MET 1515 - Mechanics 1

Fall 2026 Syllabus, Section 01, CRN 40848,

Credit hours: 3

Instructor

Md Mehedi Hasan

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Public Instructor Information

Instructor Title: Lecturer

Professional Qualifications:

Ph.D. in Mechanical Engineering, University of Kentucky, Aug 2025
Master's in Engineering Mechanics, Pennsylvania State University, 2015
Master's in Mechanical Engineering, North Dakota State University, 2011
B.Sc. in Mechanical Engineering, Bangladesh University of Engineering and Technology, 2007

Instructor Office Location: Moser Hall, Room 4108

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Course Description

1515. Mechanics 1. Study of forces as vector quantities; resultants of force systems; principles of mechanical equilibrium; application of principles to problems, devices and structures commonly encountered in industry. Three hours lecture per week. Prereq.: "C" or better in ENTC 1505 and MATH 1513 or MATH 1510 and MATH 1511 or MATH 1510C and MATH 1511C. 3 s.h.

Course Readings

Group	Title	Author	ISBN
Required	Vector Mechanics for Engineers: Statics	Ferdinand P. Beer, E. Russell Johnston Jr., and David F. Mazurek	978-1-259-97726-8

The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.

Schedule of Topics and Assignments

Week of	Reading(s)	Proposed Topic	Due/To Prepare for Class
8/24	Syllabus, Ch. 1	Course introduction; syllabus; Basic Mathematics; systems of units	
8/31	Ch. 2	Statics of Particles: addition of planar forces; resultants	
9/7	Ch. 2	Rectangular components; equilibrium of a particle; free- body diagrams	
9/14	Ch. 2	Forces and equilibrium in space; 3D particle equilibrium	
9/21	Ch. 3	Rigid Bodies: moment of a force; vector products; mo- ment about an axis	
9/28	Ch. 3	Couples and force-couple systems; simplifying systems of forces	
10/5	Review and Exam	Review and Midterm Exam I (Ch. 1-2)	

10/12	Ch. 4	Equilibrium of Rigid Bodies: 2D equilibrium; reactions and supports
10/19	Ch. 4	Equilibrium of Rigid Bodies: 2D equilibrium; Two Special Cases
10/26	Ch. 4	Equilibrium in three dimensions
11/2	Ch. 4	Review Problems and Homeworks
11/9	Ch. 7	Internal Forces in Members
11/16	Review and Exam	Review; Midterm Exam II (Ch 3-4)
11/23	Ch. 7	Shear, Moment in Beam
11/30	Ch. 7	Shear, Moment in Beam
12/7	Final	Final Examination

The course schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or to ensure better learning.