I. COURSE INFORMATION

Instructor: George Tintera
Office Phone: 361-825-6028
Office Address: CI 303
Office Hours: TBA. Subject to rescheduling due to meetings. Also by appointment.
E-mail address: george.tintera@tamucc.edu
Time & Location: TR 8:00 to 9:15, EN 108
Final Exam: Tuesday, Dec 4, 8 to 10:30 am.

II. COURSE DESCRIPTION

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

III. PREREQUISITES

Math 2413 (Calculus 1).

IV. TEXT AND OTHER SUPPLIES REQUIRED

The required textbook for the course is Calculus (Early Transcendentals), by Stewart, 7th edition. A graphing calculator will be needed in this course. I will support the TI-84, but in general you can use any graphing calculator. All the necessary class demonstrations will be done with a TI-84. You will also have assignments in Webassign. Access is available for purchase at the bookstore or online.

V. STUDENT LEARNING OUTCOMES

At the end of the course the student should:

1. Evaluate integrals by
   - the Fundamental Theorem of calculus
   - substitution
   - integration by parts
   - trigonometric substitution
   - by using trigonometric identities to simplify an integrand

2. Use integrals to determine volumes
   - by using washers (slicing)
   - by using cylindrical shells

3. Use integrals to determine surface areas or curve lengths

4. Determine whether an integral is an improper integral and determine whether an improper integral converges

5. Determine convergence/divergence of a sequence
6. Determine convergence/divergence of an infinite series
   - by the integral test
   - by a comparison test
   - by the root or ratio test

7. Determine the interval of convergence of a power series

8. Find the Taylor or MacLaurin series for elementary functions

9. Convert between cartesian and polar coordinates and graph in polar coordinates using calculus.

VI. INSTRUCTIONAL METHODS & ACTIVITIES

Methods and activities for instruction include: Lectures, calculator demonstrations and group activities. Students will complete practice materials online and do and submit homework online. Help will be available from the instructor during office hours, through email and through WebAssign. Tutoring is also available on campus.

VII. EVALUATION & GRADE ASSIGNMENT

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

- Online Homework (10%)
- Other HW/Quizzes (10%)
- Three Chapter Tests (30%)
- Labs (20%)
- Mastery Assessments (10%)
- Final Exam (20%)

Homework: After practicing materials in Webassign, students will have access to homework problems in the system. After working the problems on paper with pencil and calculator, answers are entered and then scored. Homework will be assigned from Chapter 1 but that is strictly for practice and carries no weight in the final grade.

Other HW/Quizzes: There will be regular paper assignments and quizzes to check for understanding of the homework. They will administered in class.

Chapter Tests: There will be tests during the term. Students may use paper, pencil and a graphing calculator but are on their honor to not use any notes, books, resources or help from another person. There will be one test on integrals and their applications, one test on techniques of integration, and one test on sequences and series.

Labs: Students will work through each of 13 sets of ‘lab’ materials during the assigned lab times. The reports will be graded on correctness, conclusions and presentation. There will also be quizzing and recitation taking place during those lab meetings.

Mastery Assessments: Students are expected to master the skill of finding integrals by scoring at least 80% on a series of assessments. All of the points are awarded for mastery, none otherwise. There will be a list of objectives and practice tests posted.
Final Exam: The final exam will be comprehensive. It will be held Thursday, May 9, 11 am to 1:30 pm in the regular classroom. Students with unexcused absences from the exam will have earned a score of 0.

VIII. TENTATIVE COURSE SCHEDULE

Deadlines given are for activities that must be completed by the date at the beginning of the row. *The homework and test for Ch 1 are required but not graded. Any attempt earns full credit.

<table>
<thead>
<tr>
<th>Week of</th>
<th>Tuesday</th>
<th>Thursday</th>
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<tbody>
<tr>
<td>Aug 25</td>
<td>No Class</td>
<td>Antiderivatives, Areas and Distances</td>
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<td>Sept 1</td>
<td>Substitution Rule</td>
<td>Area Between Curves</td>
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<td>Sept 8</td>
<td>Volumes</td>
<td>Shells</td>
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<td>Sept 15</td>
<td>Average Value of a Function, Integration by Parts</td>
<td>Trigonometric Integrals</td>
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<td>Sept 22</td>
<td>Exam, Chapters 4, 5, 6</td>
<td>Trig Substitution, Partial Fractions</td>
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<td>Sept 29</td>
<td>Strategies for Integration</td>
<td>Improper Integrals</td>
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<td>Oct 6</td>
<td>Arc Length</td>
<td>Area of a Surface of Revolution, Sequences</td>
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<tr>
<td>Oct 13</td>
<td>Sequences and Series</td>
<td>Integral Tests and Estimates of Sums</td>
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<td>Oct 20</td>
<td>Comparison Test</td>
<td>Alternating Series</td>
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<td>Oct 27</td>
<td>Absolute Convergence</td>
<td>Testing Series Convergence</td>
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<td>Nov 3</td>
<td>Power Series</td>
<td>Exam, Chapters 7, 8</td>
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<td>Nov 10</td>
<td>Representing Functions as Power Series</td>
<td>Taylor Series</td>
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<td>Nov 17</td>
<td>MacLaurin Series</td>
<td>Parametric and Polar Coordinates</td>
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<td>Nov 24</td>
<td>Review</td>
<td>No Class</td>
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<td>Dec 1</td>
<td>Review</td>
<td>Final Exam: Thursday, December 4, 8 to 10:30 am.</td>
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IX. CLASS POLICIES and ANNOUNCEMENTS

- Students are expected to be diligent and adhere to the deadlines in the course schedule.
- If you have any questions please email or see me during office hours.
- You are expected to conduct yourself in accordance with the highest standards of academic honesty. When you turn in work for a grade you attest that the work is your own work. The policies about academic dishonesty outlined in the Undergraduate Catalog or Student Handbook apply: academic dishonesty results in zero points on the test or assignment and the incident will be reported to the appropriate authorities, which may impose further sanctions.
**Academic Integrity/Plagiarism:** 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 grade of zero (0) on that assignment or an F in the class, depending on circumstances.

**Dropping a Class:** 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 me before you decide to drop to be sure it is the best thing to do. 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. ( ) is the last day to drop a class with an automatic grade of “W” this term.

**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. Also, 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.

**Grade Appeals (College of Science and Engineering Version):** 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), and the College of Science and Engineering Grade Appeals webpage ([http://sci.tamucc.edu/students/GradeAppeal.html](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.

- **Disabilities Accommodations:** 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 or visit Disability Services at (361) 825-5816 in Corpus Christi Hall 116.

- **Notice to Veterans:** 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.

- **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.

- **Changes.** The instructor may amend the syllabus at any time prior to the final exam by announcing the changes in class.