COSC 2336-101CL
Programming Fundamentals III
Course Semester (Spring 2024), 1/16/2024 – 5/10/2024
Tuesday and Thursday, 11:00 am – 12:20 pm
STEAM classroom S1.146

Instructor Information:

Name: Faith (Fay) Alexander

Email: Email: fbryan@com.edu

Phone: Office phone: 409-933-8334, if no answer, leave a message for a callback

Office Location: STEAM 225.55

Student/Office hours in the classroom, S1.146, S1.152 or STEAM 225.55 (office)

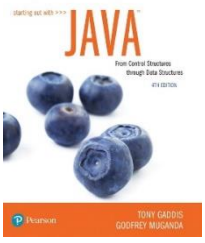
Monday, 12:30 – 2:30 pm
Tuesday, 9:00 – 11:00 am
Wednesday, 12:30 – 2:30 pm
Thursday, 9:00 – 11:00 am

Other days and times are by appointment with the instructor

Required Textbook:

Starting Out with Java: From Control Structures through Data Structures, 4th Edition

by Tony Gaddis
Publisher: Pearson
Print ISBN: 9780134787961
eText ISBN: 9780134757223
Edition: 4th
Copyright year: 2019



There is no access code required for this course. All required course materials will be available in the textbook itself and online on Brightspace D2L (Desire to Learn). The Java source files listed in the textbook are posted in D2L. This is the same book used for Programming Fundamentals II.

Course Description:

Further applications of programming techniques, introducing the fundamental concepts of data structures and algorithms. Topics include data structures (including stacks, queues, linked lists, hash tables, trees, and graphs), searching, sorting, recursion, and algorithmic analysis. Programs will be implemented in the Java Programming Language. This course is included in the Associate of Science Degree for Computer Science. It is also included in COM's Programming Certificate. COSC 1437 (or 1337), Programming Fundamentals II, is a prerequisite.

Course Requirements:

Programming Fundamentals III consists of lectures delivered in the classroom and hands-on exercises, worked by the students in the classroom. Each student has access to a COM personal computer in the classroom. These computers have the necessary software installed for working the hands-on exercises.

Students are also required to complete assignments outside of class. Success in programming depends on a lot of practice. Students should plan to work at least one hour outside of class for every hour spent in class. More time might be necessary. Even though learning programming takes time, it is fun and satisfying to get programs to work properly.

You will need the Java Development Kit (JDK) Version 8 and the NetBeans Integrated Development Environment on your own computer. Both are free of charge. These are the same tools used for Programming II, COSC 1437 or COSC 1337. Be sure you have the JDK Version 8, not a later version. Later versions do not work correctly with the graphics assignments.

Grading Formula:

The grade is determined by the completion of the programming assignments, chapter review quizzes and chapter tests, as described in the grading formula below.

COURSE ITEM	% of Total Grade
Chapter Review Quizzes	10%
Chapter Assignments	40%
Chapter Tests	50%
Total	**100%**

Grading Scale:

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

Late Work, Make-Up, and Extra-Credit Policy:

All assignments must be completed according to the deadline date. Late work will not be accepted. Contact the instructor if you have any issues. There is no extra credit in this course.

Attendance Policy:

All students are expected to attend all sessions in the classroom. There are no recordings of lectures and labs. If you cannot attend a class, you are still responsible for that content. Please contact a classmate to find out what you missed, and be sure to meet all deadlines, as they will not be extended.

All assignments and specific due dates are in D2L, COM's Learning Management System. Each student is expected to access D2L on a regular basis to be cognizant of all assignments. All tests are also in D2L and must be taken in the classroom. No remote submissions for tests are allowed.

Computer and Internet access: Regarding problems with your own computer and with Internet access, COM is not responsible for outages, and due dates will not be extended.

Cell Phone Usage: Cell phone usage is not allowed during class.

Communicating with your instructor: ALL electronic communication with the instructor must be through your COM email. Due to FERPA restrictions, faculty cannot share any information about performance in the class through other electronic means.

Student Learner Outcome	Maps to Core Objective	Assessed by Assignment(s)
1. Design and develop programs that implement basic data structures, including stacks, queues, linked lists, hash tables, trees, and graphs.	Critical Thinking	Programming projects for Chapters 19 and 20
2. Apply recursive techniques and algorithms to solve problems.	Critical Thinking	Chapter 15 programming project
3. Implement sorting and searching algorithms	Empirical and Quantitative Skills	Chapter 16 programming project
4. Understand algorithm efficiency, Big-O notation, and why it should be considered in programming.	Communication (written)	Chapter 16 programming project
5. Analyze and select appropriate data structures to implement a solution to a problem	Empirical and Quantitative Skills	Chapter 20 programming project.
6. Design and implement data structures using classes and incorporating object-oriented concepts.	Critical Thinking	Chapter 17 (Generics) programming project.
7. Demonstrate best practices of software development including testing, validation, and documentation.	Critical Thinking	Chapter 17 (Generics) programming project.

Academic Dishonesty:
Any incident of academic policy will be dealt with in accordance with college policy and the Student Handbook. Academic dishonesty – such as cheating on exams is an extremely serious offense and will result in a grade of zero on that exam and the student will be referred to the Office of Student Conduct for the appropriate disciplinary action.

Student Concerns:
If you have any questions or concerns about any aspect of this course, please contact me using the contact information previously provided. If, after discussing your concern with me, you continue to have questions, please contact Mr. Leslie Richardson, Math and Computer Science Department Chair, at 409-933-8329, email lrichardson@com.edu.

Updates to this Syllabus:
The instructor reserves the right to update this syllabus. All substantive changes will be communicated to students as soon as possible, in the classroom and through BrightSpace D2L announcements.

Course Outline

Week	Date	Topic
1	1/16 – 1/18	Chapter 11 Exceptions **Review Question Quiz, Chapter 11**
2	1/23 – 1/25	Chapter 12: JavaFX: GUI and Basic Controls **Review Question Quiz, Chapter 12**
3	1/30 – 2/1	Chapter 12: JavaFX: GUI and Basic Controls Programming Assignment
4	2/6 – 2/8	Chapter 13: JavaFX: Advanced Controls **Review Question Quiz, Chapter 13**
5	2/13 – 2/15	Chapter 13: JavaFX: Advanced Controls Programming Assignment
6	2/20 – 2/22	Chapter 14: JavaFX: Graphics, Effects and Media **Review Question Quiz, Chapter 14**
7	2/27 -2/29	Chapter 14: JavaFX: Graphics, Effects and Media Programming Assignment **Test # 1 on Thursday, in the classroom only. No remote submissions.**
8	3/5 – 3/7	Chapter 15: Recursion **Review Question Quiz, Chapter 15**
		SPRING BREAK
9	3/19 – 3/21	Chapter 16: Sorting, Searching and Algorithm Analysis **Review Question Quiz, Chapter 16**
10	3/26 – 3/28	Chapter 17: Generics **Review Question Quiz, Chapter 17**
11	4/2 – 4/4	Chapter 17: Generics Programming Assignment
12	4/9 – 4/11	Chapter 18: Collections **Review Question Quiz, Chapter 18** Programming Assignment
13	4/16 – 4/18	Chapter 19: Linked Lists **Review Question Quiz, Chapter 19**
14	4/23 – 4/25	Chapter 20: Stacks and Queues **Review Question Quiz, Chapter 20**
15	4/30 – 5/2	Chapter 20: Stacks and Queues Programming Assignment
16	5/7	**Test # 2 on Tuesday in the classroom. No remote submissions..**

Institutional Policies and Guidelines

Grade Appeal Process: Concerns about the accuracy of grades should first be discussed with the instructor. A request for a change of grade is a formal request and must be made within six months of the grade assignment. Directions for filing an appeal can be found in the student handbook https://www.com.edu/student-services/docs/Student_Handbook_2023-2024_v2.pdf. *An appeal will not be considered because of general dissatisfaction with a grade, penalty, or outcome of a course. Disagreement with the instructor's professional judgment of the quality of the student's work and performance is also not an admissible basis for a grade appeal.*

Academic Success & Support Services: College of the Mainland is committed to providing students the necessary support and tools for success in their college careers. Support is offered through our Tutoring Services, Library, Counseling, and through Student Services. Please discuss any concerns with your faculty or an advisor.

ADA Statement: Any student with a documented disability needing academic accommodations is requested to contact Kimberly Lachney at 409-933-8919 or klachney@com.edu. The Office of Services for Students with Disabilities is located in the Student Success Center.

Textbook Purchasing Statement: A student attending College of the Mainland is not under any obligation to purchase a textbook from the college-affiliated bookstore. The same textbook may also be available from an independent retailer, including an online retailer.

Withdrawal Policy: Students may withdraw from this course for any reason prior to the last eligible day for a "W" grade. Before withdrawing students should speak with the instructor and consult an advisor. Students are permitted to withdraw only six times during their college career by state law. The last date to withdraw from the 1st 8-week session is February 28. The last date to withdraw from the 16-week session is April 22. The last date to withdraw for the 2nd 8-week session is May 1. The last date to withdraw for spring mini session is May 29.

FN Grading: The FN grade is issued in cases of *failure due to a lack of attendance*, as determined by the instructor. The FN grade may be issued for cases in which the student ceases or fails to attend class, submit assignments, or participate in required capacities, and for which the student has failed to withdraw. The issuing of the FN grade is at the discretion of the instructor. The last date of attendance should be documented for submission of an FN grade.

Early Alert Program: The Student Success Center at College of the Mainland has implemented an Early Alert Program because student success and retention are very important to us. I have been asked to refer students to the program throughout the semester if they are having difficulty completing assignments or have poor attendance. If you are referred to the Early Alert Program you will be contacted by someone in the Student Success Center who will schedule a meeting with you to see what assistance they can offer in order for you to meet your academic goals.

Resources to Help with Stress:
If you are experiencing stress or anxiety about your daily living needs including food, housing or just feel you could benefit from free resources to help you through a difficult time, please click

here https://www.com.edu/community-resource-center/. College of the Mainland has partnered with free community resources to help you stay on track with your schoolwork, by addressing life issues that get in the way of doing your best in school. All services are private and confidential. You may also contact the Dean of Students office at deanofstudents@com.edu or communityresources@com.edu.