

University of La Verne
Syllabus: BUS 274 – Applied Quantitative Analysis (Online)
Term: Winter 2019

INSTRUCTOR: Jason Gurtovoy
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TIME & PLACE: Online

Course Description:

The course introduces mathematical modeling using graphical, numerical, symbolic, and verbal techniques to describe and explore real-world data and phenomena. One studies the investigation and analysis of applied problems and questions, and effective communication of quantitative concepts and results. Topics include linear, quadratic, polynomial, exponential and logarithmic models of real-world phenomena.

Course Objectives:

1. Students will become competent at symbolic manipulation of relevant equations and expressions pertaining to the mathematics of business applications
2. Students will obtain skills in using computer software to assist in the formulation, analysis of, and solution of real problems, and to enhance their judgment of the reasonableness of results.
3. Students will be introduced to fundamental mathematical ideas and concepts as well as their applications as used in business and economics amenable to treatments based on these concepts.
4. Students will learn how to engage in nontrivial mathematical problem solving on an individual basis (homework).
5. Students will learn mathematical techniques and their application to business problems through modeling real-world situations, in the process recognizing the interdisciplinary and pervasive nature of mathematics in diverse fields of human endeavor.
6. Students will expand their mathematical reasoning skills as they develop convincing mathematical arguments, while also recognizing that mathematical methods have limitations.
7. Students will acquire the ability to read, write, listen to, and speak mathematics within the framework of the business context.

Textbook:

A Survey of Mathematics with Applications by Allen Angel. 10th Edition. **ISBN-13:** 978-0134196015 **ISBN-10:** 0134196015 (packaged with mymathlab access)

1. You must obtain an Access Code in order to use the required MyMathLab (MML) computer program.
2. An Access Code is available online through <http://www.mymathlab.com/>. The code may also be purchased at a discount through various internet vendors such as the ULV bookstore, Amazon, half.com, and etc.
3. Course ID #gurtovoy71777. After you logon to MML, you will need the Course ID in order to gain access to the Winter 2019 BUS 274 class.
4. The required MyMathLab program includes an electronic copy of our textbook, a number of learning tools, class homework assignments and the chapter tests.
(See reg page for additional details on blackboard.)

Assessment of Course Objectives:

Student achievement will be measured through the use of homework and/or group work assignments, announced or unannounced quizzes, exams, and a comprehensive final exam.

Grading Policy: Grades will be assigned based on the following percentage of points earned from measurement of student achievement of course objectives:

Tests(Mylab)	30%
Online Class Participation (Blackboard).....	10%
Online Homework (Mylab).....	20%
Online Quiz (MyLab)	20%
Final Exam	20%

Grading Scale:

- A = 94+
- A- = 90 – 93
- B+ = 87 – 89
- B = 84 – 86
- B- = 80 – 83
- C+ = 77 – 79
- C = 74 – 76
- C- = 70 – 73
- D+ = 67 – 69
- D = 64 – 66
- F = <64

Late Policy:

The nature of this online course does not allow for late work or a grace period. You are responsible for completing all assignments in a timely manner. Any work done after the deadline will not receive credit including partial credit.

Online Class Participation:

1. Participating online with other students is an important part of learning mathematics. Your grade will be directly related to the time and effort you invest in working the assigned homework.

It is common in a face to face lecture to discuss topics in person and with your peers. This is an important part of learning because it enhances your critical thinking skills. In a hybrid course this aspect of learning can be more difficult because we all connect remotely and not in person as often. The role of online discussions is an important part of learning in an online environment and serves as a substitute to the traditional in class discussion. Discussion questions will be posted on blackboard for you to respond to. These questions will enhance your learning and understanding by connecting the concepts from the textbook and lectures to real world situations and circumstances.

The grading for discussions will be based on the following criteria:

1. You should post your initial response by Wednesday, midnight of the week that the chapter falls on.
2. You will be required to respond to at least two posts by your classmates before Sunday, midnight. This does not mean posting on Sunday night when no one can read it. This means posting a couple of times each day throughout the week after reading your classmates posts and considering other approaches and ideas.
3. Your discussion posts should be thoughtful and represent understanding of the course material. Furthermore it should represent active participation where you consider posts by your classmates, discuss ideas from the textbook and lectures, find other relevant sources from the ULV Library, online, or elsewhere. Your grade on the discussions will reflect this.

2. Please note: Should you decide to drop this class, it is your responsibility to officially notify the Attendance Office. ULV Policy states that an “F” will be recorded as your class grade if you fail to drop the class by the deadline published in the schedule of classes.

Schedule of Online Discussion Questions:

Course Schedule:	Sections:	Discussion Question:
1	Chapter 1- Critical Thinking	Introduction: Please introduce yourself to the class. You should include the following: Let us know what "year" you are at ULV, your major, why you are taking this class, and what your math background is! Give an example of a situation where you would use inductive reasoning. Also respond to at least one classmates' example with constructive feedback.
2	Chapter 2-Set Math	Describe a set of elements that you find interesting (see examples from 2.1). Identify a subset from this set. Then draw the set and the subset in a Venn diagram and post it in the discussion for others to comment. You should comment on at least two classmates' discussion posts and identify an alternate subset related to the discussion post.
3	Chapter 5- Number Theory	Discuss the importance of number theory and what it is used for. Then provide an example from any society on the number system that is used and how it works. Comment on a fellow classmate's example of a

		number system and contrast the pros and cons of that system.
4	Chapter 6- Algebra, Functions, and Graphs	Read the "Mathematics Today" article on page 324 of chapter 6. Provide an interesting example that incorporates the concept of an inequality. Does the inequality provide any interesting insight? What if it were shown graphically? Try it! (You don't need to post the graph.)
5	Chapter 9- Mathematical Systems	Read example 1 on page 525. Define a mathematical system and provide an example. What type of group is it? Is it commutative? What is the mod on the system?
6	Chapter 10- Consumer Mathematics	Read the following Time Magazine Article: http://business.time.com/2012/07/03/consumers-prefer-to-get-more-rather-than-pay-less-because-theyre-bad-at-math/ . On page 566 in your text "Percent Markup and Markdown" exhibit a specific formula illustrating what the article was referencing. In your own experience, write about a specific example when you made a purchase based on a Percent markup or Markdown. How did the advertisement sway your decision? Did you compute the math correctly upon making the purchase?
7	Chapter 11- Probability	There are "n" candies in a jar. 7 if the candies are red. The rest of the candies are blue. Kevin takes at random a candy from the jar. He eats the candy. Kevin then takes at random another candy from the jar. He eats the candy. The probability that Kevin eats 2 red candies is: ? Design and share your own example demonstrating your knowledge on any concept from Chapter 11. At the end of your example, write the specific concept you demonstrated.

Homework:

1. Chapter homework assignments and subsequent updates are found in MyMathLab.
2. The homework for each chapter is due on or before the scheduled test time for the subject chapter(s). Specific homework due dates can be found in MyMathLab.

Homework assignments are given for you to practice the material covered in class. You are expected to do your homework weekly. The homework posted on MyLab has unlimited attempts and so starting early will ensure that you do well on the assigned problems.

Online Quizzes:

Online Quizzes are scheduled to be taken online in each module. The quizzes draw on the homework assignments to check for understanding and comprehension of the homework assignment.

Tests:

In class Tests are planned for the semester and will be given in class on each chapter. The tests will be designed to prepare you for the Final Exam and will draw on the lecture, discussions and online components.

Final Exam:

The Final Exam is comprehensive and will take place in the last week of the course.

Academic Dishonesty:

“The CBPM will follow current University policy found in the section of the Catalog entitled ‘Academic Honesty.’ Some of the key elements of that section are summarized below.

Each student is responsible for performing academic tasks in such a way that honesty is not in question. Unless an exception is specifically defined by an instructor, students are expected to maintain the following standards of integrity:

- * All assignments of all types are to be the work of the student or students presenting the material and only those students.
- * Any use of wording, ideas, or findings of other persons, writers, or researchers requires the explicit citation of the source. Use of the exact wording requires a “quotation” format.
- * Deliberately supplying material to another student for purposes of plagiarism or academic dishonesty is culpable.”

Disability Policy:

If you have a physical, psychological, and/or learning disability, which may affect your performance in this class, please contact the Student Disability Resource Center as soon as possible.

Additional Help:

The Learning Enhancement Center offers free peer tutoring during the week. Contact the center for exact hours or visit their website.

The instructor reserves the right to change this syllabus at any time.

Course Schedule:

Dates (tentative):	Module	Sections to be covered:	Assignments (online)	Assignments (onground)
Week 1	1	Chapter 1- Critical Thinking	Video: Inductive Reasoning Video: Deductive Reasoning Homework 1 <i>Assignments are due at the end of Week 2</i> Optional Assignments	Lecture
Week 2	1	Chapter 1- Critical Thinking	Video: Example: Problem Solving Using Integers Homework 1 Discussions 1 <i>Assignments are due at the end of Week 2</i> Optional Assignments	Lecture Tests 1
Week 3	2	Chapter 2- Set Math	Video: Sets, part 1 - what is a set? Video: Venn Diagrams - An Introduction	Lecture Test 2

			Homework 2 Quiz 2 Discussions 2 <i>Assignments are due at the end of Week 3</i> Optional Assignments	
Weeks 4	3	Chapter 5- Number Theory	Video: Finding the least (lowest) common multiple (LCM) using the upside down birthday cake method Video: Irrational Numbers Video: Basic Exponent Properties Homework 3 Quiz 3 Discussions 3 <i>Assignments are due at the end of Week 4</i> Optional Assignments	Lecture Test 3
Weeks 5	4	Chapter 6- Algebra, Functions and Graphs	Video: Linear Equations in One Variable Video: Solving an Equation for a Specified Variable Homework 4 Quiz 4 <i>Assignments are due at the end of Week 6</i> Optional Assignments	Lecture
Weeks 6	4	Chapter 6- Algebra, Functions and Graphs	Video: Solving Systems of Equations - Elimination Method Video: Solving Linear Systems Substitution Method Video: Solve System of Equations Containing Fractions Using the Substitution Method Homework 4 Discussions 4 <i>Assignments are due at the end of Week 6</i> Optional Assignments	Lecture Test 4
Week 7	5	Chapter 9- Mathematical Systems	Video: Modular Arithmetic Examples Video: Commutative & Associative Properties of Addition Homework 5 Quiz 5 Discussions 5 <i>Assignments are due at the end of Week 7</i> Optional Assignments	Lecture Test 5
Week 8	6	Chapter 10- Consumer Mathematics	Video: Compound Interest Problems Video: Introduction to Mortgage Loans Homework 6 Quiz 6 Discussions 6 <i>Assignments are due at the end of Week 8</i> Optional Assignments	Lecture Test 6
Week 9	7	Chapter 11- Probability	Video: Expected Value Video: Mutually Exclusive	Lecture Test 7

			Homework 7 Quiz 7 Discussions 7 <i>Assignments are due at the end of Week 9</i> Optional Assignments	
Week 10	7	Chapter 11- Probability	Video: Conditional Probability Homework 7 Quiz 7 Discussions 7 <i>Assignments are due at the end of Week 10</i>	Lecture Test 7 Final Exam