University of Maryland
Department of Physics

Fall 2014 **Prof. Ian Appelbaum** **Physics 165**

Title: PHYS 165 Intro to Programming for the Physical Sciences

Prerequisites: PHYS171, PHYS141, or PHYS161; or must have scored 3 or higher on AP PHYS exam.

Instructor: Prof. Ian Appelbaum, Physical Sciences Center, Rm 2154.
Phone: x5-0890 / e-mail: appelbaum@physics.umd.edu
Please arrange a meeting time via email to discuss grades or other personal situations. *Questions about the course material should be directed to the piazza page at* https://piazza.com/umd/fall2014/phys165.

Course Web Site: All course materials, including this syllabus, homework assignments, solutions, lecture notes, etc. will be posted to the Piazza page.

Schedule: Two meetings weekly in PLS 1129:
Tuesday and Thursday .... 9:30am - 10:45am

Overview: We will be using Matlab for this class. Problem sets will require that you have access to a computer with Matlab installed. You can use the computer labs on campus or download a copy of Matlab for free for your personal computer at: http://terpware.umd.edu/Windows/Package/2053.

The course will be taught using a combined lecture/laboratory approach. About half the class sessions will be dedicated to lectures. During the remaining "laboratory" sessions, students will work on homework programming exercises in teams of two or three. A schedule assigning rotating teams for the laboratory sessions will be posted during the second week of class. In the event that your only other team member is absent from class, you will be reassigned to another team. Note that classes may contain both lecture and laboratory components. *Please do not use your cellphones in class.*

Recommended Texts: *Essential Matlab for Engineers and Scientists*, 5th edition, Hahn and Valentine (Elsevier, 2013). An official guide to getting started with Matlab is contained in the manual, and there are over 2,000 pages of reference material on the component functions starting with letter: A-E F-O P-Z.

Homework: Homework is assigned approximately every 1-2 week(s) and will be due *before lecture begins*. It MUST be submitted via email to the instructor with subject "PHYS165 <lastname> <A#>". Include code as attachments using the following naming convention: "<lastname>_<A#>_<P#>.m", where <A#> is the assignment number, and <P#> is the problem number.

Grading: Your course (letter) grade is determined by your numerical scores on frequent homeworks (20%), two in-class midterms (20% each, beginning of Oct. and Nov.), final project and presentation (20%), and the two-hour final exam (20%). Student collaboration on project assignments is allowed; however, all submitted work must be your own. Submissions received up to 24 hours after deadline will be penalized by 25%. Penalty for submissions received 24-48 hours after deadline: 50%. Submissions will not be accepted after that.

Attendance and Makeups: Your attendance in class is expected; however, you will not be penalized for missing up to three classes. If illness, family emergency, or other serious extenuating circumstances require you to miss more than this, you should provide the instructor with appropriate documentation. Similarly, if a serious documented circumstance requires you to miss an exam or prevents you from turning in a homework assignment on time, you should contact the instructor to arrange for a makeup or extension.

Dropping the Course: Note: the last day to drop the course is approximately Nov. 11 (2013 date).