Calculus for Business and Social Sciences

Syllabus

North Lake College

Instructor Information
Name: Nahid Pope
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Office Phone: 972-860-3946
Office Location: K303-B
Office Hours: Posted on eCampus
Division Office and Phone: P330, 972-273-3500

Course Information
Course Title: Business Calculus (Blended 8 Wks)
Course Number: Math 1325
Section Number: 78201
Semester/Year: Fall 2019
Credit Hours: 3
Class Meeting Time/Location: MW 8:00 – 9:20 / P315
Certification Date: October 28
Last Day to Withdraw: November 27

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:
1) The required textbook for the course is College Mathematics for Business Economics, Life Sciences and Social Sciences, 14th Ed., Barnett, Ziegler, Byleen.
2) The MyLabsPlus access kit.
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.

Technical Support
Connect support website: https://support.pearson.com/getsupport/s/
Technical support for eCampus: 972-669-6402
Technical support for Connect: 1-949-390-2095

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.

<table>
<thead>
<tr>
<th>Graded Work</th>
<th>Percentage</th>
</tr>
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<tbody>
<tr>
<td>4 Written Tests</td>
<td>60%</td>
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<tr>
<td>HW and MT</td>
<td>15%</td>
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<tr>
<td>Online Work</td>
<td>15%</td>
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<tr>
<td>Quizzes, Attendance</td>
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<tr>
<td>&amp; Class Participation</td>
<td>10%</td>
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</tbody>
</table>
Your course grade will be determined by the following:

A = 91 – 100%
B = 81 – 90%
C = 71 – 80%
D = 60 – 70%
F = 0 – 59%;

the instructor will not round more than 0.05 percentage points when calculating final weighted average

“Do not forget that the grade you get for this course is the grade you earn. Please do not come to me at the end of the semester to beg for extra points.

Calculators
TI-83/84 or similar calculators and all scientific calculators are permitted on all exams. Calculators with computer algebra systems (CAS) such as the TI-93 or TI N-spire are not permitted on any exam.

Tests
Chapter tests will be administered in the Testing Center, Room L240.

For each day passed the deadline, 7 points will be deducted from your test grade.

Re-Tests: There is NO retest.

Quizzes
Quizzes will be given in the first five minutes of class. These assignments cannot be “made-up” if the student is absent or late for any reason (excused or unexcused). At the end of the semester, about 15% of the lowest quiz grades will be dropped.

Worksheets
The online assignments that must be completed at home and turned in class at the beginning of classes to be graded.

Mastery Tests
Mastery Tests are available on MLP and are useful for determining if a student is ready for the written exam. Students will be given two attempts for each mastery test. Students that complete the mastery tests with a grade of 80% or better by the test deadline can earn up to three (3) bonus points on the corresponding written exam.
Homework
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.

“The Homework and Mastery Tests are due before the Written Test.”
Access to HW and MT will be closed on the chapter written test due date.”

Absences / Tardies
Absences are generally detrimental to one’s performance in a course. You are expected to attend regularly in order that you may increase your chances for a successful semester in algebra. If you must miss a class, it is your responsibility to make up any missed work. It is also polite to email your instructor and give the reason for your absence.

Attendance is necessary to pass this class.
Roll will be taken every class period.

Tardiness is strongly discouraged as it is disruptive to the class and thus the students who are on time. However, it is better to come late than not at all, as long as it is not a habit with one particular individual. If you anticipate a particular problem, please discuss it with me before or after class.

Special Note:
A total 4 absences will result in a grade of F for the course.
A total of 3 tardies of more than 20 minutes will be marked as one absence.
If a student must leave class early more than three times one absence will be recorded.
Your instructor will not determine if an absence is excused or unexcused.

Classroom
Distractive talking or any disorderly conduct is prohibited. Please be courteous of others. A warning will be given for behavior an instructor considers disruptive and if the warning is not heeded, the student will be asked to leave. See Student Code of Conduct for more details.
No Cell Phone Use in Class—or Class Participation Points will be taken off.

The use of cell phones or other similar devices is prohibited during class time. You are expected to turn OFF all such devices BEFORE entering the classroom. You may be asked to leave class if your cell phone causes you or others to be distracted in class; i.e. contact calls or texting.

Academic Testing Center
Room L240, Phone number 972-860-3932
Mon-Thurs, 8:30 a.m. to 8:00 p.m.
Fri – Sat, 8:30 a.m. to 3:30 p.m.

Testing Center Procedures
If your instructor requires you to complete an exam in the Testing Center, be sure to have the following information when you request your test.

- Instructor’s name
- Subject and course number (Math 1325)
- Exam number (1st, 2nd, 3rd, etc.)
- Exam deadline (Get this information from your instructor. The testing staff cannot "look up" this information on computers.)

You should also bring the following supplies.

- Pencil & Eraser
- **A Test Request Form** initialed by your instructor must be completed before entering the Testing center.
- Only battery operated 4-function calculator is allowed (if permitted by instructor).
- Money for coin-return lockers (quarter). Please do not share lockers.

Important: **Government- or school-issued photo identification is required & enforced.**

STEM Center – Free Tutoring:
The STEM Center, located in L137 and L139 provides assistance and resources free to students enrolled in mathematics and developmental mathematics classes at North Lake College.
This is a great place to bring a study group, study quietly, get help with math classes, and use the center’s various resources.
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)
- Graphing calculators for use in the center
- Textbooks for use in the center
- A quiet area to study (Just ask one of the tutors)
- Opportunity for students to make up class absences
- Whiteboards space for study groups
- Content workshops covering how to use graphing calculators, course topics, review sessions, and study skills

Hours of Operation
Monday – Thursday: 9 a.m. – 6 p.m.
Friday & Saturday: 9 a.m. – 2 p.m.
Manager: Camrunn Beck, Room L135, camrunn.beck@dcccd.edu

Financial Aid Certification of Attendance
**To be certified as attending,** a student must complete all of first 6 days of assignments earning at least a score of 70%.

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 November 27, 2019. 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.

Counseling Services (A311)
Counseling services for personal issues are provided to all students currently enrolled at North Lake College. These services are provided by licensed professionals who are bound by confidentiality (within ethical parameters) at no charge. With the assistance of a counselor, students are able to identify, understand, resolve issues and develop appropriate skills. To make an appointment call 972-273-3333 or visit A311.
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)

Course Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Readings</th>
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<tbody>
<tr>
<td>Week 1</td>
<td><strong>Orientation, Syllabus (eCampus)</strong></td>
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<tr>
<td>10/22 - 10/27</td>
<td>9-1: Introduction to Limits</td>
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<td>9-2: Infinite Limits and Limits at Infinity</td>
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<td>9-3: Continuity -- ONLINE</td>
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<td>Week 2</td>
<td>9-4: The Derivative -- ONLINE</td>
</tr>
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<td>10/28 – 11/3</td>
<td>SLO Quiz 1</td>
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<td>9-5: Basic Differentiation Properties</td>
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<td>9-6: Differentials -- ONLINE</td>
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<td>9-7: Marginal Analysis in Business and Economics</td>
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<td>Week 3</td>
<td><strong>Chapter 9 Test – Taken in Testing Center A425</strong></td>
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<tr>
<td>11/4 - 11/10</td>
<td>10-1: The Constant e and Continuous Compound Interest -- ONLINE</td>
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<td>10-2: Derivatives of Exponential and Logarithmic Functions</td>
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<td>10-3: Derivatives of Products and Quotients -- ONLINE</td>
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<td>10-4: The Chain Rule -- ONLINE</td>
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<td>Week 4</td>
<td>10-5: Implicit Differentiation</td>
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<td>11/11 - 11/17</td>
<td>10-6: Related Rates</td>
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<td>SLO Quiz 2</td>
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<td>10-7: Elasticity of Demand -- ONLINE</td>
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<td><strong>Chapter 10 Test – Taken in Testing Center L240</strong></td>
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<td>11-1: First Derivatives and Graphs</td>
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<td>Week 5</td>
<td>11-2: Second Derivatives and Graphs -- ONLINE</td>
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<td>11/18 - 11/24</td>
<td>11-3: L’Hôpital’s Rule</td>
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<td>11-4: Curve Sketching Techniques</td>
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<td>11-5: Absolute Maxima and Minima -- ONLINE</td>
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<td>Week 6</td>
<td>11-6: Optimization</td>
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<td>11/25- 12/1</td>
<td>SLO Quiz 3</td>
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<td><strong>Chapter 11 Test – Taken in Testing Center A425</strong></td>
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<td>12-1: Antiderivatives and Indefinite Integrals -- ONLINE</td>
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<td>12-2: Integration by Substitution</td>
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<td>Week</td>
<td>Readings</td>
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<td>**12-3: Differential Equations; Growth and Decay -- **ONLINE **</td>
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<td><strong>Thursday October 3 – Last to Withdraw with a grade of W</strong></td>
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<td>Week 7</td>
<td><strong>12-4: The Definite Integral</strong></td>
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<td>12/2 - 12/8</td>
<td>**12-5: The Fundamental Theorem of Calculus -- **ONLINE **</td>
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<td>**13-1: Area Between Curves -- **ONLINE **</td>
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<td><strong>13-2: Applications in Business and Economics</strong></td>
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<td><strong>SLO Quiz 4</strong></td>
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<tr>
<td>Week 8</td>
<td><strong>Chapter 12 Test – Taken in Testing Center A425</strong></td>
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<tr>
<td>12/9 –12/12</td>
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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.