

## Course Administration

INSTRUCTORS: Professor Seung-Bok Choi  
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OFFICE HOURS: Wed (9-11am, 1 pm - 3 pm) or by appointment.

TEXT: D.J. Inman, Engineering Vibration 4<sup>th</sup> Edition, 2013

PREREQUISITES: MEC 310, MEC 402, Knowledge of Matlab

LECTURE HOURS: Wed (2 pm - 4:50 pm)

LECTURE LOCATION: B314

HOMEWORK: Roughly 4 homework assignments

PROJECTS: One final project will be given.(Presentation: Middle of December)  
A written report is required for the design project.

EXAMS: 1 Midterms (in class): Middle of October  
1 Final Exam: Middle of December  
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	10%
1 Project	20%
Midterm	30%
Final	40%

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

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

### Course objectives of MEC 532 course and assessment tools

COURSE LEARNING OBJECTIVES	ASSESSMENT TOOLS
1. Know the principles of mechanical vibration and control	
2. Learned ordinary and partial differential equations of motion for vibration analysis	Assignments (Moment of
3. Understand free, forced, damped vibration and analysis for one-DOF and multiple DOF systems	Term Project Assignment
4. Know how to obtain vibration responses: transient, steady-state responses, frequency responses	Assignments (Vibration)
5. Understand algebraic eigenvalue problems and modal analysis	Midterm
6. Understand how to convert dynamic equation of motion to state-space realization and the Canonical forms	Assignments (Realization)
7. Understand modern control theory ( or <i>state-space control theory</i> ): control law and estimator design	Check about Term Project
8. Know modal analysis and state-space control design of multiple dof systems	Assignments (Control Design)
9. Understand how to perform vibration analysis of distributed of continuous systems	Assignments, Exams, Project
10. Know how to use software (MATLAB and Mathematica) for the analysis of vibration and	Final Exam, Project

### Important calendar days for the Fall 2017 semester

Important calendar days	Dates for the Fall 2015 semester
Holidays (no classes held)	September 5 (Labor Day) November 23 – 27, 2016 (Thanksgiving Holiday)
Classes to be held	8/30(first class), 9/6, 9/13, 9/20/, 9/27,10/4(Korean Holiday), 10/11, 10/18, 10/25, 11/1, 11/8, 11/15, 11/22, 11/29, 12/6(last class)
First Day of Classes	Wed, Aug 30, 2017
Last Day of Classes	Wed, December 6, 2017
Reading Day	Wed, December 13, 2017
Final Examinations	December 13 -21, 2017

**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](mailto: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](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.

**IMPORTANT COPYRIGHT NOTICE:** The materials in this course available online through Blackboard or video podcasting are for the exclusive use of registered students currently enrolled in this course, and may not be retained or further distributed. In addition to legal sanctions, violation of these copyright prohibitions may result in University disciplinary action.

## **Attendance Policy of SUNY Korea**

- (1) All students of SUNY Korea are required to attend every class.
- (2) Unexcused absences will affect seriously the student's final grade in the course.
- (3) If a student has over 20% unexcused absence, the student's final course grade will be an F.

### Example)

- i) If the class is a 150 minute class, and is held once a week, the 4th unexcused absence of a student will lead to an F grade of the course.
  - ii) If the class is a 75 minute class, and is held twice a week, the 7th unexcused absence of a student will lead to an F grade of the course.
  - iii) If the class is a 50 minute class, and is held three times a week, the 10th unexcused absence of a student will lead to an F grade of the course.
  - iv) In Intensive English Course (IEC), if a student misses the class more than 40 hours in a semester, the student will receive an F grade on the course.
- (4) Students should report the reason of absence to the instructor in advance, or immediately after the absence.
  - (5) When a student excuses his/her absence, the student must provide documentation of the reason for the absence to the instructor.
  - (6) The instructor of the course reserves the right to excuse absences.
  - (7) The course instructor may excuse the absence if the submitted documentation fulfills the conditions below.
    - i) Extreme emergencies (e.g. death in the family)
    - ii) Severe medical reasons with doctor's note (Not a slight illness)
    - iii) Very important events (e.g. national conference, official school event)
  - (8) At the end of semester, the course instructor should submit a copy of the attendance sheet to the Academic Affairs Office.