	Information Sciences and Technology Department **IT 209: Introduction to Object Oriented** **Programming** **Course Syllabus**
GEORGE MASON UNIVERSITY	

Course Description:

"Introduction to Object Oriented Programming" is intended for students who want to advance their basic programming skill to the next level by learning the Object Oriented Programming (OOP) paradigm. This course is designed to teach the basics of OOP using the Python language. Benefits include faster development, code reusability and reduced code maintenance. The course accomplishes the goals through hands-on experience with a number of coding assignments. Topics include, but are not limited to: classes, objects, methods, inheritance, polymorphism, and an introduction to Object Oriented Design (OOD) using the Unified Modelling Language (UML). As time permits additional related topics may be covered such as testing, debugging, graphical user interfaces (GUIs), and common Python frameworks.

Goals:

At the end of the course the student will:

1. Understand the core concepts of OOP using the Python programming language.
2. Learn how to create programs using OOP to solve IT-related problems.
3. Understand which OOP and OOD concepts are standards implemented in other object oriented languages and which are specific to Python
4. Gain confidence in solving problems using OOP and OOD by completing programming 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 the 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 – 2nd or 3rd Edition by Dusty Phillips

2. Optional: free Python wiki: available wiki (contains more material than the course covers)

Course structure:

The course is composed of both class lectures and lab sessions. There are two 75 minute class lectures and one 75 minute lab session each week. Class lectures will be conducted by a faculty professor and will present and explain the basic concepts of OOP. Most classes will include code examples that illustrate and demonstrate the material.

The lab sessions will be conducted by a graduate teaching assistant (GTA or TA) and will consist of an in-lab practice assignment and, as needed, a short review lecture. The details will be uploaded to the class website.

The course is designed so that material is first presented in class lectures, followed by a related exercise in the following lab session. A class assignment will follow that requires the use of the points presented in the lectures and reinforced by the lab exercise. Because of this linkage class and lab participation are required for success in the course. If you consistently attend class lectures and labs, review class notes, keep up with the textbook readings, and complete assignments, you should succeed.

Quizzes and Exams:

Students will be evaluated through exams, quizzes and programming assignments throughout the semester. Quizzes and exams are strictly individual efforts and are closed book, notes, and electronics. Missed quizzes cannot be taken later, but the lowest score will be dropped when calculating the final grade. A midterm exam may be given during the semester and a 2.75 hour final exam will be given during the university scheduled exam period. Making up a missed midterm exam must be arranged ahead of time with the instructor and accompanied by a valid and compelling reason as judged by the instructor.

Please note the scheduled date and time of the Final Exam and plan your other activities to avoid a conflict. The date is scheduled by the university ahead of time and is immovable. Taking the Final Exam at any time other than the university scheduled day/time is only possible when there is a conflict with another scheduled exam that cannot be moved or because the student has two other exams on the same day that cannot be rescheduled.

Lab and Homework Assignments/Projects:

Coding is best learned by doing it. Throughout most of the semester there will be a weekly lab session held in one of the university computer laboratory rooms.   During that session a small programming assignment will be given, completed, and submitted for grading. These will (1)

reinforce the material covered in the lecture portion of the course, (2) develop problem solving skills, and (3) give you hands-on 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 instead of the university provided general purpose machines.

Lab assignments:

At the beginning of each lab (unless otherwise determined by the instructor) there will be an in-lab programming assignment to be completed during the lab session. The lab instructor may provide a review session of the relevant material as well as individual advice and coaching as needed. The assignments will be small problems based on previous class and lab lectures. At the lab instructor's discretion additional time and a later turn-in time may be given for difficult assignments.

Homework assignments:

There will be approximately eight programming assignments that will be posted to Blackboard every 1-2 weeks. Due dates will be set to allow for sufficient time to complete the assignments. These assignments will be progressively more complex and long and may include a semester project among the eight. They are based on key concepts learned in previous classes and lab assignments and must be submitted to Blackboard by the posted deadline.

Always check that a submitted assignment was accepted by Blackboard. If you have difficulty with the submission contact the GTA for guidance. Do not wait until the last minute to submit. "Technical problems with Blackboard" is not a valid excuse for a late submission.

Policies for Absences and Late or Missed Assignments:

1. **Class attendance** will not be routinely taken, but "presence in the class" as perceived by the instructor 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/or 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 (<3) 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 benefit from attending all lab sessions.
3. **Miss policy:** All assignments must be completed and uploaded to Blackboard by their due date. A late/missed assignment policy will be explained during the first week of the semester that includes a submission timeline and criteria for accepting missed/late assignments with appropriate penalties assessed. Missed quizzes cannot be made up and missed exams can only be made up or rescheduled as explained above (See **Quizzes and Exams**).

Tentative Grading Breakdown:

Activity	Percentages
Lab assignments	10%
Homework assignments	25%
Quiz	10%
Mid term	25%
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:

You are expected to complete course assignments on your own unless working on an assigned group project. Academic dishonesty will not be tolerated and includes but is not limited to:

1) plagiarism or representing someone else's work as your own
2) copying past or current work in part or whole from a friend, relative, book, article, Internet source, colleague, faculty member, or from a stranger
3) cheating on a quiz or exam by copying from someone else or referring to notes or other unapproved sources during the quiz or exam

4) accepting help or advice in completing an assignment beyond getting an answer to a short question - the line between getting help (allowed) and having someone else do an assignment for you (not allowed) is crossed once the person being asked provides code or does an action on your behalf. Excellent assignment grades coupled with poor quiz and exam scores are an indicator the student did not complete their own assignments and does not understand the material.

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. Make arrangements early, and inform the instructor during the first week of the semester and provide the required documentation.

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.
- Use of GMU email is required for electronic correspondence with the instructor and GTA.
- Please show up to class and labs on time – late arrivals are disruptive.
- One conversation at a time during class lectures unless you are asked 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 to those sitting behind you)…
- ….but an occasional glance at your phone to check for an emergency or a high priority message is acceptable.
- No make-up exams or quizzes and, in general, no late assignments will be accepted except as noted above.