Course title: Computing for Scientists, Fall 2018

Instructor: Dr. R. Paul Mihail, 2119 Nevins Hall, Email: **rpmihail@valdosta.edu**

Class meeting times and location: Nevins Hall, Room 2115, Tuesday and Thursday from 12:30 PM to 1:45 PM

Office Hours: MW 11:00am-2:00pm and by appointment.

Required Textbook: None.
Software: The software you need for this course is MATLAB, available on computers in labs on campus (Nevins Hall room 2109 and 2115).

Course Description: Foundations of computing, with an introduction to design and analysis of algorithms, including design and construction of programs for scientific and engineering applications.

Learning Outcomes: Students will understand basic programming terminology and techniques. More specifically students will:

1. Be able to design, code, and test MATLAB scripts that meet requirements expressed in words. This includes a basic understanding of top-down design.

2. Code MATLAB scripts using appropriate variables, control structures including conditionals and loops, functions (both built-in and user-defined), and file I/O.

3. Perform vector and matrix operations using MATLAB.

4. Plot data in 2D and 3D with graphics tools in MATLAB.

Course Prerequisites: Math 2261 (Calculus I) is required. Ideally, students should be familiar with vector and matrix operations from linear algebra.

Cell phone policy:
Usage of cell phones in the classroom is prohibited, with the exception of emergency calls. Texting or otherwise using your mobile device in the classroom will result in being asked to leave the classroom.

Assessment:
The grade for this course will be calculated as follows:

- Attendance/participation and challenge activities/pop quizzes: 15%
- Programming assignments (labs): 25%
- Exam 1: 20%
- Exam 2: 20%

- Final Exam (comprehensive):20%

Grades will be assigned according to the following scale:

$$90\text{-}100\% = A$$
$$80\text{-}89.99\% = B$$
$$70\text{-}79.99\% = C$$
$$60\text{-}69.99\% = D$$
$$\text{Below } 60\% = F$$

Final Exam:

- Date and Time: Tuesday December 4th, at 12:30PM to 2:30PM.

What to do if you miss...

- **a lecture** - find out what the material covered was, read the book, borrow someone's notes, find out what any announcements or assignments were. If attendance was taken and you have a documented excuse as described in the attendance policy, contact your professor within one week of your absence.

- **a lab** - the points for attendance and for the demonstration can not be made up unless you have a documented, excused absence. If you have an excuse, make sure you contact your instructor within one week. You MUST still turn in your labwork by the deadline for the lab.

- **a test** - if you know ahead of time you must miss a test, contact your instructor and make arrangements for an alternate time. If circumstances force you to miss an exam unexpectedly, you MUST contact your instructor within a week after the test, in order to have a chance (at instructor's discretion) to be allowed to make the exam up.

- **a deadline on an assignment** - see the late policy. Labs are accepted up to 5 school days late, with penalty.

Due dates

- The electronic submission of lab assignments will be done via the course web page; it can be done as soon as you have your lab ready. It is not acceptable to email your submission, unless there are technical difficulties and you are instructed to do so. Each assignment will have a list of items to turn in at the bottom of the page.

- Late Policy for labs - lab assignments may be turned in late, but they lose 10 percent of the points possible per school day late, up to 5 school days late. That is, work that is one school day late loses 10 points out of 100, work that is two school days late loses 20 points, and so on.

- Some assignments may have bonus parts. If a lab is turned in late, it is NOT eligible for any bonus points. This means if you are tempted to turn in an assignment late so you can finish the bonus, don't. The bonus will not be counted.

- Labs will not be accepted more than 5 school days late. This means that work turned in more than 5 school days after the deadline will get a grade of zero. This allows your instructor to grade most of the submitted programs at the same time, increasing consistency and improving return times for assignments. If you have an excused absence, some deadline extension will be allowed, determined by your instructor, contact him immediately.

Late assignments will not be accepted once the graded work has been returned to the class! Lab projects require time to prepare and a way to do POORLY on them is to wait to start work the evening before they are due. A lab need not be fully functional to receive some credit, but we would much rather see a working lab turned in late than one on time which does not work. A lab that does not run because of syntax errors should not be turned in. It will NOT be graded; you will be asked to continue working on it, and there will be NO extension of the due date, meaning you will be losing points for the late penalty. This is another reason to start work on your assignments early - so you will have time to ask questions before the due date! This means that even if you turn in the lab on time or early, if it does not run without errors, you will be losing points to the late penalty until you turn in one that DOES run! It is easy to accidently delete a character or comment out a line at the last minute. After you submit your lab, check to make sure what you just turned in DOES run! YOU are responsible for making sure your lab as turned in will run cleanly!

File Formats in Electronic Submissions: You need to know the difference between a text file and a doc file and an HTML file and an executable file. Very often, the type that is acceptable in electronic submissions is a text file (which include .m files) or a doc file (test cases). We will explain how to generate them. Occasionally other files may be required (e.g., a jpg file or a csv file if your lab generates one or uses one for input). The assignment will specify what format each file should be in. It is YOUR responsibility to make sure the files are in the correct format. If we have time and find files of incorrect formats in a submission, we will try to notify you by email as soon as possible, BUT the submission will be counted as getting later, up until you submit the files in the correct format. Make sure you have the files you need and NOTHING else in your submission. When in doubt, show it to your instructor ahead of time! This also means check your email regularly!

Academic Honesty:

Cheating consists of getting any form of unfair academic advantage. Cheating is strictly forbidden and I will pursue the maximum penalties allowed by the University, which includes a possibility for expulsion, but most likely will result in a permanent mark on your transcript accompanied by an F in this course.

You will be asked to write labs and submit the code. Often students have questions about what is and what is not considered cheating. Below are a few bullet points I expect to be followed in my course:

- Google Searches. 1) You may often find a complete solution to a programming prompt online. Turning a complete solution that someone else wrote, with or without attribution, will be considered cheating and the penalty is failure of this course along with a letter to the registrar. 2) You may find snippets (parts) of code that you integrate into your solution. This is

acceptable ONLY with attribution (at least 3 of the 4 w's: who, what, when and where) in your code AND write-up. Using snippets of code is only acceptable if they consist of less than one third of the total program. Failure to attribute a snippet of code will result in a 0 on the assignment for the first offense and a failure in the course for the second offense.

- Classmates/friends/tutors. Programming assignments are designated as individual work. That means it is forbidden to share code or work together on them with your classmates. You can, however, discuss high-level ideas, but they have to be documented. Failure to do so will result in an F on the assignment. Documenting high-level idea exchange can be made as a note in the assignment write-up (who/when/what/where). Sharing code with a classmate will result in an F on the assignment for the first offense and a failure of the course on the second documented offense.

Withdrawing:
If you decide to leave the class, please do it officially. There is a date on the Academic Calendar past which you are not allowed to drop for academic reasons. We'd much rather give a W grade than an F. Don't just stop coming to class - you WILL get an F! Take care of your transcript! All policies associated with this course are subject to revision. Reasonable notification will be provided to students prior to any major changes.

New Withdrawal Policy (5 W Policy): Effective Fall 2010, all undergraduate students are limited to five course withdrawal (W) grades for their entire enrollment at Valdosta State University. Once a student has accumulated five W grades, all subsequent withdrawals (whether initiated by the student in BANNER or initiated by the instructor on the proof roll) will be recorded as WF. The grade of WF is calculated as an F for GPA purposes. To get more details about this policy, students are strongly recommended to check the following link:
http://www.valdosta.edu/academic/WithdrawalPolicy.shtml

Extra Help: Do not hesitate to come to my office during office hours or by appointment to discuss a homework problem or any aspect of the course. There are also tutors available Monday through Friday, see Professor Said Fares (office in 1126 Nevins Hall) for more information. There is also the Student Success Center on campus located on the ground floor of the Langdale Residence Hall. The Student Success Center offers free one-on-one tutoring for core courses, success workshops, etc. You can find more information at http://www.valdosta.edu/academics/student-success-center/.

Attendance Policy: Please keep in mind that attendance is extremely important for this course. You are expected to show up for lectures and participate. In case you have to miss class, please make sure you ask for notes or see your professor. While not directly part of your course grade, in-class quizzes/labs/exams have a dramatic impact on your grade. If you have a valid university excuse, please notify your professor as soon as possible.

Accommodation for Disabilities: If you have a documented disability that requires academic accommodations, please contact your professor as soon as possible. In order to receive accommodations in this course, you must provide a Letter of Accommodation from the Access Office for Students with Disabilities located in Farver Hall. The phone numbers are 229-245-2498(V/VP)

and 229-219-1348(TTY). Accommodations can be made for all parts of the course. We only make special arrangements for class activities after we receive the letter.

Student Opinion of Instruction: At the end of the term, all students will be expected to complete an online Student Opinion of Instruction survey (SOI) that will be available on BANNER. Students will receive an email notification through their VSU email address when the SOI is available (generally at least one week before the end of the term). SOI responses are anonymous to instructors/administrators. Instructors will be able to view only a summary of all responses three days after they have submitted final grades. While instructors will not be able to view individual responses or to access any of the data until after final grade submission, they will be able to see which students have or have not completed their SOIs, and student compliance may be considered in the determination of the final course grade. These compliance and non-compliance reports will not be available once instructors are able to access the results. Complete information about the SOIs, including how to access the survey and a timetable for this term is available at http://www.valdosta.edu/academic/OnlineSOIPilotProject.shtml.

Title IX Statement: Valdosta State University (VSU) is committed to creating a diverse and inclusive work and learning environment free from discrimination and harassment. VSU is dedicated to creating an environment where all campus community members feel valued, respected, and included. Valdosta State University prohibits discrimination on the basis of race, color, ethnicity, national origin, sex (including sexual harassment and sexual violence), sexual orientation, gender identity, religion, age, disability, genetic information, or veteran status, in the University's programs and activities as required by applicable laws and regulations such as Title IX. The individual designated with responsibility for coordination of compliance efforts and receipt of inquiries concerning nondiscrimination policies is the University's Title IX Coordinator: the Director of the Office of Social Equity, titleix@valdosta.edu, 1208 N. Patterson St., Valdosta State University, Valdosta, Georgia 31698, 229-333-5463.