



COURSE SYLLABUS

AE/ME 559: Advanced Mechanics of Materials Fall 2022

Time and Place: TR, 11:20am – 12:35pm, PER 102
Office hours: T, 2:00pm – 3:00pm, DO 201

FACULTY CONTACT INFORMATION:

Dr. Brett G. Compton
201 Dougherty Engineering Building
bcompt1@utk.edu

COURSE DESCRIPTION:

This course will cover the basic physical principles that underlie the mechanics of deformable solids. Central concepts of the course will be demonstrated using relevant example problems.

Topics to be covered include:

- Deformation and strain
- Elasticity in three dimensions
- Constitutive laws and yield criteria
- Axial members and circular shafts
- Beams and columns
- Energy methods

REFERENCE TEXTS AND RESOURCES FOR THE COURSE (NOT REQUIRED):

- Boresi and Schmidt, *Advanced Mechanics of Materials*, Wiley. (suggested)
- www.continuummechanics.org (suggested)
- Riley, Sturges, and Morris, *Mechanics of Materials*, Wiley.
- Malvern, *Introduction to the Mechanics of a Continuous Medium*, Prentice Hall, Inc.

GRADING AND EVALUATION: Midterm exam – 30%, Final exam – 40%, HW assignments – 30%

HONOR CODE:

An essential feature of the University of Tennessee is a commitment to maintaining an atmosphere of intellectual integrity and academic honesty. As a student of the University, you pledge that you will neither knowingly give nor receive any inappropriate assistance in academic work, thus affirming your own personal commitment to honor and integrity. Dishonesty and plagiarism are serious offenses. Penalties may include failure of the course or dismissal from the program and the university.