Calculus II MATH 2414.003
Department of Mathematics & Statistics
Spring 2018

A. COURSE INFORMATION

Course number/section: MATH 2414.003
Class meeting time: MWF 09:00-09:50 AM
Class location: BH-207
Course Website: https://bb9.tamucc.edu/

B. INSTRUCTOR INFORMATION

Instructor: Pranava K. Jha
Office location: EN 316-P
Office hours: MWF 10:00 am to 12:00 noon
Telephone: (361) 825-3712
e-mail: Pranava.jha@tamucc.edu
Appointments: e-mail me to make appointments outside the office hours

C. COURSE DESCRIPTION

Catalog Course Description
This course is the second of three courses in the calculus sequence. While Calculus-I was mainly about derivatives or rates of change, this course is about integrals or accumulations, and about series.

Extended Course Description
Class Hours: you also need to register for one section of the lab. Lecture and lab together count as a four-hour course.

D. PREREQUISITES FOR THE COURSE

Pre-requisite
MATH 2413 (Calculus I).

Co-requisite
Enrollment in a lab section.

E. REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES

Required Textbook(s)
James Stewart, Calculus, Early Transcendentals, 8th Edition

Supplies
Paper and pen/pencil
F. STUDENT LEARNING OUTCOMES AND ASSESSMENT

Assessment is a process used by instructors to help improve learning. Assessment is essential for effective learning because it provides feedback to both students and instructors. A critical step in this process is making clear the course’s student learning outcomes that describe what students are expected to learn to be successful in the course. The student learning outcomes for this course are listed below. By collecting data and sharing it with students on how well they are accomplishing these learning outcomes, students can more efficiently and effectively focus their learning efforts. This information can also help instructors identify challenging areas for students and adjust their teaching approach to facilitate learning.

By the end of this course, students should be able to:

1. Evaluate integrals by the Fundamental Theorem of calculus, substitution, integration by parts, trigonometric substitution, and by using trigonometric identities to simplify an integrand.
2. Use integrals to determine volumes by using washers (slicing) or by using cylindrical shells and determine surface areas or curve lengths.
3. Determine whether an integral is an improper integral and determine whether an improper integral converges.
4. Determine convergence/divergence of a sequence.
5. Determine convergence/divergence of an infinite series using the integral, comparison, root or ratio test.
6. Determine the interval of convergence of a power series.
7. Find the Taylor or MacLaurin series for elementary functions.
8. Graph a parametric curve and compute the length of a parametric curve.

G. INSTRUCTIONAL METHODS AND ACTIVITIES

Methods and activities for instruction include: Lectures, assignments and quizzes.

H. MAJOR COURSE REQUIREMENTS AND GRADING

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>% of FINAL GRADE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midterm 1</td>
<td>15%</td>
</tr>
<tr>
<td>Midterm 2</td>
<td>15%</td>
</tr>
<tr>
<td>Quiz</td>
<td>20%</td>
</tr>
<tr>
<td>Lab</td>
<td>20%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>30%</td>
</tr>
</tbody>
</table>

Grading Scale: Grades will be no stricter than
I. COURSE CONTENT/SCHEDULE

<table>
<thead>
<tr>
<th>Week/Date</th>
<th>Topic</th>
<th>Chapter(s)</th>
<th>Quiz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wk. 1 (1/16 – 1/19)</td>
<td>Review</td>
<td>Sec. 5.5</td>
<td></td>
</tr>
<tr>
<td>Wk. 2 (1/22 – 1/26)</td>
<td>Areas and volumes</td>
<td>Sec. 6.1, 6.2</td>
<td>Quiz 1</td>
</tr>
<tr>
<td>Wk. 3 (1/29 – 2/2)</td>
<td>Volumes</td>
<td>Sec. 6.3, 6.5</td>
<td>Quiz 2</td>
</tr>
<tr>
<td>Wk. 4 (2/5 – 2/9)</td>
<td>Integration by parts</td>
<td>Sec. 7.1, 7.2</td>
<td>Quiz 3</td>
</tr>
<tr>
<td>Wk. 5 (2/12 – 2/16)</td>
<td>Rational functions</td>
<td>Sec. 7.3, 7.4, 7.5</td>
<td>Quiz 4</td>
</tr>
<tr>
<td>Wk. 6 (2/19 – 2/23)</td>
<td>Review and Midterm 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wk. 7 (2/26 – 3/2)</td>
<td>Surface of revolution</td>
<td>Sec. 8.1, 8.2</td>
<td>Quiz 5</td>
</tr>
<tr>
<td>Wk. 8 (3/5 – 3/9)</td>
<td>Sequences and series</td>
<td>Sec. 11.1, 11.2, 11.3</td>
<td>Quiz 6</td>
</tr>
</tbody>
</table>

3/12 – 3/16 Spring Break

<table>
<thead>
<tr>
<th>Week/Date</th>
<th>Topic</th>
<th>Chapter(s)</th>
<th>Quiz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wk. 9 (3/19 – 3/23)</td>
<td>Comparison tests</td>
<td>Sec. 11.4, 11.5, 11.6</td>
<td>Quiz 7</td>
</tr>
<tr>
<td>Wk. 10 (3/26 – 3/30)</td>
<td>Power series</td>
<td>Sec. 11.7, 11.8</td>
<td>Quiz 8</td>
</tr>
<tr>
<td>Wk. 11 (4/2 – 4/6)</td>
<td>Review and Midterm 2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4/6 (Fri) Last day to drop a class

<table>
<thead>
<tr>
<th>Week/Date</th>
<th>Topic</th>
<th>Chapter(s)</th>
<th>Quiz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wk. 12 (4/9 – 4/13)</td>
<td>Taylor series</td>
<td>Sec. 11.9, 11.10</td>
<td>Quiz 9</td>
</tr>
<tr>
<td>Wk. 13 (4/16 – 4/20)</td>
<td>Parametric equations</td>
<td>Sec. 10.1, 10.2</td>
<td>Quiz 10</td>
</tr>
<tr>
<td>Wk. 14 (4/23 – 4/27)</td>
<td>Polar coordinates</td>
<td>Sec. 10.3</td>
<td></td>
</tr>
<tr>
<td>Wk. 15 (4/30 – 5/2)</td>
<td>Review</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5/4, 5/7 – 5/10</td>
<td>Final Exam</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Changes in this course schedule may be necessary and will be announced to the class by the Instructor. The exams shown are directly related to the Student Learning Outcomes described in Section F.
J. COURSE POLICIES

Attendance/Tardiness
Attendance will be taken each class. For most students attending class is a faster way of learning the material than trying to catch up on missed material solely from the book. Tardiness is often disruptive to the whole class and is not appreciated. If you are delayed and arrive late for class please do so quietly. Usually the topic/technique of the day is introduced in the first few minutes of class; missing that part usually means that you will be lost all class.

Late Work and Make-up Exams
Missed assignments or quizzes cannot be made up. Make-up exams will not be given.

Extra Credit
There may be some extra credit in this class.

Cell Phone Use
Cell phones and such must be turned off before class. Each time your phone rings during class, your course grade goes down by 1%.

Laptop Use
You may use a laptop to take notes during lecture. Distracting other students by surfing the web is not an acceptable behavior.

No food in class.

K. COLLEGE AND UNIVERSITY POLICIES

• Academic Integrity (University)
University students are expected to conduct themselves in accordance with the highest standards of academic honesty. Academic misconduct for which a student is subject to penalty includes all forms of cheating, such as illicit possession of examinations or examination materials, falsification, forgery, complicity or plagiarism. (Plagiarism is the presentation of the work of another as one’s own work.) In this class, academic misconduct or complicity in an act of academic misconduct on an assignment or test will result in a failing grade.

• Classroom/Professional Behavior Texas A&M University–Corpus Christi, as an academic community, requires that each individual respect the needs of others to study and learn in a peaceful atmosphere. Under Article III of the Student Code of Conduct, classroom behavior that interferes with either (a) the instructor’s ability to conduct the class or (b) the ability of other students to profit from the instructional program may be considered a breach of the peace and is subject to disciplinary sanction outlined in article VII of the Student Code of Conduct. Students engaging in unacceptable behavior may be instructed to leave the classroom. This
prohibition applies to all instructional forums, including classrooms, electronic classrooms, labs, discussion groups, field trips, etc.

• **Statement of Civility**
  Texas A&M University–Corpus Christi has a diverse student population that represents the population of the state. Our goal is to provide you with a high quality educational experience that is free from repression. You are responsible for following the rules of the University, city, state and federal government. We expect that you will behave in a manner that is dignified, respectful and courteous to all people, regardless of sex, ethnic/racial origin, religious background, sexual orientation or disability. Behaviors that infringe on the rights of another individual will not be tolerated.

• **Deadline for Dropping a Course with a Grade of W (University)** I hope that you never find it necessary to drop this or any other class. However, events can sometimes occur that make dropping a course necessary or wise. **Please consult with your academic advisor, the Financial Aid Office, and me, before you decide to drop this course.** Should dropping the course be the best course of action, you must initiate the process to drop the course by going to the Student Services Center and filling out a course drop form. Just stopping attendance and participation WILL NOT automatically result in your being dropped from the class. Please consult the [Academic Calendar](http://www.tamucc.edu/academics/calendar/) for the last day to drop a course.

• **Grade Appeals (College of Science and Engineering)**
  As stated in University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures, a student who believes that he or she has not been held to appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal. A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details, including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, see University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules website at [http://www.tamucc.edu/provost/university_rules/index.html](http://www.tamucc.edu/provost/university_rules/index.html).

  For assistance and/or guidance in the grade appeal process, students may contact the Deans office in the college in which the course is taught or the Office of the Provost.

• **Disability Services**
  The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of
their disabilities. If you believe you have a disability requiring an accommodation, please call (361) 825-5816 or visit Disability Services in Corpus Christi Hall 116. If you are a returning veteran and are experiencing cognitive and/or physical access issues in the classroom or on campus, please contact the Disability Services office for assistance at (361) 825-5816.

http://disabilityservices.tamucc.edu/

• **Statement of Academic Continuity** In the event of unforeseen adverse event, such as a major hurricane and classes could not be held on the campus of Texas A&M University–Corpus Christi this course would continue through Blackboard and/or e-mail. In addition the syllabus and class activities may be modified to allow continuation of the course. University Facilities (i.e. e-mail, web sites, and Blackboard) will be operational within two days of closing the physical campus. However, students need to make certain that the course instructor has a primary and secondary way of contacting each student.

**GENERAL DISCLAIMER**

I reserve the right to modify the information, schedule, assignments, deadlines, and course policies in this syllabus if and when necessary. I will announce such changes in a timely manner during regularly scheduled lecture periods.