Midland College Syllabus
2018 - 2019
ENGR 2302
Engineering Mechanics - Dynamics
3 Semester Credit Hours
(3 Lecture/0 Lab)

Instructor Information
Instructor: Dr. Brian Flowers Office: AHSF 113
Phone: (432) 685-4586 Email: bflowers@midland.edu
Office Hours: Open Door Policy or by appointment

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:

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.
<table>
<thead>
<tr>
<th>Assessments</th>
<th>Percentage of Grade</th>
<th>Grade Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exams</td>
<td>40%</td>
<td>90-100 A</td>
</tr>
<tr>
<td>Quizzes/Assignments</td>
<td>35%</td>
<td>80-89 B</td>
</tr>
<tr>
<td>Cumulative Final Exam</td>
<td>25%</td>
<td>70-79 C</td>
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<td></td>
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<td>60-69 D</td>
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<td>0-59 F</td>
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**ADA Statement:**
Midland College provides services for students with disabilities through Student Services. In order to receive accommodations, students must place documentation on file with the Counselor/Disability Specialist. Students with disabilities should notify Midland College prior to the beginning of each semester. More information can be found at the [Midland College Catalog](https://www.midland.edu/catalog), or by contacting the Midland College Disability Specialist at 685-4505.

Student Services will provide each student with a letter outlining any reasonable accommodations. The student must present the letter to the instructor at the beginning of the semester.

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

**Tana Baker, Title IX Coordinator/Compliance Officer, 3600 N. Garfield, SSC 242, Midland, TX 79705, (432) 685-4781, tbaker@midland.edu; Natasha Morgan, Director Human Resources/Payroll, 3600 N. Garfield, PAD 104, Midland, TX 79705, (432) 685-4534, nmorgan@midland.edu.** For further information on notice of non-discrimination, visit [http://wdcrsrobcolp01.ed.gov/CFAPPS/OCR/contactus.cfm](http://wdcrsrobcolp01.ed.gov/CFAPPS/OCR/contactus.cfm) or call 1 (800) 421-3481.

**Spanish**
Midland College no discrimina por motivos de raza, color, nacionalidad, sexo, discapacidad, o edad en sus programas o actividades. Las siguientes personas han sido designadas para responder a cualquier pregunta o duda sobre estas políticas no discriminatorias: **Tana Baker, Title IX Coordinator/Compliance Officer, 3600 N. Garfield, SSC 242, Midland, TX 79705, (432) 685-4781, tbaker@midland.edu; Natasha Morgan, Director Human Resources/Payroll, 3600 N. Garfield, PAD 104, Midland, TX 79705, (432) 685-4534, nmorgan@midland.edu.** Para más información sobre estas políticas no discriminatorias, visite [http://wdcrsrobcolp01.ed.gov/CFAPPS/OCR/contactus.cfm](http://wdcrsrobcolp01.ed.gov/CFAPPS/OCR/contactus.cfm) o llame al 1 (800) 421-3481.
Contents
Midland College Syllabus ................................................................. 1

Instructor Information ............................................................................. 1

Instructor: .................................................................................... Error! Bookmark not defined.
Phone: ....................................................................................... Error! Bookmark not defined.
Office Hours ...................................................................................... Error! Bookmark not defined.

Course Description: ............................................................................. 1

Text, References and Supplies: ............................................................ 1

Student Learning Outcomes ................................................................ 1

Student Contributions, Responsibilities and Class Policies: .................. 2

Attendance Policy: ........................................................................... 2

Withdrawal Policy: ........................................................................... 2

Scholastic Dishonesty: ........................................................................ 2

Evaluation of Students: ....................................................................... 2

ADA Statement: ............................................................................... 3

Math/Science Division Information: .................................................. 4