MEC 541 Elasticity
Spring 2016

Instructor: Dr. Lifeng Wang
Assistant Professor
Department of Mechanical Engineering
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Lecture: Tue 4:00PM - 6:50PM at SOCBEHAV SCI N110
Office Hours: Wed and Thurs 9:30AM – 11:00AM, or by appointment


Course Learning Objectives: The objective of this course is to provide students the ability to solve linear elasticity problems.

Pre-requisite:


Suggest References:

Grading:
Your grade in this course will be assessed by homework and exams.
Homework: 30%
Midterm Exam: 30%
Final Exam: 40%
Your final grade will depend on the overall performance of your classmates.

Exams: All exams are open book and closed notes.
Homework:
1. Homework will be assigned weekly and collected every Tuesday.
2. Late homework will not be accepted.
3. All homework assignments are individual, unless otherwise specified.
4. Homework problems should be neat, professional and well organized.

Course Content:
1. Review of stress transformation, strain transformation, tensor algebra, and compatibility.
2. Generalized Hook’s law
3. Displacement formulation, force formulation
4. 2D problems by Airy stress function in rectangular coordination
5. 2D problems by Airy stress function in polar coordination
6. Complex variable formulation
7. Wedge problem
8. Contact problem
9. 3D problem
10. Torsion
11. Viscoelasticity
12. Elastodynamics

Disability Support Services (DSS) Statement:
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, room128, (631) 632-6748. They will determine with you what accommodations, if any, are necessary and appropriate. All information and documentation is confidential.
Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and Disability Support Services. For procedures and information go to the following website: [http://www.stonybrook.edu/ehs/fire/disabilities](http://www.stonybrook.edu/ehs/fire/disabilities)

Academic Integrity Statement:
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 are 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/uaa/academicjudiciary](http://www.stonybrook.edu/uaa/academicjudiciary/)
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 Judicial Affairs 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.