

## Engineering Computing and Problem Solving (MEC 102), Spring 2018

**Instructor:** Xiaolei Yang

**Office:** 161 Light Engineering

**Office Hours:** 1:00pm-4:00pm Friday or by appointment

**Phone:** 2-9164

**Email:** xiaolei.yang@stonybrook.edu

**Description:** This course is intended for students with no prior programming experience who are expected to use MATLAB in science and engineering courses. This course will cover the basics of MATLAB, control structures, functions, input/output, the idea of object-oriented programming and engineering applications of MATLAB. From this class, students will be able to solve some simple engineering problems using MATLAB and feel comfortable to continue learning more advanced topics of MATLAB and other programming languages.

**Lecture:** 5:30pm-6:50pm Tuesday & Thursday (Frey Hall 102, West Campus)

**Textbook:** MATLAB Programming for Engineers (5th Edition). Author: Stephen J. Chapman. Publisher: CENGAGE Learning.

**Website:** There is a forum created for MEC 102 on blackboard (<https://blackboard.stonybrook.edu/>), where you can post any questions you have on this course.

**Grading:** Homework 40%, Midterm 30%, Final Project 30%.

**Homework:** Homework will be posted at blackboard. Deadlines for the assignments will be posted as they are assigned. You would submit assignments and projects electronically at the university provided Blackboard services.

**Late policy:** You can have **TWO** assignments (not final project) submitted **two** days late with no penalty. No submissions will be accepted for more than two days late without prior arrangement.

**MATLAB:** It can be downloaded for free from the university webpage:  
<https://it.stonybrook.edu/software/title/matlab>

### How to submit your homework:

1. Prepare a folder for each problem of this homework, which should be named as "Your first name-Your last name\_HW<homework number>-<problem number>". For instance, my folder for homework 01 and problem 1 should be named as "xiaolei-yang\\_HW01-1".
2. If it is a computer assignment, only submit your source codes, input files and a pure text file named as "README.txt" (use notepad or other ASCII editor to write it; do not use MS word or Mac pages to format it). The README.txt file should contain instructions for using the program and a brief explanation of what your program does. If your program does not fulfill the requirements as asked for in the assignment, provide an explanation.
3. Create a folder including all the problem folders created in the last step. This folder should be named as: "Your first name-Your last name\_HW<homework number>". For instance, my folder for homework 01 should be named as "xiaolei-yang\\_HW01".
4. Compress the whole folder created in the last step to a zipped file named as "Your first name-Your last name\_HW<homework number>.zip". For instance, my compressed folder for homework 01 should be "xiaolei-yang\\_HW01.zip".
5. Submit to blackboard. It is noted that you only have a single attempt for submission.

### Weekly schedule (may change)

<b>Week</b>	<b>Topic</b>
January 21 – January 27	An introduction to MATLAB
January 28 – February 3	An introduction to linear algebra
February 4 – February 10	MATLAB fundamentals
February 11 – February 17	Plotting
February 18 – February 24	Control structure
February 25 – March 3	Data structures and functions
March 4 – March 10	Input/output
March 11 – March 17	Spring recess
March 18 – March 24	Object-oriented programming; Midterm (Thursday)
March 25 – March 31	Engineering applications (1); release of final project topics
April 1 – April 7	Engineering applications (2)
April 8 – April 14	Statistics
April 15 – April 21	Numerical calculus
April 22 – April 28	
April 29 – May 5	Final project presentation

**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, if any, are necessary and appropriate. All information and documentation is confidential. <http://studentaffairs.stonybrook.edu/dss/index.shtml>.

**Academic Integrity:** Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty is required to report any suspected instances of academic dishonesty to the Academic Judiciary. Faculty in the Health Sciences Center (School of Health Technology Management, Nursing, Social Welfare, Dental Medicine) and School of Medicine are required to follow their school-specific procedures. For more comprehensive information on academic integrity, including categories of academic dishonesty please refer to the academic judiciary website at [http://www.stonybrook.edu/commcms/academic\\_integrity/index.html](http://www.stonybrook.edu/commcms/academic_integrity/index.html)

**Critical Incident Management:** Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of University Community Standards any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Faculty in the HSC Schools and the School of Medicine are required to follow their school-specific procedures. Further information about most academic matters can be found in the Undergraduate Bulletin, the Undergraduate Class Schedule, and the Faculty-Employee Handbook.