MEC 102: ENGINEERING COMPUTING AND PROBLEM SOLVING II
Spring 2011

Instructor: Prof. Jon Longtin, 107 Light Engineering, 632–1110

Office Hours: Tues: 1:00–3:00pm Light Engineering, Room 107
            Wed: 3:00–5:00pm Light Engineering, Room 107

TA: Mr. Yang Li
    TA Office Hours: 10am–11:30am Monday and Thursday, Heavy Engineering, Room 203B

MEC Student Assistant: Mr. Matthew Quigley
    Office Hours: 11am–2pm Monday, Light Engineering, Room 136F

Lectures: Tues and Thurs 5:20–6:40pm, Light Engineering 102

Please note: I will not support the course in any way through e-mail. It is simply too inefficient. This includes concepts and clarifications, homework questions, exam dates/times, administration, etc. All such requests will be ignored. Please ask questions in class, visit Blackboard, and/or come to office hours for questions.

Course Summary: (Credits 2) Continuation of MEC101: Computer programming as related to engineering design and analysis. Matlab based. Fundamentals of computer architecture, types of data, and logical operators. Debugging and troubleshooting. General principles and guidelines for efficient programming.

Texts:

Software:
- Matlab 7.6– Actually most recent versions of Matlab should be fine, although the menu commands and specific program operation may differ slightly from this release.

Course WebSite: http://me.eng.sunysb.edu/~mec102/

Grading: Homework and Projects 40%, Midterm 25%, and Final 35%
         Homework is due at the end of the class on the day it is due. Late homework will not be accepted!

The Golden Rules: I have two rules for this course: I will not tolerate in any way one person infringing on another’s opportunity to learn in the classroom. This means absolutely no talking during class, and the use of laptop computers or cell phones is strictly forbidden (they are a visual and aural distraction). Please turn your cell phones off before class. Thank you.
Topics:
- Review of essential elements of MEC 101
- Overview of computers and engineering computing; historical perspective
- Fundamentals of digital computer operation
- Base systems, types of numbers and how they are stored
- Basic programming constructs; elements of good programming practice
- Conditional operators and logical constructs
- Iteration, both definite and indefinite
- Use of the debugger and troubleshooting tips
- Defining functions and other logical constructs for program organization
- Introduction to Object Oriented Programming (time permitting)

Computers and Matlab
This is a computing class. You will be writing computer programs and interfacing extensively with MATLAB. I strongly encourage you to get your own personal copy of MATLAB for this course (and the rest of your engineering studies for that matter). Although MATLAB is available at several SINC sites around campus, you will benefit tremendously from having access to MATLAB on your own personal computer. Computer programming can be a vexing and frustrating experience, made all the worse by crowded, overheated, loud general computer rooms. Be kind to yourself and avoid this. The student version of MATLAB is $99, and I would strongly encourage every one of you to get a copy. MATLAB is manufactured by the MATHWORKS: [http://www.mathworks.com/academia/student_version/](http://www.mathworks.com/academia/student_version/)

Americans with Disabilities Act
If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Disability Support Services, ECC (Educational Communications Center) Building, room 128, (631) 632-6748. They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential. Students requiring emergency evacuation are encouraged to discuss their needs with their professors and Disability Support Services. For procedures and information, go to the following web site [http://www.ehs.sunysb.edu/fire/disabilities/asp](http://www.ehs.sunysb.edu/fire/disabilities/asp).

Statement on Academic Dishonesty
Academic dishonesty is an extremely serious offense and will not be tolerated in any form. Academic dishonesty in general is the presentation of intellectual work that is not originally yours. Examples include, but are not limited to, copying or plagiarizing class assignments including homework, reports, designs, computer programs, and other submitted materials; copying or otherwise communicating answers on exams with other students; bringing unapproved aids, either in physical (written) or electronic form to an exam; obtaining copies of an exam prior to its administration, etc. Academic dishonesty violates both the ethical and moral standards of the Engineering profession and all infractions related to academic dishonesty will be prosecuted to the fullest via the CEAS CASA committee. For you, the honest student, academic dishonesty results in lower class curves, hence a depression in your GPA and class standing, while cheapening the degree you earn.

Allowed Calculators
Calculators will not be allowed on any midterm or final exam during this course.