Calculus II  MATH 2414.B05  
Department of Mathematics and Statistics  
Fall semester 2020

A. COURSE INFORMATION

Course number/section: MATH 2414.B05  
Class meeting time: MWF 8:00-8:50 am  
Class location: CS-103  
Course Website: bb9.tamucc.edu  
Communication tool: Announcement by email, check email at least three times per week

B. INSTRUCTOR INFORMATION

Instructor: Dr. Baohua Chen  
Office location: CI 306  
Office hours: MW 10:00 am-12:30 pm  
Telephone: 361-825-6019  
e-mail: baohua.chen@tamucc.edu  
Appointments: Appointments outside of office hours are available by request

C. COURSE DESCRIPTION

Catalog Course Description  
Integration, application of integration, especially to differential equations, sequences, series, Taylor polynomials and series. Contains a laboratory component.

D. PREREQUISITES AND COREQUISITES

Prerequisites: Math 2413 (Calculus I)

Corequisites: Enrollment in lab MATH2414-2XX.

E. REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES

Textbook  

Software  
WebAssign access for homework assignments. Access code may be purchased through the WebAssign linked with the Blackboard. No class key is needed since instructor has uploaded the roster to put students in the registered class.

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. Compute the area between two curves, compute volumes and surface areas of solids of resolution, compute arc length.
3. Determine whether an integral is an improper integral and determine whether an improper integral converges
4. Compute limits of sequences and series to 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 radius of convergence of power series; differentiate and integrate power series.
7. Represent a known function as a Taylor series; approximate a known function with a Taylor polynomial and determine the error involved.
8. Graph a parametric curve and compute the length of a parametric curve.

G. INSTRUCTIONAL METHODS AND ACTIVITIES

Methods and activities for instruction include lecture by the instructor and participation by the students by doing problems in class.

- **Lecture:** Class will be taught in a blended way. I will teach classes face to face on Monday and Wednesday, each week. On Friday, I will meet students through the Webex, we will practice questions which are related to the topics learned on Monday and Wednesday.

- **Homework:** Homework will be assigned after each class through WebAssign. Any homework questions will be answered during office hours if time does not permit in class. On-campus free tutoring in CASA is another way of getting help with homework.

- **Test:** There will be three tests held in classroom. They are tentatively scheduled for
  Test 1: Wednesday, Sep. 2nd (Chapter 6.1-6.5), in classroom
  Test 2: Wednesday, Oct. 7th (Chapter 7.1-7.5, 7.8), in classroom
Test 3 Wednesday, Nov. 11th (Chapter 11.1-11.10), in classroom

- **Final Exam**: Wednesday, Dec. 2nd (Chapters 6, 7, 11), in classroom
- **Lab**: One lab per week. You will practice lecture-related questions; work on computer-based labs (Matlab) to learn programming the mathematics taught during lecture.

### H. MAJOR COURSE REQUIREMENTS AND GRADING

Grades will be calculated by homework, test, exam and lab, according to the following percentages.

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>% of FINAL GRADE</th>
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</thead>
<tbody>
<tr>
<td>Test 1</td>
<td>10%</td>
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<tr>
<td>Test 2</td>
<td>20%</td>
</tr>
<tr>
<td>Test 3</td>
<td>20%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>25%</td>
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<tr>
<td>Homework</td>
<td>10%</td>
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<tr>
<td>Labs</td>
<td>15%</td>
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Final grades will be assigned according to the following table:

*Percentage Grade*

- $\geq 90.0\%$ A
- $\geq 80.0\%$ B
- $\geq 70.0\%$ C
- $\geq 60.0\%$ D
- Below 60% F

**Note:**
- No homework grades and no test grades get dropped.
- Labs are graded by the TA. One lowest lab score will be dropped.
- Final exam score will replace one of lower scores in tests (unless the final score is lower than two test scores).

### I. COURSE CONTENT/SCHEDULE

**Important date:**

- **Aug. 19, Monday**: Class begin;  **Aug. 26, Wednesday**: Last day to register or add a class
- **Sep. 7, Monday**: Labor Day-No class; **Nov. 5, Thursday**: Last day to drop class
- **Nov. 24, Tuesday**, Last day of classes;  **Nov. 25, Wednesday**, Reading Day-no class
- **Nov. 26-27, Thursday-Friday**, Thanksgiving Holiday-Campus closed
- **Nov. 30, Monday**, Reading Day-No class; **Dec. 1-5 Tuesday-Saturday**, Final examinations
<table>
<thead>
<tr>
<th>Week</th>
<th>Topics</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aug. 17</td>
<td>Review of Calculus I; Area between Curves;</td>
<td>5.5; 6.1.</td>
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<tr>
<td>Aug. 24</td>
<td>Volume of Solids of Revolution_Disk method; Volume of Solids of Revolution_Shell method;</td>
<td>6.2; 6.3</td>
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<td>Aug. 31</td>
<td>Review and Test 1</td>
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<tr>
<td>Sep. 7</td>
<td>Integration by Parts; Trigonometric Integrals</td>
<td>7.1; 7.2</td>
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<tr>
<td>Sep. 14</td>
<td>Trigonometric Substitution</td>
<td>7.3</td>
</tr>
<tr>
<td>Sep. 21</td>
<td>Partial fraction Decomposition;</td>
<td>7.4</td>
</tr>
<tr>
<td>Sep. 28</td>
<td>Strategy for Integration; Improper Integrals</td>
<td>7.5; 7.8</td>
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<tr>
<td>Oct. 5</td>
<td>Review and Test 2</td>
<td></td>
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<tr>
<td>Oct. 12</td>
<td>Sequence; series</td>
<td>11.1; 11.2</td>
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<tr>
<td>Oct. 19</td>
<td>Integral Test; Comparison Test</td>
<td>11.3; 11.4</td>
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<tr>
<td>Oct. 26</td>
<td>Alternating Series; Ratio and Root Test;</td>
<td>11.5-11.7</td>
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<td>Nov. 2</td>
<td>Power series function; Representation using MacLaurin series and Taylor series</td>
<td>11.8-11.10</td>
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<td>Nov. 9</td>
<td>Review and Test 3</td>
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<td>Nov. 16</td>
<td>Arc Length, Area of surface resolution;</td>
<td>8.1; 8.2</td>
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<tr>
<td>Nov. 23</td>
<td>Parametric Curves, Calculus on Curves</td>
<td>10.1; 10.2</td>
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<tr>
<td>Nov. 30</td>
<td>Review and Final Exam</td>
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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.

1. **COURSE POLICIES**

   - **COVID-19**
     Face Coverings—Face coverings (cloth face covering, surgical mask, etc.) must be properly worn in all non-private spaces including classrooms, teaching laboratories, common spaces such as lobbies and hallways, public study spaces, libraries, academic resource and support offices, and outdoor spaces where 6 feet of physical distancing is difficult to reliably maintain. Extra masks will be made available if needed.

   - **Attendance/Tardiness**
     For lecture class on Monday and Wednesday, students are encouraged to attend each class. Attendance will be checked in class. Excellent attendance records will help your grade in the borderline course-grade decisions will be influenced by these records. Webex meeting on Friday will be recorded. Students may rely on recorded video rather than attending live, at their discretion, without prior notice to me.
• **Late Work Assignments**
  Late assignments will not be accepted, unless exceptional circumstances prevent you from completing them. Extension of deadlines will be at the instructor’s discretion. Late assignments may result in partial or total loss of credit.

• **No Make-up for Tests/Final Exam**
  **Missed Exam**
  All absences from class or exams will be considered unexcused unless they are documented in advance as excusable with the instructor or as soon as possible in the case of emergencies. No credit will be awarded for work missed resulting from unexcused absences.

• **Extra Credit**
  There will be no extra credit for this course.

**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.C0.03, 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 required 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.C0.03, Student Grade Appeal Procedures. These documents are accessible through the University Rules website at http://academicaffairs.tamucc.edu/rules_procedures/assets/13.02.99.c0.03_student_grade_appeals.pdf. 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/

Civil Rights Complaints
Texas A&M University-Corpus Christi is committed to fostering a culture of caring and respect that is free from discrimination, relationship violence and sexual misconduct, and
ensuring that all affected students have access to services. For information on reporting Civil Rights complaints, options and support resources (including pregnancy support accommodations) or university policies and procedures, please contact the University Title IX Coordinator, Sam Ramirez (Samuel.ramirez@tamucc.edu) or Deputy Title IX Coordinator, Rosie Ruiz (Rosie.Ruiz@tamucc.edu) x5826, or visit website at Title IX/Sexual Assault/Pregnancy.

**Limits to Confidentiality.** Essays, journals, and other materials submitted for this class are generally considered confidential pursuant to the University's student record policies. However, students should be aware that University employees, including instructors, are not able to maintain confidentiality when it conflicts with their responsibility to report alleged or suspected civil rights discrimination that is observed by or made known to an employee in the course and scope of their employment. As the instructor, I must report allegations of civil rights discrimination, including sexual assault, relationship violence, stalking, or sexual harassment to the Title IX Coordinator if you share it with me.

These reports will trigger contact with you from the Civil Rights/Title IX Compliance office who will inform you of your options and resources regarding the incident that you have shared. If you would like to talk about these incidents in a confidential setting, you are encouraged to make an appointment with counselors in the University Counseling Center.

**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.