MATH 1325.501/502
Calculus for Business & Social Science
Department of Mathematics and Statistics
Spring 2020 (01/21 ~ 5/14/ 2020)

A. COURSE INFORMATION
Course number/section: Math 1325. 501/502
Class meeting time: Math 1325. 501/502 TR 2 ~ 3:15 pm
Class location: Math 1325. 501/502 CI-122

B. INSTRUCTOR INFORMATION
Instructor: Dr. Ping Tintera
Office location: CI-334
Office hours: TR 10:45 am ~ 12:30 pm and 3:15 pm ~ 4 pm
Telephone: 825-3483
Email: ptintera@tamucc.edu

C. COURSE DESCRIPTION:
This course is the basic study of Calculus. This course will require students to develop and to combine the concepts and relationships between Mathematics and Business from the fundamentals of calculus and optimization in all Business fields. Students are expected to learn the materials algebraically with technology. The application of this course will combine the concepts of limits, continuation, and differentiation and integration techniques to solve problems in business, economics, and social sciences. Prerequisite: MATH 1324. Fall, spring, summer.

D. PREREQUISITES AND COREQUISITES:
Math 1324 Business Mathematics or placement into Math 1325.

E. REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES:
Textbook: Applied Calculus for the Managerial, Life, and Social Sciences 10th Edition by Soo T. Tan, Publisher: Cengage Learning. TI-83 or TI-84 graphing calculators allow for the course. TI-nspire is not allowed.

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. Apply calculus to solve business, economics, and social sciences problems.
2. Apply appropriate differentiation techniques to obtain derivatives of various functions, including logarithmic and exponential functions.
3. Solve application problems involving implicit differentiation and related rates.
4. Solve optimization problems with emphasis on business and social sciences applications.
5. Determine appropriate technique(s) of integration.
6. Integrate functions using the method of integration by parts or substitution, as appropriate.
7. Solve business, economics, and social sciences applications problems using integration techniques.

G. INSTRUCTIONAL METHODS AND ACTIVITIES

Methods and activities for instruction include:

- Instructional presentation of new material and concepts,
- Class discussion and problem solving analysis using critical thinking techniques,
- Individual written assignments to enhance understanding of new concepts,
- Discovery method techniques supported by a graphing utility to view the effects of shifting and translation concepts on the functions,

H. MAJOR COURSE REQUIREMENTS AND GRADING:

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>% of FINAL GRADE</th>
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<tbody>
<tr>
<td>Exams</td>
<td>75% tests, 25% final</td>
</tr>
<tr>
<td>Quizzes</td>
<td>0%</td>
</tr>
<tr>
<td>Homework</td>
<td>0%</td>
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<tr>
<td>Presentations</td>
<td>0%</td>
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<tr>
<td>Lab Reports</td>
<td>0%</td>
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<tr>
<td>Papers</td>
<td>0%</td>
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Attendance: MANDATORY
Grading scale: A: 90 – 100, B: 80 – 89.99, C: 70 – 79.99, D: 60 – 69.99, F: 59.98 -
I. COURSE CONTENT/SCHEDULE

<table>
<thead>
<tr>
<th>WEEK(s)</th>
<th>TOPIC(s)</th>
<th>CHAPTERS</th>
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</thead>
<tbody>
<tr>
<td>1, 2</td>
<td>Introduction to Limits, Infinite Limits and Limits at Infinity</td>
<td>Ch. 2.4, 2.5, 2.6</td>
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<tr>
<td>3, 4</td>
<td>Continuity, The Derivative, Basic Differentiation Properties, Differentials, Marginal Analysis in Business and Economics, Test 1</td>
<td>Ch. 3.1, 3.2, 3.3</td>
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<tr>
<td>5, 6</td>
<td>Derivatives of Exponential and Logarithmic Functions, Derivatives of Products and Quotients, The Chain Rule, Implicit Differentiation, Related Rates</td>
<td>Ch. 3.5, 3.6, 3.7</td>
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<tr>
<td>7, 8, 9</td>
<td>First Derivative &amp; Graphs, Second Derivative &amp; Graphs, L’Hopital’s Rule, Absolute Maxima and Minima, Optimization</td>
<td>Ch. 4.1, 4.2, 4.4</td>
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<tr>
<td>10, 11,12</td>
<td>Antiderivatives and Indefinite Integrals, Integration by Substitution, Differential Equations; Growth and Decay, The Definite Integral, The Fundamental Theorem of Calculus</td>
<td>Ch. 5.2, 5.4, 5.5</td>
</tr>
<tr>
<td>13, 14</td>
<td>Area Between Curves, Applications in Business and Economics, Integration by Parts, Other Integration Methods</td>
<td>Ch. 6.1, 6.2, 6.3</td>
</tr>
<tr>
<td>15</td>
<td>Final Exam (see SAIL-final exam schedule)</td>
<td>Final</td>
</tr>
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J. COURSE POLICIES

- Attendance is mandatory. Attendance will be checked each class period and each absence after the 3rd time will result in one letter grade lower (6th absence will result in two-letter grade lower). Please save absences for emergencies.
- Homework will be given each class period and discussed at the beginning of next class period.
- Cell phone using is prohibited in any circumstances.
- Cheating is strongly prohibited. If I caught someone cheating during any test, students may drop the class without my permission. If not, normally it is an “F” regardless for the semester grade.
- You are the only person responsible to drop the class and responsible to stay inform for any changes for tests and room changes. All the changes will be announced in the class.
- You may email me for help any time but not the night before the scheduled test neither the possible chance to postpone the test.
- I respect your request by email and I will answer it in my best convenient time.
- Makeup test will be given once per student with appropriate documentation provided. Please save the opportunity for the emergencies. You must notify me 24 hours ahead of time. *(There is no makeup for any test which includes the final exam unless you could provide proper documentation from either medical doctors or any court orders 24 hours prior notice.)* Without taking final exam, it will be an “F” for the semester grade regardless.
- Help: CASA has many quality tutors to help you while you need someone beside my office hours. Welcome to visit those tutors at the second floor of library. Please find out their schedule first before you make a plan to go for this semester. I will be happy to work with you anytime during my office hours and
also email me for your special needs. This syllabus is a binding agreement between students and the instructor. If you have no any question regarding to this class, this syllabus will be activated from now and through this 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
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.

- **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.