Calculus II — MATH 2414.004
Department of Mathematics and Statistics
Fall 2019

A. COURSE INFORMATION

Course number/section: MATH 2414.004  Class meeting time: TR 8:00 am – 9:15 am
Class location: CS-114
Course Website: https://bb9.tamucc.edu

B. INSTRUCTOR INFORMATION

Instructor: Dr. Kelum Gajamannage
Office location: CI-352
Office hours: TR 9:30 am – 12:00 pm or by appointment
Telephone: (361) 825-TBA
E-mail: kelum.gajamannage@tamucc.edu
Appointments: E-mail me to make appointments outside the announced office hours

C. COURSE DESCRIPTION

Catalog course description
Integration, applications of integration, especially to differential equations, sequences, series, Taylor polynomials, Taylor series, power series. Contains a one-hour lab component.

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. This course is the second of three courses in the calculus sequence. While calculus I was mainly about derivatives or rate of change, this course is about integrals or accumulation, as well as about series. Differentiation and Integration are the two main concepts of calculus. In calculus III, these concepts will be generalized to functions in several variables and vector-valued functions.

D. PREREQUISITES AND COREQUISITES

Prerequisites
MATH 2413 (Calculus I).

Corequisites
Registration for a lab section

E. REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES

Required textbook(s)
The required textbook for the course is Stewart, Calculus, Early Transcendentals, 8th Edition together with access to WebAssign. You can access the textbook as an e-book through the
homework system by only buying a WebAssign access code instead of buying a book, but access to the e-book will end at the end of the semester.

Optional textbook(s) or other references
The solution manual for the textbook is available, but not needed at all, since the homework system offers help.

Supplies
The homework is in WebAssign, accessed by logging into BlackBoard https://bb9.tamucc.edu/. Clicking the WebAssign button on the top left should take you directly into WebAssign. You will need the access code that comes with the book or you can buy an access code online. There is an initial grace period where you can use the system without an access code, so you will be able to do the homework right away. An outline of the class notes and test solutions will be available on BlackBoard.

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 and labs.
H. MAJOR COURSE REQUIREMENTS AND GRADING

The methods of evaluation and the criteria for grade assignments are:

- The lab part of the course is graded by the TA and counts for 20% of the course grade.

- Homework through WebAssign will be assigned on Tuesday of every week (except the first week) and will be due on the next Tuesday midnight. Office hours are a great opportunity to ask questions about homework. On-campus free tutoring in CASA is another way of getting help with the homework.

- There will be two Tests (except the Final Exam). Each Test contributes 20% for the final grade. Test 1 covers the materials taught in the weeks 1–5 and Test 2 covers the materials taught in the weeks 6–10.

- The Final exam is comprehensive.

<table>
<thead>
<tr>
<th>Activity</th>
<th>% of final grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tests (two in total)</td>
<td>40%</td>
</tr>
<tr>
<td>Homework</td>
<td>20%</td>
</tr>
<tr>
<td>Lab</td>
<td>10%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>30%</td>
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</table>

Grading scale

Consider that, first I will round your final score up to the nearest integer. Then,

A = 90.00 – 100%,
B = 80.00 – 89%,
C = 70.00 – 79%, D = 60.00 – 69%, F = below 60%.

I. COURSE CONTENT/SCHEDULE

<table>
<thead>
<tr>
<th>Academic week</th>
<th>Topic(s)</th>
<th>Chapter(s)</th>
<th>Lab</th>
<th>Event(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Antiderivatives, Integrals</td>
<td>4.9, 5.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Integrals</td>
<td>5.3, 5.4, 5.5</td>
<td>1</td>
<td>HW 1 is due on T</td>
</tr>
<tr>
<td>3</td>
<td>Areas, Volumes</td>
<td>6.1, 6.2, 6.3</td>
<td>2</td>
<td>HW 2 is due on T</td>
</tr>
<tr>
<td>4</td>
<td>Integration</td>
<td>7.1, 7.2</td>
<td>3</td>
<td>HW 3 is due on T</td>
</tr>
<tr>
<td>5</td>
<td>Integration</td>
<td>7.3</td>
<td>4</td>
<td>HW 4 is due on T</td>
</tr>
<tr>
<td>Week</td>
<td>Topic</td>
<td>Sections</td>
<td>HW due</td>
<td>Notes</td>
</tr>
<tr>
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<tr>
<td>6</td>
<td>Integration</td>
<td>7.4, 7.5, 7.8</td>
<td>5</td>
<td>HW 5 is due on T</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Test 1 is on R</td>
</tr>
<tr>
<td>7</td>
<td>Sequences, Series</td>
<td>11.1, 11.2</td>
<td>6</td>
<td>HW 6 is due on T</td>
</tr>
<tr>
<td>8</td>
<td>Series</td>
<td>11.3, 11.4</td>
<td>7</td>
<td>HW 7 is due on T</td>
</tr>
<tr>
<td></td>
<td>Spring Break</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Series</td>
<td>11.5</td>
<td>8</td>
<td>HW 8 is due on T</td>
</tr>
<tr>
<td>10</td>
<td>Series</td>
<td>11.6, 11.7</td>
<td>9</td>
<td>HW 9 is due on T</td>
</tr>
<tr>
<td>11</td>
<td>Series</td>
<td>11.8, 11.9, 11.10</td>
<td>10</td>
<td>HW 10 is due on T</td>
</tr>
<tr>
<td>12</td>
<td>Parametric Equations</td>
<td>10.1, 10.2</td>
<td>11</td>
<td>HW 11 is due on T</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Test 2 is on R</td>
</tr>
<tr>
<td>13</td>
<td>Parametric Equations</td>
<td>10.2</td>
<td>12</td>
<td>HW 12 is due on T</td>
</tr>
<tr>
<td>14</td>
<td>Review</td>
<td></td>
<td>13</td>
<td>HW 13 is due on T</td>
</tr>
<tr>
<td>15</td>
<td>Review</td>
<td></td>
<td></td>
<td>Final Exam is on December 12</td>
</tr>
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Note: Changes in this course schedule may be necessary and will be announced to the class by the Instructor. The assignments and exams shown are directly related to the Student Learning Outcomes described in Section F.

**J. COURSE POLICIES**

All questions concerning grades must be resolved within one week.

**Attendance**
Attendance is not assessed towards the final grade. However, attending class is a fast way of learning the material than trying to catch up on missed material solely from the book.

**Late homework**
10% of penalty per day will be imposed on late homework. Please note that homework should be submitted online on WebAssign.

**Missed Tests or the Final Exam**
If you have to miss (or have missed) a Test, it is your responsibility to contact me no later than the day of the exam. A valid written excuse is required in order to make up a missed Test. For missed final exam, due to an acceptable excuse, the university rules about I (Incomplete) grades will apply and the make-up is at the instructor's convenience early in the next long semester.

**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, and the College of Science and Engineering Grade Appeals webpage at http://sci.tamucc.edu/students/GradeAppeal.html. For assistance and/or guidance in the grade appeal process, students may contact the chair or director of the appropriate department or school, the Office of the College of Science and Engineering Dean, 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 an 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 the use of Blackboard and/or email. In addition, the syllabus and class activities may be modified to allow continuation of the course. Ideally, University facilities (i.e., emails, web sites, and Blackboard) will be operational within two days of the closing of the physical campus. However, students need to make certain that the course instructor has a primary and a secondary means of contacting each student.

L. OTHER INFORMATION

• Academic Advising

The College of Science & Engineering requires that students meet with an Academic Advisor as soon as they are ready to declare a major. The Academic Advisor will set up a degree plan, which must be signed by the student, a faculty mentor, and the department chair. Meetings are by appointment only; advisors do not take walk-ins. Please call or stop by the Advising Center to check availability and schedule an appointment. The College’s
Academic Advising Center is located in Center for Instruction 350 or can be reached at (361) 825-3928.

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.