Midland College Syllabus

2022- 2023
ENGR 2302
Engineering Mechanics - Dynamics
3 Semester Credit Hours
(3 Lecture/0 Lab)

Instructor Information

Instructor: Click here to enter text.
Office: Click here to enter text.
Phone: Click here to enter text.
Email: Click here to enter text.
Office Hours: Click here to enter text.

Course Description: Basic theory of engineering mechanics, using calculus, involving the motion of particles, rigid bodies, and systems of particles; Newton's Laws; work and energy relationships; principles of impulse and momentum; application of kinetics and kinematics to the solution of engineering problems. Prerequisites: ENGR 2301

Text, References and Supplies:

- Textbook: Hibbler, Engineering Mechanics: Statics & Dynamics with code
  - ISBN: 9780135841532

Student Learning Outcomes

Upon successful completion of this course, students will:

1. Express dynamic quantities as vectors in terms of Cartesian components, polar coordinates, and normal-tangential coordinates.
2. Compute mass moments of inertia for systems of particles and rigid bodies.
3. Solve kinematic problems involving rectilinear and curvilinear motion of particles.
4. Solve kinetic problems involving a system of particles using Newton's Second Law.
5. Apply the principles of work and energy, conservation of energy, impulse and momentum, and conservation of momentum to the solution of engineering problems involving particles and systems of particles.
6. Solve kinematic problems involving the translation and rotation of a rigid body.
7. Solve kinetic problems involving planar translation and rotation of rigid bodies.
8. Apply the principles of work and energy, conservation of energy, impulse and momentum, and conservation of momentum to the solution of engineering problems involving rigid bodies in planar motion.

Student Contributions, Responsibilities and Class Policies:
Students will be expected to comply with the policies outlined in the Midland College Catalog. Instructor policies concerning attendance and academic behavior are consistent with the policies in the catalog. Regular attendance is required to do well in this class.

Students will be evaluated based on the results of assessments outlined in the syllabus and Instructor Handout.

Attendance Policy:
It is the responsibility of the students to know the policies and procedures associated with absences. These policies are set by instructors. Excused absences may include, but are not limited to, illness, severe weather, and death in the family. Instructors will determine whether or not an absence is excused. Please visit the Midland College Catalog

Your lecture instructor will inform you on the first day of class as to the tentative dates and content for each exam. Students are expected to complete each exam. Your instructor will inform you on the first day of class as to make-up procedures for missed exams and any exemption procedures if they apply (See Instructor Handout).

Withdrawal Policy:
Students who have enrolled in a Texas public institution of higher education as a first-time freshman in fall 2007 or later are permitted to drop no more than six courses during the entire undergraduate career. This limit includes all transfer work taken at a Texas institution of higher education and to second baccalaureate degrees. This statute was enacted by the State of Texas in spring 2007 (Texas Education Code 51.907). Any course that a student drops after Census Day is counted toward the six-course limit if "(1) the student was able to drop the course without receiving a grade or incurring an academic penalty; (2) the student's transcript indicates or will indicate that the student was enrolled in the course; and (3) the student is not dropping the course in order to withdraw from the institution." Please visit the Midland College Catalog

Scholastic Dishonesty:
Midland College does not tolerate scholastic dishonesty or academic misconduct in any form. Please read the Student Rights & Responsibilities section in the Midland College Catalog for more information.

Evaluation of Students:
Evaluation of Students: The grade distribution for assignments in this class and numerical grading scale are as follows.

Assessments	Percentage of Grade	Grade Range
Exams	40%	90-100 A
Quizzes/Assignments	35%	80-89 B
Cumulative Final Exam	25%	70-79 C
		60-69 D
		0-59 F

Non-Discrimination Statement

Midland College does not discriminate on the basis of race, color, national origin, sex, disability or age in its programs and activities. The following individual has been designated to handle inquiries regarding the non-discrimination policies:

Tana Baker
Title IX Coordinator/Compliance Officer
3600 N. Garfield, SSC 131
Midland, Texas 79705
(432) 685-4781
tbaker@midland.edu

For further information on notice of non-discrimination, visit the ED.gov Office of Civil Rights website, or call 1 (800) 421-3481.

Americans with Disabilities Act (ADA) Statement:

Midland College provides services for students with disabilities through Student Services. In order to receive accommodations, students must visit www.midland.edu/accommodation and complete the Application for Accommodation Services located under the Apply for Accommodations tab. Services or accommodations are not automatic, each student must apply and be approved to receive them. All documentation submitted will be reviewed and a "Notice of Accommodations" letter will be sent to instructors outlining any reasonable accommodations

Continuity of Instruction Statement

In the event that on campus activities are suspended due to extenuating circumstances, such as weather or quarantine, the instructor will continue instruction in a manner that best supports the course content and student engagement. In this event, your instructor will notify students of the change via Click here to enter text. At that time, they will provide details about how instruction and communication will continue, how academic integrity will be ensured, and what students may expect during the time that on campus activities are suspended. If a student becomes unable to continue class participation due to extenuating circumstances, (e.g., health and safety, loss of power, etc.) the student should contact their instructor and advisor for guidance. Resources are available to

students via the SOS program. Information can be found at https://www.midland.edu/services-resources/student-services/sos.php.

Grievances or complaints

Concerns should be expressed as soon as possible to allow for early resolution. Midland College encourages students to discuss their concerns with their instructor first. If you feel uncomfortable discussing your situation with your instructor, students should discuss their concerns with the Chair of the appropriate department (Biology Chair – Mr. Tomas Hernandez (432-685-6751), Chemistry Chair – Mr. John Anderson (432-685-6737), Engineering and Physics Chair – Dr. Brian Flowers (432-685-4586), Geology Chair – Mr. Antony Giles (432-685-5580), Kinesiology Chair – Ms. Sheena Thompson (432-685-4579), Math Chair – Dr. Krista Cohlmia (432-685-4541) then the Dean of Math and Science – Dr. Miranda Poage (432-685-4561). If a resolution is still not possible, students may proceed with the formal complaint process.
http://catalog.midland.edu/content.php?catoid=14&navoid=2579#grievances-and-complaints

Math & Science Division Information:

Division Office: AHSF 124 (432) 685-4561
Division E-Mail: mns@midland.edu

Department Chair: Dr. Brian Flowers (432) 685-4586
Dean: Dr. Miranda Poage
Secretary: Sarah Anderson
Clerk: Liliana Orcutt

Contents