Course Administration

INSTRUCTORS: Ya Wang, 153 Light Engineering, (631) 632 8322
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OFFICE HOURS: Wed (9-11am, 1 pm - 3 pm) or by appointment.

TEXT:

Linear State-Space Control Systems, Robert Williams & Douglas Lawrence, John Wiley & Sons, 2007

PREREQUISITES:

- o **Classical Feedback Control Background**
    - The Eigenvalue Problem
    - Block diagram manipulation & analysis
    - Laplace transforms
    - Root locus analysis
    - Frequency response & transfer functions
    - Frequency domain feedback control design
- o **Mandatory Software:**
    - Matlab R2014b or later
    - Simulink
    - Control system toolbox
    - Powerpoint, Word, Equation Editor

LECTURE HOURS: Wed (4 pm -6:50 pm)

LECTURE LOCATION: Harriman Hall 112

HOMEWORK: 4 homework assignments
Stony Brook University Graduate Honor Code strictly enforced
No graded assignments will be accepted past the due date/time;
Blackboard submissions are time/date stamped
All assignments are due by midnight of the stated due date
Electronic submissions must be in Word, PowerPoint or PDF
Handwritten documents may be scanned as a PDF; but they must be
EXCEPTIONALLY neat, legible, and <1 Mb per assignment
No hardcopy submissions to department mailbox or office will be
accepted

You are encouraged to work with others on all assignments, but your submission must be the result of your own efforts

PROJECTS: One final project will be given.
A written report is required for the design project.

EXAMS: 2 Midterms (in class)
1 Final Exam
All Exams are scheduled in class, unless stated otherwise
NO makeup exams

GRADING: Semester letter grade is based upon your performance in the following categories, including exams, homework assignments and a design project.

Homework	20%
1 Project	20%
Midterm	40%
Final	20%

GRADING SCALE: NOT a curve – simple percentage of all course work, as follows:

A: >=95%	A- : >=90%	B+ : >=86%
B: >=82%	B- : >=78%	C+ : >=74%
C: >=70%	C- : >=66%	D+ : >=63%
D: >=60%	F : <60%	

Course objectives of MEC 560 course and assessment tools

COURSE LEARNING OBJECTIVES	ASSESSMENT TOOLS
1. Know the principles of control theories	Assignments, Exams, Project
2. Learned how to represent single-input-single-output (SISO) dynamic systems using state-space models	Assignments, Exams, Project
3. Solve for Frequency Response Functions (FRF's) of SISO dynamic systems, i.e. Impulse Reponses and Harmonic Responses	
4. Learned how to represent multi-input-multi-output (MIMO) dynamic systems using state-space models	Assignments, Exams, Project
5. Solve for the dynamic response of a linear dynamic system and relate the response to the state-space system description	Assignments, Exams, Project

6. Design linear control systems using frequency domain, state estimation, and pole placement techniques	Assignments, Exams, Project

Important calendar days for the Spring 2018 semester

Important calendar days	Dates for the Spring 2018 semester
Holidays (no classes held)	March 14, 2018 (Spring Break)
Classes to be held	01/24, 01/31, 02/07, 02/14, 02/21, 02/28, 03/07, 03/21, 03/28, 04/04, 04/11, 04/18, 04/25, 05/02
First Day of Classes	Wed, Jan.24, 2018
Last Day of Classes	Wed, May 2, 2018
Reading Day	Wed, May 9, 2018
Final Examinations	TBD

BLACKBOARD: All homework assignments and solutions will be posted on the Blackboard course account (http://blackboard.sunysb.edu). For problems logging in, go to the helpdesk in the Main Library SINC Site or the Union SINC Site, you can also call: 631-632-9602 or e-mail: helpme@ic.stonybrook.edu

Please make sure that your email id is a current one on the blackboard system. I suggest that you use a university email id for this class; it is free and official. I am not responsible for the emails not delivered to your commercially available email accounts.

ACADEMIC INTEGRITY: The campus policies on academic INTEGRITY are available on the Web
(http://www.stonybrook.edu/commcms/advising/_faculty/AcadIntegrity.html).

Intellectual honesty is a cornerstone of all academic and scholarly work. Therefore, the faculty view any form of academic dishonesty as a very serious matter. The Academic Judiciary Committee (AJC) and the College of Engineering and Applied Sciences Committee of Academic Standing and Appeals (CEAS-CASA) are responsible for the establishment of general guidelines for dealing with academic dishonesty in the colleges and for the consideration of individual complaints. Further information regarding functions of the committees is available from the Office of Undergraduate Academic Affairs and the Undergraduate Student Office in the College of Engineering and Applied Sciences.

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.

SPECIAL NOTE ON ADA: 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.