

Hagerstown Community College
OFFICIAL MASTER SYLLABUS DOCUMENT

COURSE: EGT–231-01 Strength of Materials (3 credits)

INSTRUCTOR: Olu Bamiduro, Ph.D. **SEMESTER/ YEAR:** SPRING/ 2018

COURSE DESCRIPTION:

This course is a technical study of the stresses and strain in materials from the action of external forces. The application of these principles is used in the design of structures and machines. Axial loads, torsion, and bending are analyzed individually and in combination. The deflection of beams and stability of columns are studied.

* **Prerequisite:** EGT 136

TEXTBOOK (REQUIRED):

Statics and Mechanics of Materials, Hibbler, Pearson 5th Edition, ISBN# 0-13-438259-5

COURSE MATERIALS:

Each student must have access to the following:

Scientific or Graphing Calculator

Protractor & Ruler

Engineering spreadsheet software (Excel, Open Office, etc.)

STUDENT LEARNING OUTCOMES:

EGT 231 – Strength of Materials is the second course in a sequence of courses that includes EGT 136 – Mechanics and EGT 234 – Machine Design. It is projected that 80% percent of the students enrolled in this course will continue on to EGT 234 – Machine Design, which is the next course in the sequence. Upon the completion of this course, students will have mastered the fundamental concepts of a non-calculus strength of materials class as described by ABET. Students will exceed ABET standards by mastering additional topics in statically indeterminate members and combined loads.

TOTAL HOURS REQUIRED FOR THIS COURSEWORK:

To earn one academic credit at HCC, students are required to complete a minimum of 37.5 clock hours (45 fifty-minute “academic” hours) of coursework per semester. Those hours of coursework may be completed through a combination of hours within the classroom and hours outside the classroom. Certain courses may require more than the 37.5 minimum hours of coursework per credit. For most classes, students should expect to do at **LEAST 2** hours of coursework outside of class for each hour of in-class coursework.

	Direct Faculty Instruction (In Class) 37.5 Hrs. Required	Student Work (Out of Class) 90 Hrs. Required
Lecture	20 Hours	
Online	17.5 Hours	
3 Exams (2 Tests and Final Exam)		12 Hrs. Prep
8 Homework Assignments		60 Hrs.
Other Instructor Material		18 Hrs.

SERVICES FOR STUDENTS WITH DISABILITIES:

Students may receive reasonable accommodations if they have a diagnosed disability and present appropriate documentation. Students seeking accommodations are required to contact the Disability Support Services (DSS) office as early as possible. Students may contact a DSS staff member for an appointment at dss@hagerstowncc.edu or at 240-500-2530.