Midland College Syllabus
Fall 2018
MATH 2414
Calculus II
4 Semester Credit Hours
(4 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.

Notice: Students MUST actively participate by completing an academic assignment required by the instructor by the official census date. Students who do not actively participate in an academically-related activity may be reported as never attended and dropped from the course.

Course Description:
This course is designed to enable students to become proficient in differentiation and integration of transcendental functions; parametric equations and polar coordinates; techniques of integration; sequences and series; improper integrals. Prerequisite: MATH 2413.

Text, References and Supplies:
- Stewart, Calculus, 8th ed., Cengage.
  - ISBN: 978-1-305-71371-0
  - ISBN: 978-1-3052-7181-4
- Scientific calculator.
- Use of MATLAB is required.

Student Learning Outcomes
Upon successful completion of this course, students will:
1. Use the concepts of definite integrals to solve problems involving area, volume, work, and other physical applications.
2. Use substitution, integration by parts, trigonometric substitution, partial fractions, and tables of anti-derivatives to evaluate definite and indefinite integrals.
3. Define an improper integral.
4. Apply the concepts of limits, convergence, and divergence to evaluate some classes of improper integrals.
5. Determine convergence or divergence of sequences and series.
6. Use Taylor and MacLaurin series to represent functions.
7. Use Taylor or MacLaurin series to integrate functions not integrable by conventional methods.
8. Use the concept of polar coordinates to find areas, lengths of curves, and representations of conic sections.
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.

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:
Students will be evaluated based on grades which may including the following but are not limited to:

<table>
<thead>
<tr>
<th>Assessments</th>
<th>Percentage of Grade</th>
<th>Grade Range</th>
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</thead>
<tbody>
<tr>
<td>Exams</td>
<td>55-70%</td>
<td>90-100 A</td>
</tr>
<tr>
<td>Quizzes/Assignments/MATLAB</td>
<td>10-20%</td>
<td>89-80 B</td>
</tr>
<tr>
<td>Final Exam</td>
<td>20-25%</td>
<td>69-60 D</td>
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<tr>
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<td></td>
<td>59-0 F</td>
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Students will be evaluated based on the results of examinations given throughout the semester. 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).
Common Assessment:
All sections of this course have a common assessment. The common assessment for this course is shown in the schedule and is noted as such (see Instructor Handout).

Course Schedule:
This class meets for 4 contact hours per week. For a tentative schedule of the class meetings and material to be covered during those meetings, please refer to the schedule distributed to each student on the first class meeting (See Instructor Handout).

Course Outline:
Chapter 5: Applications of Integration
  5.1 Area between Curves
  5.2 Volumes
  5.3 Volumes of Cylinders by Shells
  5.4 Work

Chapter 7: Techniques of Integration
  7.1 Integration by Parts
  7.2 Trigonometric Integrals
  7.3 Trigonometric Substitution
  7.4 Integration of Rational Functions by Partial Fractions
  7.5 Strategy for Integration
  7.7 Approximate Integration
  7.8 Improper Integrals

Chapter 8: Further Applications of Integration
  8.1 Arc Length
  8.2 Area of a Surface of Revolution
  8.3 Applications to Physics and Engineering

Chapter 10: Parametric Equations and Polar Coordinates
  10.1 Curves Defined by Parametric Equations
  10.2 Calculus with Parametric Equations
  10.3 Polar Coordinates
  10.4 Areas and Lengths in Polar Coordinates

Chapter 11: Infinite Sequences and Series
  11.1 Sequences
  11.2 Series
  11.3 The Integral Test and Estimates of Sums
  11.4 The Comparison Tests
  11.5 Alternating series
  11.6 Absolute Convergence and the Ratio and Root Tests
  11.7 Strategy for Testing Series
  11.8 Power series
  11.9 Representations of Functions as Power series
  11.10 Taylor and Maclaurin Series
  11.11 Applications of Taylor Polynomials
**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 [Student Services – Disability Services](#) 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://wdcrobcolp01.ed.gov/CFAPPS/OCR/contactus.cfm](http://wdcrobcolp01.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://wdcrobcolp01.ed.gov/CFAPPS/OCR/contactus.cfm](http://wdcrobcolp01.ed.gov/CFAPPS/OCR/contactus.cfm) o llame al 1 (800) 421-3481.

**Math/Science Division Information:**
Division Dean: Dr. Margaret Wade 125 AHSF (432) 685-4615
Department Chair: Dr. Sonia Ford 110 AHSF (432) 685-4525
Division Secretary: Mrs. Carol Pritchard 124 AHSF (432) 685-6404
Division Clerk: Ms. Sarah Anderson 124 AHSF (432) 685-6896

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