**CS159 (Advanced Programming)**

**Fall 2018**

MWF 11:15am–12:05pm (Section 1)  
MWF 1:25pm–2:15pm (Section 2)  
MWF 2:30pm–3:30pm (Section 3)

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OFFICE HOURS  
MWF 10:00am-11:00am  
MW 3:30pm–4:30pm

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| Course Objectives  This course assumes that you have had a successful semester programming in Java. This course focuses on thinking algorithmically and problem solving while learning how to program a computer in a high-level language. General principles regarding programming, algorithm design, procedural abstraction and problem-solving will be covered. The backdrop for learning computer programming is the *Java* programming language by Sun Microsystems. *Java* is an object-oriented language that has gained popularity in recent years as a highly portable, well-constructed programming language. The core of *Java* is rather small, but the libraries that extend it will seem boundless. We will be studying the core pieces and many parts of the libraries. The best way to learn to program is to practice. We will be doing a lot of practice! |
| Nature of the Course Content  From the JMU 2018-19 Course Catalog:  Students use advanced problem-solving strategies to develop algorithms using classes and objects and techniques such as recursion, exceptions and file I/O. This course also focuses on designing small applications and effective testing strategies. Students may not receive credit for both CS 159 and CS 239. *Prerequisite:* *A grade of “B-” or better in*[*CS 139*](http://catalog.jmu.edu/content.php?filter%5B27%5D=CS&filter%5B29%5D=&filter%5Bcourse_type%5D=-1&filter%5Bkeyword%5D=&filter%5B32%5D=1&filter%5Bcpage%5D=1&cur_cat_oid=10&expand=&navoid=358&search_database=Filter#tt8174)*or*[*CS 149*](http://catalog.jmu.edu/content.php?filter%5B27%5D=CS&filter%5B29%5D=&filter%5Bcourse_type%5D=-1&filter%5Bkeyword%5D=&filter%5B32%5D=1&filter%5Bcpage%5D=1&cur_cat_oid=10&expand=&navoid=358&search_database=Filter#tt4554)*or equivalent.* |
| Course Schedule  Exams   * Midterm Exam 1: Oct 1, 2018 * Midterm Exam 2: Nov 5, 2018 * Final Exam (Section 1): Dec 10, 2018 10:30am–12:30pm * Final Exam (Section 2): Dec 14, 2018 10:30am–12:30pm * Final Exam (Section 3): Dec 12, 2018 1:00pm–3:00pm   Programming Assignments (dates are provisional and may change — consult the schedule under Modules)   * PA1 (Assigned: Sep 7, 2018; Final version due: Sep 28, 2018) * PA2 (Assigned: Oct 3, 2018; Final version due: Oct 19, 2018) * PA3 (Assigned: Oct 29, 2018; Final version due: Nov 16, 2018) * PA4 (Assigned: Nov 26, 2018; Final version due: Dec 7, 2018) |
| Required Text  Tony Gaddis, *Starting Out with Java: From Control Structures through Objects*, 6th ed. (Boston: Addison Wesley, 2015).  https://users.cs.jmu.edu/nortonml/cs159/Gaddis6.jpg  Read the sections specified in the "Modules" section of this website before coming to class along with any other notes supplied there. Feel free to supplement your reading from other sources. The [Java Tutorial (Links to an external site.)Links to an external site.](http://java.sun.com/docs/books/tutorial/) - which is available on the Java website at Sun Microsystems - is particularly useful. You are welcome to use earlier editions of this text (or another text if you have it). However, the reading assignments for the course reflect the "official" text above. |
| Required Hardware and Software  I assume that you either own or have access to a computer capable of running the Java Development Kit (Version 10). You should install the JDK 10 (Standard Edition) and the Eclipse IDE (Photon). Later, I will ask you to install the Web-CAT plugin for Eclipse as well. All are available in the "External Links" section of this site. You can download the Java documentation and the Java tutorial from the Java website as well. |
| Course Assignments and Examinations   * Assignments will be given during the course of the semester. These will include short homework assignments and longer programming assignments or projects. * Homework will be assigned during class period and will be due prior to the beginning of the next class. **Late submissions will not be accepted**. All homework must be submitted via the submission mechanism for this course (as specified in the assignment, and not via email). In order for a homework submission to be accepted, it must 1) compile and 2) show that you made an honest, and concerted effort to solve the problem presented. Needless to say, your solution should bear at least some resemblance to the homework assigned (and not too much resemblance to anyone else's solution - including mine). This is a very low bar. There is no excuse for not submitting a homework assignment. Some assignments may receive only partial credit. For example, if an assignment requires that you complete 2 tasks and you complete only one, then you will receive half credit. * Quizzes will be given periodically throughout the semester. These quizzes are designed to help you stay current on the material that we are covering and to let me know where people might be falling behind. Quizzes will be be open book, open notes. These are intended to help you learn, not to punish you for what you don't know. * Programming Assignments will be assigned during class and will be due by midnight on the date posted (one minute past 11:59 - at the end of the date given, not the beginning of the date). Programming assignments must be submitted via the submission mechanism specified in the assignment (and not via email). Programming assignments must reflect your own work. Unauthorized collaboration is not allowed. See the section below on what "authorized" vs "unauthorized" collaboration entails. * Exams * There will be two mid-term exams and a final exam. All exams will be given during the regular class times as noted on the schedule. * Attendance. * You are expected to attend lectures and to complete all assignments when due. * Your attendance will be reflected in your final grade. * The attendance grade will be the higher of two numbers:   + your actual attendance (the percentage of classes attended of the classes offered), or   + your grade on everything else. * In other words, poor attendance cannot lower your grade by itself. However, poor attendance generally means your other grades will suffer. |
| Coding Standards  You will be expected to adhere to a set of standards for coding and documentation. We will review these standards in class, and you will have access to a hard copy via the "Files" section of this site. For the most part, these standards follow those published by Sun Microsystems. The Sun standards will be available to you in the "Files" section of this site as well. |
| Student Evaluation  This class uses a 10-point grading scale. 90-100 is at least an A-. 80-89 is at least a B-. 70-79 is at least a C-. 60-69 is at least a D-. Below 60 earns an F.  The grade breakdown is as follows:   |  |  | | --- | --- | | **Course Component** | **Percentage** | | Attendance | 10 | | Homework | 5 | | Quizzes | 5 | | Program Assignments | 20 | | Midterm Exam 1 | 15 | | Midterm Exam 2 | 20 | | Final Exam | 25 | |
| Collaboration Policy for Programming Assignments  The programming assignments are equivalent to take home exams. Ideally, they will be completed with no assistance from others. However, when help is needed for a specific task, some approved sources for help may be used as described below.  **Approved Sources for Any Task**  Your professor (that's me), the student assistants for CS159, the course textbook and CD, and the lecture notes and homework solutions are your official "help resources". I am available during office hours, and I am also available outside those hours by appointment and via email. If you need assistance, it is your responsibility to seek out and arrange to meet with me or with one of the assistants.  Any general help from me or from one of the CS159 assistants should be acknowledged in the Acknowledgments section of the program header (see the Style Guide). General assistance from other sources, such as the textbook and CD, should also be so acknowledged. If you paraphrase or copy code from the textbooks, the CD-ROM, or from the lecture notes and homework solutions, you must site the source of your paraphrase or copy both in the comments that accompany the method or section of code in which it takes place and in the Acknowledgments section of the program header. Help from the student assistants must also be cited in the Acknowledgments section of the program header. The note should indicate which TA helped you and with which section(s) of the code they assisted.  **Assistance from Other Sources: Not Permitted**  Assistance from all other sources (other humans, whether students in the class, students not currently taking the class, relatives, friends, strangers, love interests, etc., or Internet sources, etc) is not permitted unless I have specified otherwise in the particular programming assignment. Any paraphrasing or copying of any code from sources other than those listed above will be grounds for a 0 in the assignment and if not cited may also result in an honor code violation at my discretion. A student should never show his or her code to another student.  Any degree of assistance of any scope on Program Design, Code Creation, or Testing and Debugging from any source other than the official help resources is not permitted. For example, if you are stuck on how to design a solution for a particular part of your program, it is not permissible to go to another student for help, but it is permissible for you to come to me or to one of the CS159 assistants for direction. The only exception to this policy is if you are researching background information for a programming assignment during your design phase. For example, you need to do a temperature conversion as part of the programming assignment. You will need to find out what the conversion factors are. Outside research for this fact is allowed. It must be clearly cited where you received your information. Use of fellow students to find such facts is not permitted (they may be wrong, after all) — be sure to consult a reliable source. |
| Course Policies  These policies are to ensure that everyone is treated equally and fairly. If I modify them for one student, I would have to modify them for everyone. More likely, they will remain unchanged.  **The Honor System** - We will uphold the JMU Honor Code. Unauthorized collaboration will be punished, as will other violations of the JMU Honor System. Some violations to be aware of:   1. Sharing of computer account passwords for any reason. 2. Allowing another student to use your computer account unsupervised. 3. Giving or receiving help when we have asked you to work alone. 4. Sharing documents or parts thereof electronically.   **Course Lectures** - The lectures will correspond to the material in the book unless otherwise indicated. Readings from the text book and from other notes are given in the "Modules" section of this website. You should read the assigned chapters and notes and study the examples in those chapters and those accompanying the notes *before* coming to lecture. You are encouraged to ask questions in class. I also encourage you to contact me via email or arrange to see me during office hours if you need more attention than you can be given in class. You are responsible for the material in the book and in the notes whether it is explicitly discussed in class or not.  **Class Attendance Policy** - I expect you to attend every class and be prompt. If you are late, please enter quietly so as not to disrupt the class. If you have to miss class, it is YOUR responsibility to get any material you may have missed.  **Written Work Policy** - All work done and turned in for review must be computer generated! This includes charts, pictures, drawings, as well as text. DO NOT turn in work that is hand written unless your instructor specifically announces that it is okay.  **Late Policy** - Programming Assignments may be turned in up to 2 days beyond the due date, although they will be subject to a 25 percent penalty for each day (or fraction of a day) they are late. This policy will be strictly followed. Broken computers, broken cars, broken internet connections, etc. that occur before an assignment is due are not valid excuses for turning in assignments late. Do not put things off until the last possible moment. Computers break. Accidents happen. Unexpected events occur. Plan for them. If you do get sick during the semester, please let me know as soon as possible and I can make arrangements for any FUTURE assignments that you may not be able to get in on time.  **Email Policy** - When you write an email to ask a question or make a comment, please use your own email account so that I can reply to you. Mail sent from another account or from an account where the address does not CLEARLY identify who you are will be ignored.  **Cheating** - You are all here to learn, not only from me, but also from each other. I encourage you to work together towards solutions and share your knowledge with your colleagues. There are cases, though, where your work must be original (e.g., the tests and programming assignments).  **Grades** - Grades will be clearly indicated on graded work when it is returned to you. It is your responsibility to keep all graded work until the end of the semester in case you wish to dispute your grade.  **Incompletes** - I will not give out an incomplete except in the most extreme of circumstances.  **Missing Tests / Exams** - If you are going to miss a test and inform me at least 24 hours beforehand, I will arrange for you to make it up. If you miss a test and inform me afterwards, then, depending on the reason, you may make it up (with a 25 point penalty). If you miss the final exam, you are out of luck.  **Final Grades** - Final grades will be available as soon as all course work has been graded and final grades submitted to the registrar. Final grades may only be changed if there is a clerical error in the computation or recording of your grade. Please have all of your graded work in your possession if you believe an error has been made.  **Crisis** - If you get seriously ill or have some family crisis that causes you to miss deadlines, please call as soon as possible. Weâ€™ll work something out. |
| Adding/Dropping Courses  Students are responsible for registering for classes and for verifying their class schedules on e-campus.  The deadline for adding a fall semester course without getting approval is Tuesday, 4 September 2018. You can add a class between 4 September 2018 and 13 September 2018, but you must get the approval of both the instructor and the academic unit head.  The deadline for dropping this course without a grade of "W" is Tuesday, 25 October 2018.  The deadline for dropping this class with a grade of 'W' is Thursday, 16 March 2018. |
| Disability Accommodations  If you need an accommodation based on the impact of a disability, you should contact the Office of Disability Services (Student Success Center, Suite 1202, [www.jmu.edu/ods](http://www.jmu.edu/ods), 540-568-6705) 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 presented me with this letter, you and I will sit down and review the course requirements, your disability characteristics, and your requested accommodations to develop an individualized plan, appropriate for (class number). |
| Religious Observance Accommodations  All faculty are required to give reasonable and appropriate accommodations to students requesting them on grounds of religious observation. The faculty member determines what accommodations are appropriate for his/her course. Students should notify the faculty by no later than the end of the Drop-Add period the first week of the semester of potential scheduled absences and determine with the instructor if mutually acceptable alternative methods exist for completing the missed classroom time, homework, or other activity. |
| Inclement Weather Policies  This class will adhere with JMU's Inclement Weather Policy. This policy is given at <http://www.jmu.edu/JMUPolicy/1309.shtml>. Stated simply: if the university is closed, we will not meet. |