MAT 220 Calculus I  
Section 21 (1204)  
SB 306A MoWe 1:00-4:30  

Instructor: Dr. Brian Travers  
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Email: btravers@salemstate.edu  
Webpage: http://btravers.weebly.com  
Office Hours: MoWe 8:00-9:00 and 12:00-1:00, or by appointment

Textbook: Thomas’ Calculus Early Transcendentals by Thomas, Weir and Hass. Addison Wesley, 14th edition. ISBN: 9780134439020. We will be using electronic homework, so only purchasing the access code is appropriate.

Required Tools: A graphing calculator is recommended. A TI-series calculator is strongly recommended.

Course Description: This course is an introduction to the differential calculus of real-valued functions of one real variable. Topics will include limits and derivatives and their applications in a context that includes polynomial, rational, trigonometric, exponential, and logarithmic functions. Offered each semester. Four lecture hours per week. Required of all mathematics majors.

Prerequisite: Completion of the Basic College Mathematics Competency Requirement and either MAT 150 or a thorough knowledge of trigonometric and logarithmic functions.

Grading: the class will be assessed as follows:

<table>
<thead>
<tr>
<th>Type of Assessment</th>
<th>Weight</th>
<th>Tentative Date</th>
<th>Instructional Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam 1</td>
<td>20%</td>
<td>July 17th</td>
<td>6,7,9</td>
</tr>
<tr>
<td>Exam 2</td>
<td>20%</td>
<td>June 31st</td>
<td>2,3,6,7,9</td>
</tr>
<tr>
<td>Final Exam</td>
<td>20%</td>
<td>August 14th</td>
<td>1,2,3,4,5,6,7,8,9</td>
</tr>
<tr>
<td>Quizzes</td>
<td>15%</td>
<td>Each class w/o exam or benchmark</td>
<td>2,3,4,6,7,8,9</td>
</tr>
<tr>
<td>Homework</td>
<td>15%</td>
<td>See electronic due dates</td>
<td>1,2,3,4,5,6,7,8,9</td>
</tr>
<tr>
<td>Benchmark 1</td>
<td>5%</td>
<td>July 24th</td>
<td>2,3,4,6,7,9</td>
</tr>
<tr>
<td>Benchmark 2</td>
<td>5%</td>
<td>August 7th</td>
<td>2,3,4,6,7,9</td>
</tr>
</tbody>
</table>
Quizzes: Each class we don’t have an exam, we will potentially have a quiz on the section(s) from the previous class(es). They will be based in the homework and will be generally only a couple of questions at most. The point of the quizzes is to keep you up to speed with the material. The subject matter builds as we cover subsequent sections and if you get behind, it will be difficult to keep up. Sections for potential quizzes will be announced at the end of the previous class.

Homework: We will be using an online homework system for this course. See the last page of the syllabus for details.

Benchmark Tests: Benchmark testing is the a way of assuring that students have achieved minimum levels of computational competency. It is generally expected that students who have successfully taken a semester of calculus can do certain calculations by hand. Although we will be using computers and calculators throughout this course, you will be expected to become proficient with these hand calculations. Throughout the semester, these calculations will be indicated, and you will be expected to do whatever practice you need to do to master these calculations.

There will be two benchmark tests in this course. Each benchmark will be given in class on the first day of the window-of-opportunity. The windows of opportunity for each benchmark test are as follows:

Benchmark 1: begins July 24th, completed by July 31st
Benchmark 2: begins August 7th, completed by August 14th

To pass the benchmark test, you must get nine or ten of ten problems completely correct; there will be no partial credits. If you pass on the first attempt, your score will be recorded as 100%.

(So there is incentive for passing on the first attempt!) If you do not pass the benchmark test on your first attempt, you may retake the benchmark once or twice within the window-of-opportunity. You must demonstrate that you have done some additional practice, and are encouraged to meet with me to go over problems that are giving you difficulty. You may attempt each benchmark up to three times (including the in-class attempt).

If you pass a benchmark test on a re-test, your score will be recorded as the average of the scores made on each attempt. If you have not passed a benchmark after three attempts or by the end of the window-of-opportunity date, your score will be recorded as your average on all three attempts. In calculating your average in this case, if you have not attempted to retake the benchmark, your score for these non-attempts will be considered as 0. This weighting of the Benchmark scores is designed to lower your overall course grade by at least a half letter grade if you are not able to pass a benchmark.
Goals and Objectives

Global Goals

By the end of the semester, you should be able to

1. discuss the role of limits in approximations.
2. construct derivatives analytically.
3. apply derivatives to analyze functions.
4. use derivatives to solve a variety of optimization problems.
5. facilitate the approximation techniques for calculating limits, rates and areas.
6. translate real life problems into the language of Calculus.
7. speak and write clearly about the topics of Calculus.
8. apply technology, when applicable, to Calculus problems.

Instructional Objectives

This course is intended to provide you with

1. the ability to determine end behavior of polynomials and rational functions.
2. the ability to compute derivatives.
3. the knowledge to be able to evaluate certain derivatives from the definition of the derivative
4. the knowledge and techniques to compute the extrema of functions.
5. the ability to find simple antiderivatives.
6. an understanding of concepts rather than merely mimicking techniques.
7. the ability to explain in written and oral form the meanings of important applications of concepts.
8. the ability to construct and analyze mathematical models of real-life phenomenon.
9. the ability to use Calculus to formulate problems, to solve problems, and to communicate solutions to others.
**Attendance Policy:** All students are expected to be familiar with the academic regulations, including those regarding Academic Integrity, for Salem State University as published in the university catalog. In addition, each student is responsible for completing all course requirements and for keeping up with all that goes on in the course (whether or not the student is present). If you are going to miss a class, I expect an email or a call to my office before class begins. If you contact me ahead of time (other than unexpected situations that can be verified) then the absence will be excused. If you do not contact me ahead of time then the absence will be unexcused. If you have an unexcused absence on the day of an exam, you will receive a zero for that grade. All unverified “excused” absences after the second one will be considered unexcused. For each unexcused absence, your final grade will be docked in the following manner:

<table>
<thead>
<tr>
<th>No. of Absences</th>
<th>Total Points Lost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>1 + 2 = 3</td>
</tr>
<tr>
<td>3</td>
<td>1 + 2 + 3 = 6</td>
</tr>
</tbody>
</table>

and so forth

**Note:** For exams, arrangements must be made at least 24 hours in advance in order for an absence to be excused.

All students are expected to be familiar with the academic regulations, including those regarding Academic Integrity, for Salem State University as published in the university catalog. In addition, each student is responsible for completing all course requirements and for keeping up with all that goes on in the course (whether or not the student is present).

**University Policy Statement:** Salem State University is committed to providing equal access to the educational experience for all students in compliance with Section 504 of The Rehabilitation Act and The Americans with Disabilities Act and to providing all reasonable academic accommodations, aids and adjustments. Any student who has a documented disability requiring an accommodation, aid or adjustment should speak with the instructor immediately. Students with Disabilities who have not previously done so should provide documentation to and schedule an appointment with the Office for Students with Disabilities and obtain appropriate services.

In the event of a university declared critical emergency, Salem State University reserves the right to alter this course plan. Students should refer to www.salemstate.edu for further information and updates. The course attendance policy stays in effect until there is a university declared critical emergency. In the event of an emergency, please refer to the alternative educational plans for this course located at http://btravers.weebly.com. Students should review the plans and gather all required materials before an emergency is declared.
Effective Date: July 8, 2019. Syllabus subject to change based on the needs of the class, but students will be notified in writing of any changes.

Academic Integrity: Salem State University assumes that all students come to the University with serious educational intent and expects them to be mature, responsible individuals who will exhibit high standards of honesty and personal conduct in their academic life. All members of the Salem State University academic community have a responsibility to ensure that scholastic honesty and academic integrity are safeguarded and maintained. Cheating and plagiarism are unfair, demoralizing, and demeaning to all of us. Cheating, plagiarism, and collusion in dishonest activities are serious acts that erode the University’s educational role and cheapen and diminish the learning experience not only for the perpetrators, but also for the entire community. It is expected that Salem State University students will understand and subscribe to the ideal of academic integrity and that they will be willing to bear individual responsibility for their work. Materials (written or otherwise) submitted to fulfill academic requirements must represent a student’s own efforts.

Academic Dishonesty Policy: The fundamental purpose of this policy is to emphasize that any act of academic dishonesty attempted by any Salem State University student is unacceptable and will not be tolerated. Charges of academic dishonesty are reviewed through a process that allows for student learning and impartial review. Performing, aiding or inciting any of the actions listed below, in courses or other situations involving academic credit, constitutes an offense subject to disciplinary action.

Possession of Final Examinations and Papers/Projects: Students have the right to inspect their own completed final examination papers in a course within one semester following the end of the course. However, the course instructor shall have the right to retain permanent possession of the original examination papers and each student’s submitted answers. Students have the right to the return of the original of any written paper/project upon request, with the provision that a copy be provided to the instructor by the student if the instructor so requires. Under such circumstances, the instructor shall return to the student the written paper/project within one semester following the end of the course. Such request must be made by the student no later than the end of the following semester.

Appeals and Contesting of Grades: A student may contest/appeal a grade no later than four months after its official posting on Navigator/Polaris to the faculty who issued the grade in writing.
Homework

All of the homework this semester will be found on-line using something called MyMathLab. You must log in to the site and register for our class. There will be an assignment for each section that we cover in class. The assignments will not be available for you to work on until after we have covered the section pertaining to the problems and there will be a deadline for each of the sections.

To log into the system, go to

http://www.pearsonmylabandmastering.com/?cc

and select REGISTER in the student menu. You will be prompted for an email address, course ID and the student access card that comes with the book bundle. The course ID for this class is

travers12393

Once you have enrolled in the class, you will be able to complete the assignments. I get a full report of what you have done and the program automatically grades the assignments according to the specifics I set up, so this is where your homework grade will come from. If you have any problems or questions, let me know.

Miscellaneous

- I expect you to do all of the homework problems. The whole point of taking a class is to understand the material and to learn what you need to help you in your future work. There is no point in just going through the motions. If you try all of the problems then it will help you figure out where you are in terms of understanding. If you are having trouble, you can come to me for help or you can go to the Math Lab (Sullivan Building 306).

- Believe it or not, it is actually helpful to read the textbook. If you read the material, it will reinforce the topics covered in class. It is more beneficial, in my experience, to read the section before we cover it so that you know where you have questions ahead of time.

- Please turn off the ringers on all cell phones before coming to class.