred and accept an appropriate penalty by submitting an "Informal Resolution Agreement Form" to the honor council. If the student is not a first-time offender or if there is disagreement about the violation or penalty, the matter will be referred to the honor council under section V of the honor code.

## 5.2 PRIME DIRECTIVE

**PRIME DIRECTIVE: Be able to explain your own work including homework code and exam solutions.**

Nearly all cheating in programming can be averted by adhering to the PRIME-DIRECTIVE. Students may be asked at any time to explain code or exam solutions they submit. Inability to do so will be construed as evidence of misconduct. More specific guidelines are given below.

### Thou Shalt Not

For the purposes of this course, the following actions constitute scholastic misconduct (cheating):

- Directly copying someone else's solution to a homework problem, including student solutions from a previous semester
- Directly copying an answer from some outside source such as the Internet or friend for a homework problem
- Making use of an Instructor Solution manual to complete homework problems
- Paying someone for a homework solution or submitting someone else's work as your own
- Posting solutions to any web site including our course web site
- Collaborating or copying someone else's answer during an exam
- Aiding or abetting any of the above
- Witnessing any of the above and failing to report it the instructor immediately

### Fair Collaboration

The purpose of this course is to learn about programming and learning from one another is a great help. To that end, the following actions **will NOT be considered cheating in this course.**

- Talking to other students in the course about HW problems and informally describing how a problem may be solved.
- Getting or giving help fixing a bug or two: a second set of eyes is a great boon to finding that misplaced semicolon that is preventing your code from compiling.
- Searching the Internet for alternative presentations of a programming concept.
- When unsure whether collaboration is fair or not, stop the activity until it can be cleared with instructor.

### 5.3 Penalties

Any instance of misconduct that is detected will be referred to the honor board and will likely result in failing the course. Be advised that the teaching team will be employing **electronic means to detect plagiarism.** This is extremely easy with computer code so keep your nose clean.