Calculus for Business and Social Sciences Syllabus

Mountain View College

Instructor Information
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Course Information
Course Title: Calculus for Business and Social Sciences
Course Number: MATH 1325
Section Number: 68441
Semester/Year: Fall/2019
Credit Hours: 3
Class Meeting Time/Location: MTWRFSU/INET
Certification Date: October 28, 2019
Last Day to Withdraw: November 27, 2019

Course Prerequisites
This is an entry-level course and is open to any student meeting TSI standards of college readiness (student must have appropriate assessment test score or have successfully completed DMAT 0310).

Course Description
The application of common algebraic functions, including polynomial, exponential, logarithmic, and rational, to problems in business, economics, and the social sciences are addressed. The applications include mathematics of finance, including simple and compound interest and annuities; systems of linear equations; matrices; linear programming; and probability, including expected value.
Student Learning Outcomes

Upon successful completion of this course, students will be able to:

1. Apply elementary functions, including linear, quadratic, polynomial, rational, logarithmic, and exponential functions to solving real-world problems.
2. Solve mathematics of finance problems, including the computation of interest, annuities, and amortization of loans.
3. Apply basic matrix operations, including linear programming methods, to solve application problems.
4. Demonstrate fundamental probability techniques and application of those techniques, including expected value, to solve problems.
5. Apply matrix skills and probability analyses to model applications to solve real-world problems.

Texas Core Objectives

The College defines essential knowledge and skills that students need to develop during their college experience. These general education competencies parallel the Texas Core Objectives for Student Learning. In this course, the activities you engage in will give you the opportunity to practice two or more of the following core competencies:

1. Critical Thinking Skills - to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
2. Communication Skills - to include effective development, interpretation, and expression of ideas through written, oral, and visual communication
3. Empirical and Quantitative Skills - to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions
4. Teamwork - to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal
5. Personal Responsibility - to include the ability to connect choices, actions, and consequences to ethical decision-making
6. Social Responsibility - to include intercultural competence, knowledge of civic responsibility, and the ability to engage effectively in regional, national, and global communities

Required Course Materials

MyMathLab (MML) Student Access Kit: MML is the access code that provides the software required to do online homework assignments, quizzes, and tests. You may purchase an MML access code from the bookstore or by going to www.mymathlab.com. There will an electronic textbook (e-book) available online. This online textbook becomes available once you have loaded the MML software.
Textbook: A regular textbook is optional. Below is the information you need, if you decide to purchase a regular textbook.

MATHEMATICS FOR BUSINESS, ECONOMICS, LIFE SCIENCES, AND SOCIAL SCIENCES, by Barnett, Ziegler, Byleen, 14th edition – textbook bundled with MML Access code (ISBN# 978-0-13-486261-3) *(MML Student Access Kit is required and can be purchased with the ISBN listed above)*

Or

Textbook only: 978-0-134-467414-8

Or


Note: Optional - Solution Manual *(9780321946775)*

Calculator: A TI – 83 or TI-84 Plus Calculator is recommended.

You can use the following Pearson link for any MML questions you may have: [Pearson MyLab Mastering](#)

Note: A student of this institution is not under any obligation to purchase a textbook from a university-affiliated bookstore. The same textbook may also be available from an independent retailer, including an online retailer.

MML Registration and Login: To register into MML, follow the steps in the “MML Student Registration Instructions” document. This document can be obtained under the “MyMathLab (MML)” tab in your Blackboard menu. When registering into MML, you must use the same name as you used when enrolling in the course with Mountain View College. Failure to do so may result in inaccurate information being entered into your record.

Failure to register into the MML software by the end of registration period may result in you being unable to complete the course. Please note that the publisher usually allows students a 14-day temporary MML access period. Prior to the end of the temporary access period, you must purchase and register using your valid access code.

MML Technical Support: If have problems getting registered or accessing your MML software, please contact the Pearson Student-Support Helpdesk Line at the following link: [Pearson Student-Support Helpdesk](#).

**Graded Work**

The tables below provide a summary of the graded work in this course and an explanation of how your final course grade will be calculated.
Summary of Graded Work

<table>
<thead>
<tr>
<th>Assignments</th>
<th>Percentages</th>
<th>Totals</th>
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</thead>
<tbody>
<tr>
<td>Section Homework</td>
<td>20% of 28 Sections Homework Average</td>
<td>20 points</td>
</tr>
<tr>
<td>Unit Quizzes</td>
<td>5% of 5 Unit Quizzes Average</td>
<td>5 points</td>
</tr>
<tr>
<td>Unit Tests &amp; Final Exam</td>
<td>75% of 5 Unit Tests &amp; Final Exam Average</td>
<td>75 points</td>
</tr>
<tr>
<td><strong>TOTAL: 100 points</strong></td>
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Final Grade

If your average falls in one of the ranges, then the corresponding final letter grade will be submitted to the Registrar Office. Please check your MyMathLab Gradebook for your final average.

<table>
<thead>
<tr>
<th>Points</th>
<th>Percentages</th>
<th>Letter Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>90 - 100</td>
<td>90-100%</td>
<td>A</td>
</tr>
<tr>
<td>80 - 89</td>
<td>80-89%</td>
<td>B</td>
</tr>
<tr>
<td>70 - 79</td>
<td>70-79%</td>
<td>C</td>
</tr>
<tr>
<td>60 - 69</td>
<td>60-69%</td>
<td>D</td>
</tr>
<tr>
<td>0 - 59</td>
<td>0-59%</td>
<td>F</td>
</tr>
</tbody>
</table>

Description of Graded Work

**Homework: 15%**
MyMathLab (MML) will be used for homework. Homework is under the “Assignments” tab. Homework includes section lessons. You can use other sources to learn each lesson concepts. I recommend that you learn each lessons before you do homework problems. There is no limit to the number of times you try homework problems. You can obtain tutorial assistant by clicking on “Similar Questions” within MML to try the problem again until you get it correct. In fact, you can get 100% on every homework problem by doing this. All homework sections must be completed by the due date.

**Quizzes: 5%**
MyMathLab (MML) will be used for quizzes. Quizzes are under the “Assignments” tab. The unit quizzes are sometimes named “Practice Tests - Quiz” for each respective unit test. You will be allowed five attempts at each quiz and your highest score will be counted towards your final grade. You may use your first attempted quiz as a review to do it again. Please note that you your quizzes can be used as a review for your tests as well. All homework sections must be completed by the due date.
Unit Tests and Final Exam: 75%
There will be four unit tests on MyMathLab (MML). Tests 1, 2, 3, & 4 will each count as 15% of the performance grade. You will be allowed only one attempt on the unit tests. Remember that you may use the unit quizzes to practice for your unit tests. All unit tests must be completed by the due date.

A comprehensive final examination will be given on MML. The Final Exam will count as 15% of the performance grade. There will be a practice final exam quiz posted for you to take. You will be allowed five attempts on this quiz and your highest score will be counted towards your final grade. You may use your first attempted quiz as a review to do it again. Please note that you may use your final exam quiz as a review for your comprehensive final exam as well. Your final exam must be completed no later than December 11, 2019.

Certification Procedures
You must show participation in this class by 5:00 PM on October 27, 2019. Failure to participate will result in forfeiture of financial aid. Participation is defined as completing and submitting the online orientation assignment in MyMathLab.

Attendance and Your Final Grade
Students are expected to login and utilize the course materials and activities in eCampus and MML. As a minimum expectation, you should login to the course at least 5 times per week. Of course, it is mandatory that you regularly do your MML assignments according to the specified dates. To be successful, students should spend a minimum of 12-15 hours working on the course materials and assignment

Late Work Policy
You must keep up with the work in the class. All assignments must be completed and submitted on time. Late work will not be accepted.

Other Course Policies

Emails
Communications will be done via email. Your email address must be current. When sending an email, you must include your name, the course number, and section number in the body of your email. Failure to follow these procedures could result in a delay in receiving a response. Your emails will be answered within 48 hours of receipt and 72 hours if the email is received on the weekend. Do not assume that an unanswered email was received – always resend if you do not receive a reply within the specified timeframe mentioned.

Your name
The name you use in MyMathLab must reflect the same name as shown on your
college records and especially in eConnect. Failure to do so may result in inaccurate being entered into your record.

**Institutional Policies**

Institutional Policies relating to this course can be accessed using the link below. These policies include information about tutoring, Disabilities Services, class drop and repeat options, Title IX, and more.

Mountain View Institutional Policies (http://www.mountainviewcollege.edu/syllabipolicies)

**Course Schedule**

<table>
<thead>
<tr>
<th>Week</th>
<th>Sun/Mon/Tues</th>
<th>Wed/Thur</th>
<th>Fri/Sat</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Review Syllabus and Course Documents Orientation homework 0.1 – due by 10-28-19 Homework 9.1 Introductions to Limits</td>
<td>9.2 Infinite Limits and Limits at Infinity 9.3 Continuity &amp; 10.4 The Derivative</td>
<td>9.5 Basic Differentiation Properties 9.6 Differentials 9.7 Marginal Analysis in Bus. &amp; Econ.</td>
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<tr>
<td></td>
<td>Finish Chapter 9 Homework by 10-27-19 Start Chapter 9 Quiz by 10-27-19 Finish Chapter 9 Quiz by 10-28-19 Take Test 1 by 10-29-19</td>
<td>10.1 The Constant e and Continuous Compound Interest</td>
<td>10.2 Derivatives of Exponential and Logarithmic 10.3 Derivatives of Products and Quotients</td>
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<tr>
<td>3</td>
<td>Nov 3/ Nov 4/ Nov 5</td>
<td>Nov 6/ Nov 7</td>
<td>Nov 8/Nov 9</td>
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<tr>
<td></td>
<td>10.4 The Chain Rule 10.5 Implicit Differentiation 10.6 Related Rates</td>
<td>Finish Ch. 10 Homework by 11-6-19 Start Chapter 10 Quiz by 11-7-19</td>
<td>Finish Chapter 10 Quiz by 11-8-19 Take Test 2 by 11-9-19</td>
</tr>
<tr>
<td>4</td>
<td>Nov 10/ Nov 11/Nov 12</td>
<td>Nov 13/Nov 14</td>
<td>Nov 15/Nov 16</td>
</tr>
<tr>
<td></td>
<td>11.1 First Derivative and Graphs 11.2 Second Derivative and Graphs</td>
<td>11.2 Second Derivative and Graphs 11.4 Curve-Sketching Techniques</td>
<td>11.5 Absolute Maxima and Minima 11.6 Optimization</td>
</tr>
<tr>
<td></td>
<td>Nov 17/ Nov 18/Nov 19</td>
<td>Nov 20/Nov 21</td>
<td>Nov 22/Nov 23</td>
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</table>
| 5  | *Finish Chapter 11 Homework by 11-17-19*  
    | *Start Chapter 11 Quiz by 11-18-19*  
    | *Finish Chapter 11 Quiz by 4-23-19*  | *Take Test 3 by 11-20-19*  
    | *On 11-21-19, start 12.1 Antiderivatives & Indefinite Integrals by*  | *12.2 Integration by Substitution 12.4 The Definite Integral*  |
| 6  | Nov 24/Nov 25/Nov 26 | Nov 27/Nov 28  | Nov 29/Nov 30 |
|    | *12.5 The Fundamental Theorem of Calculus*  
    | *Finish Chapter 12 Homework by 11-26-19*  
    | *Start Chapter 12 Quiz by 11-27-19*  
    | *Finish Chapter 12 Quiz by 11-27-19*  
    | *Will extend Chapter 12 Quiz after Thanksgiving*  | *Start Chapter 12 Quiz by 11-29-19*  
    | *Take Test 4 by 11-19-19*  
    | *On 11-30-19, start 13.1 Area*  |
|    | *13.2 Applications in Business and Economics*  
    | *14.1 Functions of Several Variables*  
    | *14.2 Partial Derivatives*  
    | *14.3 Maxima & Minima*  
    | *Finish Ch 13 & 14 Homework by 12-5-19*  | *Start Review for Final Exam*  |
| 8  | Dec 8/ Dec 9/ Dec 10 | Dec 11/ Dec 12 | N/A |
|    | Continue Final Exam Review  
    | Finish Final Exam Review on 12-11-19  
    | *Can take Final Exam at any time*  | Finish Final Exam Review - 12-11-19  
    | *Take Final Exam by 12-11-19*  
    | *Grades will be finalized in MML by 12-12-19*  | Semester Over  |