I. COURSE INFORMATION
   1. Meeting Time & Place: MWF 9:00 – 9:50 AM in CI 106
   2. Professor: Dr. G. Beate Zimmer
   3. Office Phone: 825-2682
   4. Office Address: CI 310
   5. e-mail Address: beate.zimmer@tamucc.edu
   6. Web Page Address: http://faculty.tamucc.edu/bzimmer
      Additions or changes to this syllabus, exam solutions, and a link to the web-based
      homework will be posted on the class web page. Be sure to regularly check the
      class web page.
   7. Office Hours:
      MW 12:00 – 2:00 PM
      F 12:00 – 1:00 PM
      Others by appointment
   8. Class Hours: you also need to register for a section of the MATH 2414 lab.
      Lecture and lab together count as a four-hour course.

II. COURSE DESCRIPTION
    Integration, Applications of integration, especially to differential equations, sequences,
    series, Taylor polynomials, Taylor series power series. Contains a one-hour lab com-
    ponent.

III. PREREQUISITE FOR THE COURSE
    MATH 2413 (Calculus I).

IV. TEXTBOOK AND OTHER SUPPLIES REQUIRED
    The required textbook for the course is Calculus, Early Transcendentals, 7th Edition
    by Stewart. You also need WebAssign access that should have come with the book.
    A graphing calculator is required for this class. I will support the TI-89 , but in general
    you can use any graphing calculator. All the class demonstrations will be done with
    a TI-89.
    For the lab you also need to print out parts of the lab manual which is available on
    the web at http://math.tamucc.edu/MATHlabs.html. From there you can print the
    parts you need.
    The homework is in WebAssign, found at http://webassign.net/. To register you need
    the WebAssign access card that was bundled with the book. Our institution code is
tamucc.
    You may print out the online homework, but don’t have to do so. Exam solutions
    will be available on the web page, you may print them, but don’t have to print them.
    Costs for required printouts should not exceed $10.
V. STUDENT LEARNING OUTCOMES
   At the end of the course the student should be able to:
   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.

VI. INSTRUCTIONAL METHODS AND ACTIVITIES
   Methods and activities for instruction include: Lectures, calculator demonstrations
   and group activities.

VII. EVALUATION AND GRADE ASSIGNMENT
   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. The lab portion of the course has its own syllabus whose policies supplement
   this syllabus.
   A gateway test will be given in the lab (see the lab syllabus). It covers integrals to
   guarantee you are proficient with the techniques of integration. The gateway test
   counts for 10% of your grade and is a no-calculator exam. To pass the test you need
   to have at least 8 of the ten integrals on the test correct. There is no partial credit
   on the gateway test. You may only bring a pencil and an eraser to the test. Use
   of a calculator, computer or cell-phone or notes during any of the three attempts at
   the gateway exam results in a grade of zero for the overall gateway grade and will be
   reported to the appropriate authorities for further sanctions.
   Homework through WebAssign will be assigned every class and is due at the start
   of the next class. At the start of each class I will answer homework questions for at
   most 10 minutes. Office hours are a great opportunity to ask more questions about
   homework. On-campus free tutoring in CASA is another way of getting help with
   the homework. Working with other students is fine, but be sure to turn in your own
   product in the end. Late homework receives no credit.
   The lowest three homework grades get dropped. No exam grades get dropped. The
   best gateway score is used for the grade.
Calculator policies and partial credit:
For the hour-exams and the final exam calculators are permitted. These exams do have partial credit. The gateway test is a no-calculator exam with no partial credit.

The weights of the different parts of the course towards the final grade are:

- Three exams: 40%
- Homework: 10%
- Labs: 20%
- Gateway Test: 10%
- Comprehensive Final Exam: 20%

Grading Scale: Grades will be no stricter than
- A = 90.00 – 100%
- B = 80.00 – 89.99%
- C = 70.00 – 79.99%
- D = 60.00 – 69.99%
- F = below 60%

VIII. TENTATIVE COURSE SCHEDULE

<table>
<thead>
<tr>
<th>Class</th>
<th>Date</th>
<th>Sections</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>W 8/22</td>
<td>4.9</td>
<td>Antiderivatives</td>
</tr>
<tr>
<td>2</td>
<td>F 8/24</td>
<td>5.1</td>
<td>Areas and Distances</td>
</tr>
<tr>
<td>3</td>
<td>M 8/27</td>
<td>5.2</td>
<td>The Definite Integral</td>
</tr>
<tr>
<td>4</td>
<td>W 8/29</td>
<td>5.3</td>
<td>The Fundamental Theorem of Calculus</td>
</tr>
<tr>
<td>5</td>
<td>F 8/31</td>
<td>5.4</td>
<td>Indefinite Integrals and the Net Change Theorem</td>
</tr>
<tr>
<td>6</td>
<td>W 9/5</td>
<td>5.5</td>
<td>The Substitution Rule</td>
</tr>
<tr>
<td>7</td>
<td>F 9/7</td>
<td>5.5</td>
<td>The Substitution Rule</td>
</tr>
<tr>
<td>8</td>
<td>M 9/10</td>
<td>6.1</td>
<td>Areas between curves</td>
</tr>
<tr>
<td>9</td>
<td>W 9/12</td>
<td>6.2</td>
<td>Volumes</td>
</tr>
<tr>
<td>10</td>
<td>F 9/14</td>
<td>6.2</td>
<td>Volumes</td>
</tr>
<tr>
<td>11</td>
<td>M 9/17</td>
<td>6.3</td>
<td>Volumes by Cylindrical Shells</td>
</tr>
<tr>
<td>12</td>
<td>W 9/19</td>
<td>6.5</td>
<td>Average Value of a Function</td>
</tr>
<tr>
<td>13</td>
<td>F 9/21</td>
<td>7.1</td>
<td>Integration by Parts</td>
</tr>
<tr>
<td>14</td>
<td>M 9/24</td>
<td>7.2</td>
<td>Trigonometric Integrals</td>
</tr>
<tr>
<td>15</td>
<td>W 9/26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>F 9/28</td>
<td>7.3</td>
<td>Trigonometric Substitution</td>
</tr>
<tr>
<td>17</td>
<td>M 10/1</td>
<td>7.4</td>
<td>Integration of Rational Functions by Partial Fractions</td>
</tr>
<tr>
<td>18</td>
<td>W 10/3</td>
<td>7.5</td>
<td>Strategy for Integration</td>
</tr>
<tr>
<td>19</td>
<td>F 10/5</td>
<td>7.8</td>
<td>Improper Integrals</td>
</tr>
<tr>
<td>20</td>
<td>M 10/8</td>
<td>7.8</td>
<td>Improper Integrals</td>
</tr>
<tr>
<td>21</td>
<td>W 10/10</td>
<td>8.1</td>
<td>Arc Length</td>
</tr>
<tr>
<td>22</td>
<td>F 10/12</td>
<td>8.2</td>
<td>Area of a Surface of Revolution</td>
</tr>
<tr>
<td>23</td>
<td>M 10/15</td>
<td>11.1</td>
<td>Sequences</td>
</tr>
<tr>
<td>24</td>
<td>W 10/17</td>
<td>11.1</td>
<td>Sequences</td>
</tr>
<tr>
<td>Date</td>
<td>Day</td>
<td>Section</td>
<td>Topic</td>
</tr>
<tr>
<td>-------</td>
<td>------</td>
<td>---------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>25</td>
<td>F</td>
<td>10/19</td>
<td>11.2 Series</td>
</tr>
<tr>
<td>26</td>
<td>M</td>
<td>10/22</td>
<td>11.3 The Integral Test and Estimates of Sums</td>
</tr>
<tr>
<td>27</td>
<td>W</td>
<td>10/24</td>
<td><strong>Exam # 2 covering sections 7.2 – 11.2</strong></td>
</tr>
<tr>
<td>28</td>
<td>F</td>
<td>10/26</td>
<td>11.4 The Comparison tests</td>
</tr>
<tr>
<td>29</td>
<td>M</td>
<td>10/29</td>
<td>11.5 Alternating Series</td>
</tr>
<tr>
<td>30</td>
<td>W</td>
<td>10/31</td>
<td>11.6 Absolute Convergence and the Ratio and Root Tests</td>
</tr>
<tr>
<td>31</td>
<td>F</td>
<td>11/2</td>
<td>11.6 Absolute Convergence and the Ratio and Root Tests</td>
</tr>
<tr>
<td>32</td>
<td>M</td>
<td>11/5</td>
<td>11.7 Strategies for Testing Series</td>
</tr>
<tr>
<td>33</td>
<td>W</td>
<td>11/7</td>
<td>11.7 Strategies for Testing Series</td>
</tr>
<tr>
<td>34</td>
<td>F</td>
<td>11/9</td>
<td>11.8 Power Series</td>
</tr>
<tr>
<td>35</td>
<td>M</td>
<td>11/12</td>
<td>11.8 Power Series</td>
</tr>
<tr>
<td>36</td>
<td>W</td>
<td>11/14</td>
<td>11.9 Representation of Functions as Power Series</td>
</tr>
<tr>
<td>37</td>
<td>F</td>
<td>11/16</td>
<td>11.10 Taylor and MacLaurin series</td>
</tr>
<tr>
<td>38</td>
<td>M</td>
<td>11/19</td>
<td><strong>Exam # 3 covering sections 11.3 – 11.9</strong></td>
</tr>
<tr>
<td>39</td>
<td>W</td>
<td>11/21</td>
<td>11.10 Taylor and MacLaurin series</td>
</tr>
<tr>
<td>40</td>
<td>M</td>
<td>11/26</td>
<td>10.1 Curves Defined by Parametric Equations</td>
</tr>
<tr>
<td>41</td>
<td>W</td>
<td>11/28</td>
<td>10.2 Calculus with Parametric Curves</td>
</tr>
<tr>
<td>42</td>
<td>F</td>
<td>11/30</td>
<td>10.3 Polar coordinates</td>
</tr>
<tr>
<td>43</td>
<td>M</td>
<td>12/2</td>
<td>Review</td>
</tr>
</tbody>
</table>

The comprehensive Final Exam is on Monday, December 10, 8:00 – 10:30 AM in the usual classroom.

IX. **CLASS POLICIES**

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

If you have to miss an exam, it is your responsibility to contact me **no later than the day of the exam**. At most one make-up exam will be scheduled for each exam. Make-up exams tend to be harder than the original exam. Failure to contact me on or before the exam day results in a grade of zero points for the exam. This also applies to the final exam. For missed final exams due to an acceptable excuse the university rules about I (Incomplete) grades apply and the make-up is at the instructor’s convenience early in the next long semester. Only extreme emergencies or official university business are acceptable reasons to miss exams and documentation will be required. Car trouble, routine doctor’s appointments, family reunions or graduations of siblings etc. are not valid reasons to miss exams. If your reason to miss the exam is not a valid one, your exam score is 0 points. Be sure to check before missing an exam whether your reason is acceptable. Missed homework assignments can not be made up; the drop grades accommodate those.

X. **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 for the assignment or test and will be reported to the appropriate authorities for further action.

XI. 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. Friday, November 2 is the last day to drop a class with an automatic grade of "W" this term.

XII. 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.

XIII. GRADE APPEALS
As stated in University Rule 13.02.99.C2, Student Grade Appeals, 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 Rule 13.02.99.C2, Student Grade Appeals, and University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules Web site at http://www.tamucc.edu/provost/university_rules/index.html. For assistance and/or guidance in the grade appeal process, students may contact the Office of Student Affairs.

XIV. 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. 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.