Course Description:

This foundation course is designed to teach students problem-solving skills using procedural programming that is required for the Information Technology (IT) degree program. The course accomplishes the goals through lectures, hands-on work in a computer laboratory session, and the completion of several programming assignments. Topics to be discussed include, but are not limited to: variables, conditionals, functions, strings, iteration, algorithms, testing, storage types and files.

Goals:

At the end of the course the student will have achieved the following:
1. learned the importance of procedural computer programming in solving problems appropriate for both IT and non-IT majors
2. gained hands-on experience with and understanding of the basic concepts of programming using the Python language
3. written small to medium sized Python programs that implement algorithms to solve small but typical IT problems
4. gained confidence in completing small projects that require creating basic software solutions to solve problems.

Co/Prerequisites:

The following courses must have been taken previously (with a grade of ‘C’ or better) or be taken at the same time as IT-109:
- IT 103 or IT 104 or IT 191
- IT 102 or MATH 112 or MATH 125

Textbook:

2. Optional: free Python wiki: available wiki (simpler than a python textbook, but contains more syntax than we will cover)
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 teaching professor and will present and explain the basic concepts of programming and algorithms. 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 in 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. There will be about 4-6 quizzes, one every two weeks, based on the concepts covered up to that point in the course. There will be one midterm and one final exam.

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. There will be a midterm exam given during the semester and a 2.75 hour final exam 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.

Assignments/Projects:

Coding is best learned by doing it. The course includes weekly lab assignments, to be completed and submitted during the lab period, and programming assignments completed as homework. 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 the university provided general purpose machines.
Lab assignments:

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.

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 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. 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 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 (<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:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lab assignments</td>
<td>10%</td>
</tr>
<tr>
<td>Class assignments</td>
<td>25%</td>
</tr>
<tr>
<td>Quizzes</td>
<td>10%</td>
</tr>
<tr>
<td>Midterm Exam</td>
<td>25%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>30%</td>
</tr>
</tbody>
</table>

Letter Grade Conversion System:

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;= 98.0</td>
<td>A+</td>
</tr>
<tr>
<td>&gt;= 92.0</td>
<td>A</td>
</tr>
<tr>
<td>&gt;= 90.0</td>
<td>A-</td>
</tr>
<tr>
<td>&gt;= 88.0</td>
<td>B+</td>
</tr>
<tr>
<td>&gt;= 82.0</td>
<td>B</td>
</tr>
<tr>
<td>&gt;= 80.0</td>
<td>B-</td>
</tr>
<tr>
<td>&gt;= 78.0</td>
<td>C+</td>
</tr>
<tr>
<td>&gt;= 72.0</td>
<td>C</td>
</tr>
<tr>
<td>&gt;= 70.0</td>
<td>C-</td>
</tr>
<tr>
<td>&gt;= 60.0</td>
<td>D</td>
</tr>
<tr>
<td>&lt;60.0</td>
<td>F</td>
</tr>
</tbody>
</table>

Honor code:

In this course you are expected to create your work on your own. Academic dishonesty includes but is not limited to:
1) representing someone else's work as your own, especially for coding assignments
2) copying past or current work as part or as whole from a friend, relative, colleague, faculty member, book, article, or an Internet source
3) plagiarism, collusion or any sort of cheating

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-code2/). 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-lablocations/
• 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 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.