

COMP-1800. Problem Solving with Computers

Fall 2018

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Contact Information:

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Class Location: FIT 227	Class Days/Time: Tue, Thu/11.20am – 12:45
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Office Hours:

Monday and Wednesday, 3:30pm – 4:30pm; or by appointment.

Course Description:

COMP 1800 – Problem Solving with Computers

Fundamental aspects of problem solving within the context of computer programming; techniques for deriving problem solutions and use of basic programming concepts such as loops, conditionals, and variables; basics of high-level programming language. NOTE: this course may not be used as a COMP elective to fulfill the requirements of the major or minor in Computer Science.

Why This Course?

This course will teach you the basics of computational thinking: how to solve problems by developing systematic solutions that a computer can understand, and then implementing these solutions by writing computer programs. We will be using the Java programming language to demonstrate these concepts, but the knowledge should also be applicable to many other programming languages that you may encounter later.

Course Website:

Class materials (lecture notes, assignments, etc.) and grades will be posted on the eCourseware system at <https://elearn.memphis.edu> throughout the semester. News and reminders will also be posted here.

Learning Outcomes

1. Understand how programs manipulate computer storage, RAM and CPU.
2. Read and write code involving variables and assignments.
3. Read and write code involving conditionals.
4. Read and write code involving loops.
5. Read and write code to manipulate strings, arrays, and lists.
6. Write programs to define functions and make function calls with various input and output types.

Requirement:

Students must bring their own laptop to the class.

Required Textbook:

Starting Out with Java, From Control Structures through Objects, 7th Edition by TONY GADDIS

<https://www.amazon.com/Starting-Out-Java-Structures-Computer/dp/0134802217>

Evaluation:

Grading Scale:

A+	≥ 96%
A	90–95%
B+	87–89%
B	81–86%
B–	79–80%
C+	77–78%
C	71–76%
C–	69–70%
D+	67–68%
D	60–66%
F	≤ 59%

Grading:

1. Midterm – Thursday, Oct 18th, 11.20am-12.45pm: 20%
2. Assignments: 15%
3. Project: 15%
4. Final Exam – Thursday, Dec 13th, 8.00am-10.00am: 25%
5. Quiz: 15%
6. Attendance: 10%

Course Policies:

Late Policy: Without prior request, no late work will be accepted. All late submission maybe accepted at a penalty of 15% per day for no more than THREE days.

Testing Policy: All the midterm exams given are closed book/note/laptop/neighbor. But students are allowed to bring one cheat sheet (one piece of letter-size paper) for quick reference. Midterm exams are not cumulative. There will NOT be any makeup exams unless there is a documented emergency.

Homework Assignment and Project Report Policy: It is recommended that students use a word processing software (e.g., Word or LaTeX) to type their homework solutions or project report, then submit well-formatted PDF files.

Plagiarism/Cheating Policy:

Plagiarism or cheating behavior in any form is unethical and detrimental to proper education and will not be tolerated. All work submitted by a student (projects, programming assignments, lab assignments, quizzes, tests, etc.) is expected to be a student's own work. The plagiarism is incurred when any part of anybody else's work is passed as your own (no proper credit is listed to the sources in your own work) so the reader is led to believe it is therefore your own effort. Students are allowed and encouraged to discuss with each other and look up resources in the literature (including the internet) on their assignments, but appropriate references must be included for the materials consulted, and appropriate citations made when the material is taken verbatim.

If plagiarism or cheating occurs, the student will receive a failing grade on the assignment and (at the instructor's discretion) a failing grade in the course. The course instructor may also decide to forward the incident to the Office of Student Conduct for further disciplinary action. For further information on U of M code of student conduct and academic discipline procedures, please refer to: <http://www.memphis.edu/studentconduct/misconduct.htm>

Your written work may be submitted to Turnitin.com, or a similar electronic detection method, for an evaluation of the originality of your ideas and proper use and attribution of sources. As part of this process, you may be required to submit electronic as well as hard copies of your written work, or be given other instructions to follow. By taking this course, you agree that all assignments may undergo this review process and that the assignment may be included as a source document in Turnitin.com's restricted access database solely for the purpose of detecting plagiarism in such documents. Any assignment not submitted according to the procedures given by the instructor may be penalized or may not be accepted at all.

Topics

- Week 1. Introduction to Computer Science
- Week 2. Introduction to Programming
- Week 3-4. Java Fundamentals
- Week 5-6. Decision Structures and Boolean Logic
- Week 7-8. Repetition Structures
- Week 9. Arrays and Array Lists
- Week 10-11. Methods
- Week 12-13. Introduction to GUI Programming
- Week 14-15. Project Sessions/Demos