Calculus II  MATH 2414.003  
Department of Mathematics & Statistics  
Spring 2015

A. COURSE INFORMATION

Course number/section: MATH 2414.003  
Class meeting time: MWF 09:00-09:50 AM  
Class location: IH-157  
Course Website: https://bb9.tamucc.edu/

B. INSTRUCTOR INFORMATION

Instructor: Dr. Beate Zimmer  
Office location: CI 310  
Office hours: MW 10:00 – 11:30 AM 
TR 9:30 – 10:30 AM  
Telephone: (361) 825-2682  
e-mail: beate.zimmer@tamucc.edu  
Appointments: e-mail

C. COURSE DESCRIPTION

Catalog Course Description  
Integration, applications of integration, especially to differential equations, sequences, series, Taylor polynomials and series. Contains a laboratory 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. Applications to Differential Equations are no longer covered in this course. Instead we do applications to areas, volumes, curve length and surface area.

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 FOR THE COURSE

Prerequisites  
MATH 2413 (Calculus I).

Corequisites  
none
E. REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES

Required Textbook(s)
The required textbook for the course is Stewart, Calculus, Early Transcendentals, 7th Edition together with access to WebAssign.

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
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. The labs are available on the math web at http://falcon.tamucc.edu/ mathweb/2011/math-2414/. From there you can print the parts you need.

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 “I don’t have the textbook yet” is not a valid excuse not to do homework right away. To not make the homework assignments too long, they will be broken into three assignments per week, due Tuesday, Thursday and Saturday. An outline of the class notes and quiz solutions, exam solutions will be available on BlackBoard. You may print them, but don’t have to print them. Costs for required printouts should not exceed $10, or $30 if you print the notes before class for easier note taking.

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, calculator demonstrations and group activities.

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. The lab portion of the course has its own syllabus whose policies supplement this syllabus. The ten in-class quizzes are no-calculator quizzes for at most 10 minutes at the start of class to check your proficiency in basic integration techniques. Use of a calculator or cell phone during a quiz results in a grade of zero for the quiz and will be reported as cheating to the appropriate authorities. The lowest 2 quizzes get dropped. Missed quizzes cannot be made up. Homework will be assigned every class and is due at the start of the next class. At the start of each lecture 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. Calculator policies and partial credit:
For the hour-exams and the final exam calculators are permitted. All exams do have partial credit. The ten quizzes are no-calculator exams.

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 detailed 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. At the end of the semester the lowest three homework grades get dropped. No exam grades get dropped.
### ACTIVITY | % of FINAL GRADE
--- | ---
Three exams | 40%
Homework | 10%
Quizzes | 10%
Labs | 20%
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%

### I. COURSE CONTENT/SCHEDULE

<table>
<thead>
<tr>
<th>DATE</th>
<th>TOPIC</th>
<th>CHAPTER</th>
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<tbody>
<tr>
<td>1 W 1/21</td>
<td>Antiderivatives, Fundamental Theorem of Calculus</td>
<td>4.9, 5.3</td>
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<tr>
<td>2F 1/23</td>
<td>The Substitution Rule</td>
<td>5.5</td>
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<tr>
<td>3 M 1/26</td>
<td>Quiz#1 on 4.9</td>
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<td>The Substitution Rule</td>
<td>5.5</td>
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<tr>
<td>4 W 1/28</td>
<td>Quiz#2 on 5.3</td>
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<tr>
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<td>Areas between curves</td>
<td>6.1</td>
</tr>
<tr>
<td>5 F 1/30</td>
<td>Quiz#3 on 5.5, I</td>
<td></td>
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<tr>
<td></td>
<td>Volumes</td>
<td>6.2</td>
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<td>6 M 2/2</td>
<td>Volumes by Cylindrical Shells</td>
<td>6.3</td>
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<tr>
<td>7 W 2/4</td>
<td>Average Value of a Function</td>
<td>6.5</td>
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<tr>
<td>8 F 2/6</td>
<td>Quiz#4 on 5.5, II</td>
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<td>Integration by Parts</td>
<td>7.1</td>
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<tr>
<td>9 M 2/9</td>
<td>Integration by Parts</td>
<td>7.1</td>
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<tr>
<td>10 W 2/11</td>
<td>Trigonometric Integrals</td>
<td>7.2</td>
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<tr>
<td>11F 2/13</td>
<td>Quiz#5 on 7.1</td>
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<td></td>
<td>Trigonometric Substitution</td>
<td>7.3</td>
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<tr>
<td>12 M 2/16</td>
<td>Trigonometric Substitution</td>
<td>7.3</td>
</tr>
<tr>
<td>13 W 2/18</td>
<td>Quiz#6 on 7.2</td>
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<td></td>
<td>Integration of Rational Functions by Partial Fractions</td>
<td>7.4</td>
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<tr>
<td>14 F 2/20</td>
<td>Exam # 1 covering sections 4.9 – 7.3</td>
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<tr>
<td>15 M 2/23</td>
<td>Quiz#7 on 7.3</td>
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<td></td>
<td>Integration of Rational Functions by Partial Fractions</td>
<td>7.4</td>
</tr>
<tr>
<td>16 W 2/25</td>
<td>Strategy for Integration</td>
<td>7.5</td>
</tr>
<tr>
<td>17 F 2/27</td>
<td>Quiz#8 on 7.4</td>
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<td></td>
<td>Strategy for Integration</td>
<td>7.5</td>
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<td>18 M 3/2</td>
<td>Improper Integrals</td>
<td>7.8</td>
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<tr>
<td>19 W 3/4</td>
<td>Quiz#9 on 7.5</td>
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<td>Improper Integrals</td>
<td>7.8</td>
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<tr>
<td>20 F 3/6</td>
<td>Arc Length</td>
<td>8.1</td>
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<tr>
<td>21 M 3/9</td>
<td>Quiz#10 on 7.8</td>
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<td></td>
<td>Area of a Surface of Revolution</td>
<td>8.2</td>
</tr>
<tr>
<td>22 W 3/11</td>
<td>Sequences</td>
<td>11.1</td>
</tr>
<tr>
<td>23 F 3/13</td>
<td>Series</td>
<td>11.2</td>
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<td><strong>Spring Break</strong></td>
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<tr>
<td>24 M 3/23</td>
<td>The Integral Test and Estimates of Sums</td>
<td>11.3</td>
</tr>
<tr>
<td>25 W 3/25</td>
<td>The Comparison tests</td>
<td>11.4</td>
</tr>
<tr>
<td>26 F 3/27</td>
<td><strong>Exam # 2 covering sections 7.1 – 11.3</strong></td>
<td></td>
</tr>
<tr>
<td>27 M 3/30</td>
<td>Alternating Series</td>
<td>11.5</td>
</tr>
<tr>
<td>28 W 4/1</td>
<td>Absolute Convergence and the Ratio and Root Tests</td>
<td>11.6</td>
</tr>
<tr>
<td>29 F 4/3</td>
<td>Absolute Convergence and the Ratio and Root Tests</td>
<td>11.6</td>
</tr>
<tr>
<td>30 M 4/6</td>
<td>Strategies for Testing Series</td>
<td>11.7</td>
</tr>
<tr>
<td>31 W 4/8</td>
<td>Strategies for Testing Series</td>
<td>11.7</td>
</tr>
<tr>
<td>32 F 4/10</td>
<td>Power Series</td>
<td>11.8</td>
</tr>
<tr>
<td>33 M 4/13</td>
<td>Power Series</td>
<td>11.8</td>
</tr>
<tr>
<td>34 W 4/15</td>
<td>Representation of Functions as Power Series</td>
<td>11.9</td>
</tr>
<tr>
<td>35 F 4/17</td>
<td>Taylor and MacLaurin series</td>
<td>11.10</td>
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<tr>
<td>36 M 4/20</td>
<td><strong>Exam # 3 covering sections 11.3 – 11.9</strong></td>
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</tr>
<tr>
<td>37 W 4/22</td>
<td>Taylor and MacLaurin series</td>
<td>11.10</td>
</tr>
<tr>
<td>38 F 4/24</td>
<td>Curves Defined by Parametric Equations</td>
<td>10.1</td>
</tr>
<tr>
<td>39 M 4/27</td>
<td>Curves Defined by Parametric Equations</td>
<td>10.1</td>
</tr>
<tr>
<td>40 W 4/29</td>
<td>Calculus with Parametric Curves</td>
<td>10.2</td>
</tr>
<tr>
<td>41 F 5/1</td>
<td>Review</td>
<td></td>
</tr>
<tr>
<td>42 M 5/4</td>
<td>Review</td>
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The comprehensive Final Exam is on Wednesday, May 13, 8:00 AM – 10:30 AM in the usual classroom.

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.
Late Work and Make-up Exams
Missed homework assignments or quizzes can not be made up; the drop grades accommodate those. At most one make-up exam will be scheduled for each exam. Make-up exams tend to be harder than the original exam.

Extra Credit
There is no 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 acceptable behaviour.

Food in Class
No food in class (except during the final, where non-noisy foods are OK).

Missed Exam
If you have to miss an exam, it is your responsibility to contact me no later than the day of the 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.

Participation
Participation is not part of the grade, but you learn more by interacting, than by watching passively.

K. COLLEGE AND UNIVERSITY POLICIES

- Academic Integrity (University)
  It is expected that university students will demonstrate a high level of maturity, self-direction, and ability to manage their own affairs. Students are viewed as individuals who possess the qualities of worth, dignity, and the capacity for self-direction in personal behavior.
  See Full University Policy at
  http://catalog.tamucc.edu/content.php?catoid=10&navoid=313#Academic_Integrity
• 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.

• Deadline for Dropping a Course with a Grade of W (University) The grade of W will be assigned to any student officially dropping a course by Friday, April 10, 2015. No student is eligible to receive a W without completing the official drop process by this deadline. Visit the Office of the University Registrar for the Course Drop Form that must be submitted. After April 10, 2015 a student will not be allowed to drop a course.

• Grade Appeals 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 Disability Services (DS) is the hub for coordinating services and accommodations to ensure accessibility and utilization of all programs for all Texas A&M University-Corpus Christi students with disabilities. Our services are designed to meet the unique educational needs of enrolled students with documented permanent or temporary disabilities. DS provides intake and consultation services to students seeking to register with our office. DS reviews an individuals documentation of disability
and assesses eligibility for services and the determination of reasonable accommodations. For more information visit the Disability Services Office at 116 Corpus Christi Hall or go to http://disabilityservices.tamucc.edu/

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.