

Hagerstown Community College
OFFICIAL MASTER SYLLABUS DOCUMENT

COURSE: EGT-234-01 Machine Design (4 credits)

INSTRUCTOR:

SEMESTER/ YEAR: FALL/ 2017

COURSE DESCRIPTION:

This course involves the study of various machine parts that carry loads and transmit power. Strength of material theory is expanded to include stress concentration, fatigue, and failure. Rivets, welds, springs, power transmission threads, chain and belt drives, gears, and bearings are included in an analytical approach to the design process. Total of 60 hours of lecture is required.

***Prerequisite: EGT 231. Semester offered: Periodically.**

TEXTBOOK (REQUIRED)

Machine Elements in Mechanical Design, Mott, Pearson, 6th Edition, ISBN #0-13-444118-4

TECHNICAL SPECIFICATIONS:

The following software and hardware are required for successful completion of this course:

- **Operating System:** Windows 7 (recommended) or higher
- **Productivity Tools:** Microsoft Office 2010 (Word and Excel)
- **Email Access:** A valid Hagerstown Community College student account is required
- **Supported Internet Browsers:** Microsoft Internet Explorer 10 and higher, Google Chrome 35 and higher, or Mozilla Firefox 31 and higher
- **Plug-Ins:** Adobe Acrobat Reader and Apple Quicktime Player or Windows Media Player
- **Miscellaneous:** Autodesk AutoCAD, Autodesk Inventor, SOLIDWORKS, or equivalent
- Computer-aided drafting software

STUDENT LEARNING OUTCOMES:

EGT-234 Machine Design is the last course in a sequence of courses that include EGT-136 Mechanics and EGT-231 Strength of Materials. EGT-234 is the capstone course in the Mechanical Engineering Technology Program. It is expected that 80% of the students enrolled in this course will complete the MET program and be employed in a related field or continue their education.

TOTAL HOURS REQUIRED FOR THIS COURSE:

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.

Revised 08/23/2017

Assignments/Assessments**Clock Hours**

Instruction <ul style="list-style-type: none">• Individual (textbook reading)• Online (lecture notes, videos, PowerPoints, example problems, Internet resources)	52.5 hours total <ul style="list-style-type: none">• 22.5 hours (~1.5 hours/week)• 30 hours (~2 hours/week)
Homework Assignments (~10)	40 hours
Team Project	50 hours
Exams <ul style="list-style-type: none">• 3 Exams (Academic Testing Center)• Exam prep	15 hours <ul style="list-style-type: none">• Included in lecture time• 15 hours
	Total hours = 157.5 hours

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.