



## Syllabus

### COSC 2436 – Programming Fundamentals III

**Instructor:** Dimitrios Sellountos  
**Format:** Online  
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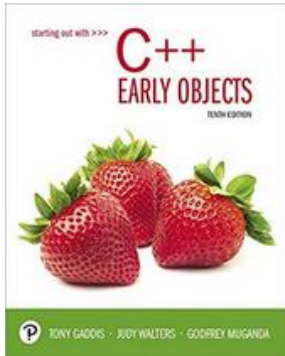
#### Course Description

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 C++ language.

#### Student Learning Outcomes

1. Design and develop programs that implement basic data structures, including stacks, queues, linked lists, hash tables, trees, and graphs.
2. Apply recursive techniques and algorithms to solve problems.
3. Implement searching and sorting algorithms.
4. Understand algorithm efficiency, Big-O notation, and why it should be considered in programming.
5. Analyze and select appropriate data structures to implement a solution to a problem.
6. Design and implement data structures using classes and incorporating object-oriented concepts.
7. Demonstrate best practices of software development including testing, validation, and documentation.

## Textbook Information



Starting Out with C++ Early Objects  
Authors: T. Gaddis, J. Walters, G. Muganda  
Edition: 10th Edition.  
Publisher: Pearson.  
ISBN-13: 978-0135235003  
ISBN-10: 0135235006

Your textbook comes bundled with an access code to **MyLab Programming** (MLP). MLP is a Computer Assisted Learning tool for computer programming. We will use it for some programming assignments. For instructions on how to register on MyLab Programming, go to [http://MyLab Programming.com](http://MyLabProgramming.com). When registering you need (1) an access code and (2) our section Course ID. Your access code comes with the textbook you purchased and will be different for each student.

**Note: If you purchase a used textbook, make sure it has the access code to MPL. Most often used books don't. If the textbook you purchase doesn't come bundled with the MPL access code, you have to purchase an access code separately from the MPL website.**

## Course Percentage

Percentage	Final Grade
90-100	A
80-89.9	B
70-79.9	C
60-69.0	D
Below 59.9	F

## Course Grade

Activity	Weight
Assignments/Labs	20%
Quizzes	30%
Midterm Exam	25%
Final exam	25%
<b>Total</b>	<b>100%</b>

## Assignments

Assignments will be completed and submitted through MyLab Programming and Canvas. Specifically, assignments for Chapter 14, 15, and 16 will be submitted in MyLab Programming Pearson website, and assignments for Chapter 17,18,19 and 20 will be submitted in Canvas. Each student is responsible for submitting his/her own individual work.

## Quizzes/Exams

There will be 5 quizzes, a Midterm exam and a Final exam. All quizzes and all exams will be taken in Canvas. The Final exam will consist of 2 parts. Part A will have a format similar to the quizzes (True/False, Multiple choice questions, etc.) which has to be completed in 60 minutes. Part B of the Final exam will be a programming exercise which has to be completed in 4 hours.

## Suggested Course Schedule

Week	Topics	Chapter Readings
1	Syllabus, Review in Programming II	
2-3	Inheritance, Polymorphism, and Virtual Functions	Chapter 15
4	Exceptions and Templates	Chapter 16
5-6	The Standard Template Library	Chapter 17
7	Linked Lists	Chapter 18
8	<b>Midterm</b>	Chapters 15-18
9-10	Stacks and Queues	Chapter 19
11-12	Recursion	Chapter 14
13-14	Binary Trees	Chapter 20
15	Review	
16	<b>Final Exam</b>	Chapters 14-20

## **Academic Honesty**

**All assignments and exams must be completed by your own individual effort.** You should never have a copy of someone else's either on paper or electronically and you should never give a copy of your homework, either on paper or electronically, to another student. Copying from other student's exams during examinations is *NOT* permitted and will be dealt with harshly.

## **Plagiarism**

Plagiarism is an increasingly common form of academic misconduct. All of the following are considered plagiarism:

- turning in someone else's work as your own
- copying words or ideas from someone else without giving credit
- failing to put a quotation in quotation marks
- giving incorrect information about the source of a quotation
- changing words but copying the sentence structure of a source without giving credit
- copying so many words or ideas from a source that it makes up the majority of your work, whether you give credit or not.

Most cases of plagiarism can be avoided, however, by citing sources. Simply acknowledging that certain material has been borrowed, and providing your audience with the information necessary to find that source, is usually enough to prevent plagiarism.

## **Census Day**

Census Day is when class rosters are officially verified. The purpose of this is to remove any students who are “not attending”. Since this is an internet class, your attendance is determined by whether or not you are actually doing the assigned activities and/or logging in Canvas.

## **Methods of Instruction**

Since this is an internet course, there will be no classroom face-to-face time. However, this does not mean that you will be alone or cannot receive assistance.

Please note the following:

1. There will be no campus meetings for this course. However, if you need help, please contact me via email, or Canvas email. Please do not hesitate to seek assistance.
2. On-line monitoring of students by the instructor will be done via Canvas tracking.
3. This is a reading intensive course. Students must be prepared to spend a significantly longer amount of time on this class than for an on-campus class.

4. It is highly recommended that students have access to a high-speed internet connection and up-to-date computer hardware. All course work will be administered via Canvas and MyLab Programming, so the appropriate Canvas/MyLab Programming functionality on student computer hardware is required. If you do not have access to these facilities, please contact the instructor for information on available facilities on campus.

5. The best method of avoiding technical problems is to do your assignments early, leaving enough time to work through any issues (network down, Canvas down, etc.). Adjustments will be made only for technical issues that occur with equipment or services (Canvas outages, etc.) that are beyond the control of the student.

## **Class Attendance**

Academic success is closely associated with regular classroom attendance and course participation. All successful students, whether on campus or on-line, are expected to be highly self-motivated. All students are required to participate in courses regularly and are obliged to participate in class activities and complete and submit assignments following their professors' instructions. Students taking courses during compressed semester time frames such as mini semester, summer sessions, and mid-semester should plan to spend significantly more time per week on the course.

Responsibility for work missed because of illness or school business is placed upon the student. **In accordance with the College's Developmental Education Plan, students withdrawn from their only developmental course may be withdrawn from all academic courses.** In addition, students' eligibility to receive financial aid or live in a College dormitory can be affected by withdrawal from courses. When administrative withdrawal occurs, any tuition refund would be made in accordance with state regulations.

If you find yourself in over your head, please observe the drop dates on the course schedule. You may drop this class by calling the Registrar's Office at 903-465-6030. Please do not "disappear" for two or three weeks and suddenly "reappear" and ask to be given special permission to make up the required work. If you are going to be out of town for any length of time during the semester, let me know via e-mail or in person to make the appropriate arrangements.

## **Make-up Exams**

There will be **NO** "make-up exams". Missed exams will be recorded with a grade of 0.

## **"Late Assignment" Policy**

You should allow yourself ample time to submit your assignments before the due date. Assignments will **NOT** be accepted after the due date. On-line quizzes may not be submitted late. You will have plenty of time for every assignment and quiz; do not wait until the last minute!

## **Student Conduct & Discipline**

Students are expected to maintain classroom decorum that includes respect for other students and the instructor, prompt and regular attendance, and an attitude that seeks to take full advantage of the educational opportunity. Students who do not adhere to this policy will face the appropriate consequences, including the possible expulsion from class.

In general, please show respect for your fellow students and for me. Treat others the way you would want to be treated.

## **TITLE IX**

GC policy prohibits discrimination on the basis of age, ancestry, color, disability, gender identity, genetic information, national origin, race, religion, retaliation, serious medical condition, sex, sexual orientation, spousal affiliation and protected veteran status.

Furthermore, Title IX prohibits sex discrimination to include sexual misconduct: sexual violence (sexual assault, rape), sexual harassment and retaliation.

For more information on Title IX, please contact:

Dr. Regina Organ, Title IX Coordinator (903-463-8714)

Mr. Brad Bankhead, Title IX Deputy Coordinator- South Campus (903) 415-2601

Mr. Mike McBrayer, Title IX Deputy Coordinator (903) 463-8753

Website: <http://www.grayson.edu/campus-life/campus-police/title-ix-policies.html>

GC Police Department: (903) 463-8777- Main Campus) (903) 415-2501 - South Campus)

GC Counseling Center: (903) 463-8730

For Any On-campus Emergencies: 911

Grayson College is not responsible for illness/injury that occurs during the normal course of classroom/lab/clinical experiences.

These descriptions and timelines are subject to change at the discretion of the Professor

Grayson College campus-wide student policies may be found on our Current Student Page on our website: <http://grayson.edu/current-students/index.html>