Calculus for Business and Social Sciences
Syllabus
North Lake College

Instructor Information
Name: Danny Dinh
DCCCD Email: VietVDinh@dcccd.edu
Office Phone: (972) 273-3500 – best to email.
Office Location: A266
Office Hours: MW 11am – 2pm
T Th 7am – 7:25am, 11am-2pm, and 4:30pm-5:30pm
Other times by appointment.
Division Office and Phone: Math & Science Division 972-273-3500

Course Information
Course Title: MATH 1325 – Calculus for Business and Social Sciences
Course Number: MATH 1325
Section Number: 70431
Semester/Year: Spring 2020
Credit Hours: 3
Class Meeting Time/Location: INET/CET
Certification Date: 04/03/2020
Last Day to Withdraw: 05/04/2020

Course Prerequisites
Math 1324, Math 1314 or Math 1414

Course Description
This course includes limits, differential calculus, integral calculus, and appropriate applications. This course is cross-listed as Math 1425. The student may register for either Math 1425 or Math 1325, but may only receive credit for one.
**Required Course Materials:** Please check eCampus under “MyLabsPlus Instruction” for further information

1) The required textbook for the course is College Mathematics for Business Economics, Life Sciences and Social Sciences, 14th Ed., Barnett, Ziegler, Byleen.
2) You will no longer purchase a textbook package from the North Lake College bookstore. Codes that are ordered from an independent seller may not work.
3) Calculators: You will be allowed to use calculators on all tests. Graphing calculators (such as the TI-83 or TI-84 Plus) are recommended. **Calculators such as the TI 89 & TI 92, which perform algebraic operations, are not allowed.** You may check out a TI-84 calculator for the tests in the testing center.

Note: A student of this institution is not under any obligation to purchase a textbook from a university-affiliated bookstore. The same hardback copy of the electronic textbook may be available from an independent retailer if this is your preference.

**Technical Support**
Connect support website: https://support.pearson.com/getsupport/s/
Technical support for eCampus: 972-669-6402

**Program-Level Outcome**
1: Communication Skills - to include effective development, interpretation and expression of ideas through written, oral and visual communication
   1. Written: Process and produce effective written communication adapted to audience, purpose, and time constraints.
   2. Visual: Effectively interpret visual images or produce effective visual images.

Program-Level Outcome 2: Critical Thinking Skills - to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information

Program-Level Outcome 3: Empirical and Quantitative Skills - to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions

**Student Learning Outcomes**
Upon successful completion of this course, students will:
   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. Students will use the definition to calculate the derivative for simple continuous
**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

**Means of Assessment of Course Learning Outcomes**

Course Learning Outcomes will be assessed by a variety of means.

1. Online and proctored written exams will be given to assess each Learning Outcome.
2. Homework will be assigned and assessed either using the software component or by the instructor.
3. Observation of student’s collaboration will be used to assess all outcomes.
4. Students will complete projects and learning activities that will address specific course learning outcomes.

**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>Percentage</th>
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<tbody>
<tr>
<td>Mid-Term (online MyLabsPlus)</td>
<td>25%</td>
</tr>
<tr>
<td>Online Homework</td>
<td>25%</td>
</tr>
<tr>
<td>Online Mastery Tests and Quizzes</td>
<td>25%</td>
</tr>
<tr>
<td>Final Exam (online MyLabsPlus)</td>
<td>25%</td>
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</tbody>
</table>

**TOTAL: 100%**
Final Grade

<table>
<thead>
<tr>
<th>Percentages</th>
<th>Letter Grade</th>
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<tbody>
<tr>
<td>90-100%</td>
<td>A</td>
</tr>
<tr>
<td>80-89%</td>
<td>B</td>
</tr>
<tr>
<td>70-79%</td>
<td>C</td>
</tr>
<tr>
<td>67-69%</td>
<td>D</td>
</tr>
<tr>
<td>0-66%</td>
<td>F</td>
</tr>
</tbody>
</table>

Description of Graded Work

Mid-term and Final Exam: online on MyLabsPlus
Mid-term and Final Exam will be administered online on MyLabsPlus. There will be 4 hours time limit on each test.

SLO Quizzes and Skill Check Quizzes: online on MyLabsPlus
SLO Quizzes and Skill Check Quizzes will be given online on MyLabsPlus. These assignments cannot be “made-up” if the student does not take it online (excused or unexcused). At the end of the semester, about 10% of the lowest quiz grades will be dropped.

Chapter Mastery Tests: online/MyLabsPlus
Chapter Mastery Tests are available on MyLabsPlus, and they are useful for determining if a student is ready for the mid-term or final exams. Students will be given two attempts for each mastery test.

Homework: online/MyLabsPlus
Homework is the most important learning tool in a course.
- It reinforces instruction.
- It provides an immediate and personal measure of your competence in the course.
- Always express the answers to stated problems (word problems) in a sentence which identifies what you have determined to be the answer.

An important part of mathematical literacy is good communication skills.
- First, write the problem or the essential facts.
- Second, present mathematical sentences showing the progression of your ideas.
- Third, present a conclusion using a complete sentence.

More details about what is expected on homework assignments and tests can be found in the eCampus classroom

Final Exam: online on MyLabsPlus
The Final Exam is comprehensive and will test the student’s math skills on all content covered throughout the entire semester. This exam will be taken in the classroom during the last week of classes at the time specified in the official Final Exam Schedule.

Re-Tests: There is NO retest.
Late Work Policy
Late assignments will not be accepted. There are no make-up exams.

Important: Students caught with a cell phone in their possession while taking a test will be given a zero (0) for that test and may face disciplinary action.

Online STEM Center – Free online Tutoring:
The STEM Center will be available for online tutoring, it provides assistance and resources free to students enrolled in mathematics and developmental mathematics classes at North Lake College.
Services offered:
• Tutorial services in all math courses taught at North Lake College
• Computers for use by students enrolled in courses that have an Internet component such as homework systems (i.e., MyLabsPlus, ConnectMath)
• Content workshops covering how to use graphing calculators, course topics, review sessions, and study skills

Hours of Operation
Monday – Thursday: 9 a.m. – 8 p.m.
Friday & Saturday: 9 a.m. – 2 p.m.
Manager: Camrunn Beck, camrunn.beck@dcccd.edu

Important about online tutoring: more information regarding to online tutoring will be available on eCampus and will be emailed to you.

Financial Aid Certification of Attendance
To be certified as attending, a student must complete the following assignments:
- Applied Calculus Prerequisite Skills Test
- Chapter 9 Skills Check Quiz
and earning at least a score of 70% by Friday April 03, 2020 at 11:00am.

What is Service Learning?
Service Learning (SL) is a program in which you will learn and develop through thoughtfully organized service experiences by participating in meeting real community needs. The program combines academic instruction along with active community service that utilizes both critical and reflective thinking skills that assist you in examining your civic responsibilities in the world in which you live.

We have several service opportunities for our math students.
• Host Review Sessions on Campus for our DMAT Students (May not be an option. Check with coordinator.)
• Math Tutor at any of our Local Schools
• Create your own program. It must involve mathematics!

Details about these positions and others can be found in the eCampus Service Learning Community.

For questions or concerns, contact the Service Learning Coordinator, Katherine Villarreal, at kvillarreal@dcccd.edu.

Students who enroll in Service Learning, may replace a low test grade with the average of all the tests grades.

PENALTY for Academic Dishonesty

Please see Cheating, Plagiarism and Collusion under Institutional Policies

Academic dishonesty may result in the following sanctions, including, but not limited to:
1. A grade of zero or a lowered grade on the assignment or course.
2. A reprimand.
3. Suspension from the college.

Cheating is a serious crime in higher education and can have a grave effect on your academic reputation and your career after graduation. By not taking the time to learn material or create your own work, you are depriving yourself of valuable knowledge and putting yourself at risk of facing severe punishment. Enrolling in college means you’re investing your time, money, and effort toward a more successful future – don’t let all that go to waste by making the mistake of being academically dishonest!

Some examples of what is considered to be cheating:

- Copying from another student’s homework, classwork, or exam
- Allowing another student to copy your homework, classwork, or exam
- Using prohibited sources on a take home exam
- Conversing with another student while taking exam
- Not reporting other students who you know are cheating (eCollege Finder)

Drop Policy

If you are unable to complete this course, you much officially withdraw before or on Monday May 04, 2020. Withdrawing is a formal procedure which you must initiate; your instructor cannot do it for you. See link within Institutional Policies p. 7

STOP BEFORE YOU DROP - Do NOT drop until you speak with your instructor.
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.

[North Lake Institutional Policies](http://www.northlakecollege.edu/syllabipolicies)

This course syllabus is intended as a set of guidelines for Math 1325. Both North Lake College and your instructor reserve the right to make modifications in content, schedule, and requirements as necessary to promote the best education possible within prevailing conditions affecting this course.

**MATH 1325 Calendar (7 week Online/INET)**

*North Lake College*

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<thead>
<tr>
<th>Course Schedule</th>
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<tbody>
<tr>
<td><strong>Week</strong></td>
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| 1 | Orientation, Syllabus (eCampus and MLP)  
9-1: Introduction to Limits  
9-2: Infinite Limits and Limits at Infinity |
| 2 | 9-3: Continuity  
9-4: The Derivative  
**SLO Quiz 1**  
9-5: Basic Differentiation Properties  
9-6: Differentials |
| 3 | 9-7: Marginal Analysis in Business and Economics  
10-1: The Constant $e$ and Continuous Compound Interest  
10-2: Derivatives of Exponential and Logarithmic Functions  
10-3: Derivatives of Products and Quotients |
| 4 | 10-4: The Chain Rule  
10-5: Implicit Differentiation  
10-6: Related Rates  
**SLO Quiz 2**  
10-7: Elasticity of Demand |
| 5 | 11-1: First Derivatives and Graphs  
11-2: Second Derivatives and Graphs  
11-3: L'Hôpital’s Rule  
11-4: Curve Sketching Techniques |

*Midterm (online on MyLabsPlus): covers Chapters 9 and 10*  
*Please check your MyLabsPlus for deadline to take your mid-term exam.*
<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
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| 6    | 11-5: Absolute Maxima and Minima  
       11-6: Optimization  
**SLO Quiz 3**  
12-1: Antiderivatives and Indefinite Integrals  
12-2: Integration by Substitution |
| 7    | 12-3: Differential Equations; Growth and Decay  
12-4: The Definite Integral  
12-5: The Fundamental Theorem of Calculus  
13-1: Area Between Curves  
13-2: Applications in Business and Economics  
**SLO Quiz 4** |

Final Exam Review  
**Final Exam (online on MyLabsPlus) – covers Chapters 11 - 13**  
*Please check your MyLabsPlus for deadline to take your final exam.*