



Information Sciences and Technology Department

IT 209: Introduction to Object Oriented Programming

Course Syllabus

Course Description:

Introduction to Object Oriented Programming (OOP) is intended for students who want to advance their basic programming skill to the next level by learning the OO programming paradigm. This course is designed to teach the benefits of OOP, including faster development, code reusability and less code maintenance. The course accomplishes the goals through hands-on experience with a number of coding assignments. Topics include, but are not limited to: OOP design, objects, class, methods, inheritance, testing, debugging, graphical user interfaces (GUIs).

Goals:

At the end of the course the student will:

1. Learn the importance of OOP programming in solving IT related problems.
2. Understand the core concepts of OOP through the Python programming language.
3. Understand when to use OO features and when not to use them
4. Gain confidence in solving problems by completing development projects of increasing size and complexity.

Prerequisites:

A 'C' or better is required in the following subjects:

- IT109
- IT 102 or MATH 112 or MATH 125

Prerequisites are enforced by registration system and must be completed prior to, not concurrently with, this course. If you are not sure please contact the instructor.

Textbook:

1. Required: Python 3 Object-Oriented Programming - Second Edition by Dusty Phillips
https://www.amazon.com/dp/1784398780/ref=cm_sw_r_cp_dp_T2_H2GDzbEM1WC8S
2. Optional: free Python wiki: available [wiki](#) (simpler than a python textbook, but contains more syntax than we will cover)

Course structure:

This will be an interactive and hands-on course. Class and lab participation is compulsory because everything will be interlinked. The class is designed in a way that if you consistently attend class lectures and labs and complete assignments you will succeed in the class.

The course is composed of both class lectures and lab lectures. The class will be held twice a week and the lab will be once a week. The class lectures will be conducted by a teaching professor and will emphasize understanding the core concepts of OOP through presentations, demonstrations and discussion. The lab classes will be conducted by a graduate teaching assistant (GTA or TA) and each will be divided into two small modules: one in-lab practice assignment and one short review lecture. The details will be uploaded to the class website.

Students will be evaluated through exams, quizzes and coding assignments and projects throughout the semester. Students must attempt all the assigned work. These exercises will help students to understand and get a good grasp on concepts and apply them to their own areas of study.

Quizzes and Exams:

There will be roughly about 4-6 quizzes. These are based upon the previous concepts. You should prepare for quizzes by understanding the materials presented in the respective course sessions and labs. There will be one midterm and one final exam

Quizzes and exams are closed book, note and you are not allowed to help others. If you miss a quiz at the beginning of a class, you can take it at the end of that class. Missing quizzes cannot be taken later unless there is some unavoidable conditions or pre-agreement with the instructor. One lowest score will be dropped.

There will be a required 2.75 hour final exam given during the university scheduled exam period. Please note the scheduled date and time and plan your other activities to avoid a conflict. This date is immovable. Missing an exam given during the semester must be arranged ahead of time with the instructor.

Assignments and/or Projects:

Throughout the semester we will use computer laboratory to perform different types of coding assignments and/or project. Coding is best learned by doing it. These will (1) essentially reinforce to learn the materials covered in the lecture portion of the course (2) develop problem solving skills and (3) give you experience creating and debugging programs.

Unless otherwise stated by the Instructor, all assignments are expected to be an individual effort. Students are allowed to use their own computer apart from university provided general purpose machines.

Lab assignments:

At the beginning of each lab (unless otherwise determined by the instructor) there will be one in-lab programming assignment that needs to be done in the lab with the help of the lab instructor. The assignments will be simple small problems that will be based on previous class and lab lectures. This will help you to learn and understand the concepts better. Students will have certain time limit to turn in the work in blackboard depending on the difficulty level of the assignment. One lowest grade will be dropped.

Homework assignments:

There will be programming assignments that will be posted in blackboard every 1-2 weeks. These assignments will be based on two or three key concepts learned in previous classes and lectures and practice assignments. The assignments need to be submitted via blackboard by posted deadline and will be given sufficient time to complete depending on the difficulty level. One lowest will be dropped.

All the assignments MUST be submitted via blackboard by the posted deadlines and considered as individual effort unless otherwise stated by the instructor. If you have difficulty submitting through blackboard contact the lab TA for. It is advised to not wait until last second to turn in the work.

Policies for Absences and Late or Missed Assignments:

1. **Class attendance** will not be routinely taken, but will be considered in the class participation requirement. There is a correlation between regular class attendance and successfully completing the course. Generally, students who attend regularly, sit near the front, and who ask questions and participate in discussions are noticed by the instructor and do well on their participation score. It is also easier for the instructor to write recommendations for those students. A small number of absences per semester (≤ 4) won't harm the participation score, but regular absences likely will.
2. **Lab attendance** at all/most Labs will be noted to make sure the assignment was not submitted remotely. Students will always benefit from attending all lab sessions.
3. **Miss policy:** All assignments must be completed and uploaded to Blackboard by their due date. There will be some miss/late assignment policy. The policy generally states that there will be a timeline to submit certain number of missed/late assignment if you do not want to lose any points. Please see individual section syllabus for missed policy. If you miss exam for

any conditions include a documented medical excuse, a serious family emergency, or scheduled university approved day off campus event, you must arrange exams with the instructor in advance (if possible) or within 48 hours for any unforeseen reason.

Tentative Grading Breakdown:

Activity	Percentages
Lab assignments	10%
Homework assignments	20%
Quiz	10%
Project	10%
Mid term	20%
Final	30%

Letter Grade Conversion System:

Percentage	Grade
>= 98.0	A+
>= 92.0	A
>= 90.0	A-
>= 88.0	B+
>= 82.0	B
>= 80.0	B-
>= 78.0	C+
>= 72.0	C
>= 70.0	C-
>= 60.0	D
<60.0	F

Honor code:

In this course you are expected to create your work on your own. Academic dishonesty includes but not limited to:

- 1) representing someone else's work as your own,
- 2) copying past or current work as part or as whole from friend, relative, book, article, Internet source, colleague, relative, faculty member, or from a stranger.
- 3) dishonesty can be plagiarism, collusion or any sort of cheating.
- 4) since most of the assignments and projects will involve working on your own, it is expected that you will work independently unless otherwise advised by the instructor.

Submission of assignments under your name indicates that you understand and agree to abide by the Honor System and Code of GMU (<http://oai.gmu.edu/the-mason-honor-code-2/>). Any violations of academic honesty (<http://oai.gmu.edu/the-mason-honor-code-2/>) will be taken seriously.

Disability Statement:

If a disability or other condition affects your academic performance, document it with the [Office of Disability Services](#). Try to make arrangement early to avoid any kind of problem during the semester and inform the instructor at least one week earlier before the semester starts.

Campus Resources

- Computer Labs – there are several freely available computer labs on campus, for hours and locations please see: <http://doit.gmu.edu/students/computer-labs/computer-lab-locations/>
- Office of Disability Services - <http://ds.gmu.edu>
- Counseling and Support Services - <http://caps.gmu.edu>
- English as a Second Language (ESL) Writing Support
<http://writingcenter.gmu.edu/tutoring/esl-writing-support>

Class Policies

- Blackboard is used for class announcements, assignments, and other related information.
- Please show up on time – late arrivals can be disruptive.
- No conversation at a time during class lectures unless I ask you to work on a short group exercise.
- Mute cell phones. If you must take a phone call during class please take it outside the room.

- No web surfing or texting during class – it can be disruptive to those around you (especially behind you).but an occasional glance at your phone to check for an emergency or high priority message is acceptable. No make-up exams or quizzes and, in general, no late assignments will be accepted except as noted above.