MATH 106 6381 Finite Mathematics (2182)

MATH-106

Spring 2018 Section 6381 3 Credits 01/08/2018 to 03/04/2018

Faculty Contact

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Course Description

(Not intended for students planning to take MATH 107 or higher-numbered mathematics courses.) Prerequisite: MATH 012 or an appropriate result on the placement test. A study of mathematical models in finite mathematics, including linear models, systems of linear equations, linear programming, sets and counting, probability, descriptive statistics, and the mathematics of finance. The aim is to demonstrate fluency in the language of finite mathematics; find, solve, and graph linear equations and inequalities; describe sample spaces and event; assign probabilities to events and apply probability rules; and apply the mathematics of finance to formulate and solve problems.

Course Introduction

Critical-thinking skills are essential to daily life. In this course, we will examine mathematical models in finite mathematics and sharpen our problem-solving skills. This course emphasizes the application of these skills to fields extending from business to sports.

We will

- analyze linear models and systems of linear equations, working with applications ranging from supply and demand to nutrition
- solve optimization problems, allocating resources efficiently to maximize profit or minimize cost
- count possibilities for events and study probability, the mathematics of chance
- apply the tools of descriptive statistics to organize and analyze data drawn from the real world
- explore applications in financial management and learn the effects of time and interest rates on saving or borrowing money

access, analyze, interpret and evaluate information to foster learning and to guide decision-making

Course Outcomes

After completing this course, you should be able to

- demonstrate fluency in the language of finite mathematics and communicate mathematical ideas using appropriate terminology and technology
- find, solve, and graph linear equations and inequalities in two variables; use Gaussian elimination to solve systems of linear equations; and apply graphical techniques to solve linear programming problems
- describe and perform operations on sets and apply counting principles using Venn diagrams, inclusion-exclusion and multiplication principles, and the permutation and combination formulas

- describe sample spaces and events, assign probabilities to events, and apply probability rules, including those for independent events, conditional probability, and discrete probability distributions
- organize, visually represent, and measure central tendency and variance of data, applying tools of descriptive statistics
- apply the mathematics of finance to formulate and solve problems involving simple interest, compound interest, annuities, and amortized loans
- use mathematical modeling to translate, solve, and interpret applied problems related to linear modeling, systems of linear equations, linear programming, counting, probability, statistics, and finance

Course Materials

Click to access your course materials information (http://webapps.umuc.edu/UgcmBook/BPage.cfm?C=MATH%20106&S=6381&Sem=2182)

Class Guidelines

WELCOME TO THE "NEW ACADEMIC MODEL" VERSION OF MATH 106 !

Our Spring 2017 section of MATH 106 is the third "beta test" of this course format. Our section's classroom is configured to present you Finite Mathematics in the format of UMUC's "New Academic Model". This is a competency-based education model where emphasis shifts from memorizing knowledge and preparing for exams to completing tasks that demonstrate mastery of competencies. Our class is designed around projects you will complete to demonstrate mastery of stated competencies. Some of the things you'll find "different" about this class:

- You are in charge of your learning! You have 8 weeks to complete the course, but *how* you do it and *the pace* at which you do it is up to you. There are still deadlines (see the "Course Schedule" section of this Syllabus), but these are meant to keep you on track to master all the competencies you need to demonstrate to complete MATH 106.
- There are no single-attempt "quizzes" in this class; instead you perform graded "competency skills reviews". Multiple attempts are allowed, so you can master the skills you need to complete MATH 106.
- The three "competency demonstration projects" are the major graded assessments. Once you submit the project, you'll receive feedback and an opportunity to make revisions and resubmissions for better scores.

But there's one thing you'll still find the same:

- There's a "comprehensive competency assessment" (Final Exam) at the end of the course!

MATH 106 COMPETENCIES

MATH 106 competencies are derived from UMUC "Learning Outcomes" for the course. They're grouped into three levels:

- 100 Level: Introduction to Fundamentals
- 200 Level: Introduction to Competency Skills
- 300 Level: Demonstration of Competencies

Each level's tasks build on the tasks completed in previous levels. Here are the competencies you're expected to master in order to successfully complete MATH 106:

Competency	Description

101	Demonstrate fundamental knowledge of information found in course syllabus and fundamental ability to navigate LEO classroom
201	Demonstrate proficiency in formulating and solving mathematics of finance problems involving simple interest, compound interest, annuities, and amortized loans
202	Demonstrate proficiency in defining, solving, and graphing linear equations and inequalities in two variables
203	Demonstrate proficiency in defining and solving systems of linear equations and inequalities; and applying graphical techniques to solve linear programming problems
204	Demonstrate proficiency in describing and performing operations on sets; and in applying counting principles using: • Venn diagrams • contingency tables • inclusion-exclusion and multiplication principles, and • permutation and combination formulas
205	Demonstrate proficiency in describing sample spaces and events, assigning probabilities to events, and applying probability rules, including those for: • independent events, • conditional probability, and • discrete probability distributions
206	Demonstrate proficiency in organizing and visually representing data, numerically and graphically measuring relationship between responses and frequency of responses, and in determining measures of central tendency and variation of data in sets/samples/populations
207	Demonstrate proficiency in identifying normal data distribution and in determining relationship between probability and measures of central tendency and variation
301	Demonstrate mastery of "math of finance" competencies (201) through application of skills in completing a home-purchase project using fixed-rate mortgage loan financing
302	Demonstrate mastery of linear modeling and analysis competencies (202, 203, 204) through application of skills in completing a modeling & analysis project
303	Demonstrate mastery of probability, describing data, and introduction to statistics competencies (205, 206, 207) through application of skills in completing a probability & statistics project

You'll see references made to these competencies and the individual skills you'll learn and apply throughout this course.

PREPARE TO GET STARTED!

Within the **Content** section of your classroom, view the **Start Here** section to learn more about contacting faculty and to access the Classroom Walkthrough.

To succeed in an 8-week mathematics course, it is important to complete all assignments on time. Print out a copy of the Course Schedule and keep it in a place where you can consult it daily.

Log into our online classroom regularly to read news, participate in discussions, and post questions. After posting work in a competency skills review or project, check back to read feedback and make any desired skills review re-attempts or project resubmissions in order to improve score.

Questions of general interest to the class should be posted in the “Have a Question?” discussion. For questions pertaining to your own work in the course, please send an e-mail with our course name in the subject line.

Once you've gone through this syllabus and navigated around our LEO classroom, be sure to complete the Syllabus & Classroom Knowledge Assessment found in "Quizzes and Exams" under the *My Tools* link in our LEO classroom's NavBar as soon as you can but *before the end of Week 1*! See "Grading Criteria" section of this syllabus for more info on this assessment.

✔ Grading Information

You are responsible for the following graded items:

Component	**Percentage**
Syllabus & Classroom Knowledge Assessment	4%
Participation: Competency Skills Reviews (7 at 3% each)	21%
Loan Competency Demonstration Project	20%
Modeling & Analysis Competency Demonstration Project	20%
Probability & Statistics Competency Demonstration Project	20%
Comprehensive Competency Assessment (Final Exam)	15%
Total	**100%**

To calculate your final course grade, you may use this formula: 0.04 x (percentage score on Syllabus & Classroom Knowledge Assessment) + 0.21 x (average of percentage scores on competency skills reviews) + 0.20 x (loan project percentage) + 0.20 x (modeling & analysis project percentage) + 0.20 x (statistics project percentage) + 0.15 x (comprehensive competency assessment/final exam percentage score).

The work to do in this course consists of

- weekly reading assignments (7) (ungraded)
- weekly homework assignments (7) (ungraded)
- syllabus & classroom knowledge assessment (graded)
- weekly competency skills review participation (7) (graded)

- competency demonstration projects (3) (graded)
- Comprehensive competency assessment (final exam) (graded)

These course components are described below.

Weekly Reading Assignments (Ungraded)

Even though there is no numerical score associated with the weekly reading assignments, how well you do in the course depends heavily on how conscientiously you follow the reading assignments.

When doing the reading for this course, you need to ***slow down!***

Reading mathematics is not like reading anything else. You need to look carefully at the numbers and formulas and spend time making sure you understand them and that they make sense. Reading any mathematical text can take three to four times longer, per page, than reading a non-mathematical text.

Homework (Ungraded)

There are ungraded homework assignments in each of the first seven weeks of class. The homework assignments give you practice in solving problems associated with each week's topics. Your aim should be mastery of all concepts, and you will be given opportunities to succeed in solving all of the problems every week. As completing the homework problems on time will help you understand and master the topics, plan your weeks according to the schedule. Even though there is no numerical score associated with the weekly homework assignments, how well you do in the course depends on how conscientiously you do the homework assignments. During each of the first seven weeks of class, there will be a selection of exercises available. See the Course Schedule for assignment dates in each week.

Syllabus & Classroom Knowledge Assessment

An important competency in any workplace environment is understanding and acknowledging what is required to complete tasks. Your employer or supervisor informs you what is expected of you at work; this Course Syllabus is the primary way your instructor informs you what's expected of you in this course. You are responsible for reading and understanding all the information found in this Course Syllabus, and for completing the Syllabus & Classroom Knowledge Assessment (found in "Quizzes and Exams" under the *My Tools* link in our LEO classroom) *no later than the end of Week 1*. This graded assessment can be taken multiple times up to the end of Week 1. It's designed to get you to read and understand the Course Syllabus and to learn where to find things in our classroom - at the beginning of class - so that the one thing you'll never be able to say in this class is "I didn't know what was expected of me"!

Participation: Competency Skills Reviews

By registering for a Web-based course, you have made a commitment to participate in course discussions and online activities. Plan to participate regularly. Participation for this course is defined as proactive discussion and work to learn & master competencies. This requires you to actively reflect on weekly readings, learn the competency skills found in them, and demonstrate understanding of the competency skills. Where authorized, you are encouraged to respond to other students as well as to your instructor. You are expected to adhere to the general rules of online etiquette.

For individual participation on an ongoing basis, there are competency skills reviews for Weeks 1 through 7 posted in "Quizzes and Exams" under the *My Tools* link in our LEO classroom. These reviews are drawn primarily from the exercises in your OER (open e-resource) e-texts. You earn participation credit for Weeks 1 through 7 of the term by completing the competency skills review for each of these weeks.

Competency skills reviews are open book, open-notes. The competency skills review for each week is posted in "Quizzes and Exams" under the *My Tools* link in our LEO classroom, with students' initial submissions due at the end of that academic week. Competency skill review responses may be submitted with attached files such as

Microsoft Word documents, or with handwritten and scanned documents. For each competency skills review, you will earn up to 100 participation points for the accuracy of your solutions. You'll get feedback and the opportunity to attempt the review again for a better score. The goal of online participation in competency skills reviews is to help you learn & master the competency skills you'll need to apply in completing the course projects.

You may earn a total of 700 online participation points (7 reviews at 100 points each is the maximum for regular participation credit).

At the end of the term, your total number of participation points will be multiplied by 1/7 to arrive at a percentage, and that score will count 21 percent toward your final grade. For instance, a total of 700 participation points corresponds to the participation percentage 700(1/7) = 100%.

Competency Demonstration Projects

You are required to complete three competency demonstration projects in this course in order to demonstrate mastery of the competencies required to complete MATH 106. See the **Competency Demonstration Project Descriptions** section of the syllabus for details.

Comprehensive Competency Assessment (Final Examination)

All sections of this course have a required comprehensive competency assessment (the final examination), administered in a 72 hour period during Week 8, the last week of the course.

The comprehensive competency assessment is "open-book": you may use anything found in our LEO classroom to help you complete the assessment (including posted feedback and completed examples). The assessment consists of multiple-choice and short answer questions. **However, you are required to show your work and calculations, where requested, in order to receive full credit.**

The assessment must be individually completed and represent your own personal work. Collaboration or consultation with others is <u>not</u> allowed. Use of any instructors' solutions manuals for any text or e-text is <u>not</u> allowed. Use of any online problem-solving service (Homework Raptor, Chegg, etc) is <u>not</u>allowed! Any evidence that a student even contacted or consulted an online problem-solving service SHALL result in a formal academic integrity violation charge being filed in accordance with UMUC Academic Policy 150.25.

The solutions for the comprehensive competency assessment (final exam) will not be posted.

You are expected to take the assessment as scheduled. In the event of illness or extraordinary circumstances, you must contact your faculty member and provide documentation to request an exception and approval to take a makeup assessment. If the request is not approved, the assessment/exam grade will be recorded as a zero.

Additional Information

Late Policy

One workplace competency common to all professions is *<u>submitting required work on time</u>*. In order to provide you the best opportunity to learn, understand, apply, get feedback, & master the competencies presented in MATH 106 there are deadlines for initial submissions of the graded course deliverables. These deadlines are found in the "Class & Assignment Schedule" section of this Syllabus. Meeting course deadlines is crucial for success in computer-mediated courses (whether hybrid or online-only). The following late policy applies to our MATH 106 course deliverables:

Course Deliverable	Best Grade You Can Get if Initial Submission/Attempt is "ON TIME" (by or before Published Deadline)	Best Grade You Can Get if Initial Submission/Attempt is "LATE" (after Published Deadline but before End of Course)
Homework	Ungraded	Ungraded
Participation: Competency Skills Review (Weeks 1 -7)	100 (A) (re-attempts are allowed after receiving feedback so students can master skills and improve their score)	79 (C) (re-attempts are allowed after receiving feedback so students can improve their score, but best grade possible is 79)
Competency Demonstration Projects	100 (A) (edits & resubmissions are allowed after receiving feedback so students can master competencies and improve their score)	75 (C) (edits & resubmissions are allowed after receiving feedback so students can improve their score, but best grade possible is 75)
Comprehensive Competency Assessment (Final Exam)	100 (A)	0 (F) (published deadline IS end of course!)

If an emergency situation occurs or a valid reason exists which results in you being unable to submit a course deliverable by the published deadline, I will give consideration to extension requests made BEFORE the deliverable's deadline only!

Guideline for Receiving Tutoring Services

We appreciate that many students may seek tutoring services to supplement our instructional program. However, tutors may not be used to complete any portion of assignments, projects, quizzes, and exams on behalf of students. Students are expected to submit their own work. Students who are suspected of submitting the work of their tutors will be reported to the dean's office for potential investigation.

If you are to receive tutoring services, inform your tutor of this expectation and clarify your tutor's role and responsibility to your academic endeavors at UMUC.

Project Descriptions

You are required to complete **three** competency demonstration projects to complete this course:

Loan Project: Buying a House

For this assignment, you will analyze a home mortgage loan. In our LEO classroom, navigate **Content > Competency Demonstration Projects > Loan Competency Demonstration Project** for detailed instructions.

Modeling & Analysis Project
For this project, you will:

- model a real-world organizational, business, or technical process using past and present data
- use that model to predict future performance of the process
- determine what process input values will optimize the process

In our LEO classroom, navigate **Content > Competency Demonstration Projects > Modeling & Analysis Competency Demonstration Project** for detailed instructions.

Probability & Statistics Project

For this assignment, you will implement a project involving probability determination, expected value, and data description using basic statistical procedures. The topic may be something that is related to your work, a hobby, or something you found interesting. In our classroom, navigate **Content > Competency Demonstration Projects > Probability & Statistics Competency Demonstration Project** for detailed instructions.

Academic Policies

Academic Policies and Guidelines

ACADEMIC INTEGRITY

As a member of the University of Maryland University College (UMUC) academic community that honors integrity and respect for others you are expected to maintain a high level of personal integrity in your academic work at all times. Your work should be original and must not be reused in other courses.

CLASSROOM CIVILITY

Students are expected to work together cooperatively, and treat fellow students and faculty with respect, showing professionalism and courtesy in all interactions. Please review the Code of Civility for more guidance on interacting in UMUC classrooms: https://www.umuc.edu/students/support/studentlife/conduct/code.cfm (https://www.umuc.edu/students/support/studentlife/conduct/code.cfm).

POLICIES AND PROCEDURES

UMUC is committed to ensuring that all individuals are treated equally according to Policy 040.30 Affirmative Action, Equal Opportunity, and Sexual Harassment (https://www.umuc.edu/policies/adminpolicies/admin04030.cfm).

Students with disabilities who need accommodations in a course are encouraged to contact the Office of Accessibility Services (OAS) at accessibilityservices@umuc.edu (mailto:accessibilityservices@umuc.edu), or call 800-888-UMUC (8682) or 240-684-2287.

The following academic policies and procedures apply to this course and your studies at UMUC.

150.25	Academic Dishonesty and Plagiarism (https://www.umuc.edu/policies/academicpolicies/aa15025.cfm) – UMUC defines academic dishonesty as the failure to maintain academic integrity. All charges of academic dishonesty will be brought in accordance with this Policy. ***Note:*** Your instructor may use **Turnitin.com**, an educational tool that helps identify and prevent plagiarism from Internet resources, by requiring you to submit assignments electronically. To learn more about the tool and options regarding the storage of your assignment in the Turnitin database go to: https://www.umuc.edu/library/libresources/turnitin.cfm (https://www.umuc.edu/library/libresources/turnitin.cfm).
151.00	Code of Student Conduct (https://www.umuc.edu/policies/studentpolicies/stud15100.cfm)
170.40 170.41 170.42	The following policies describe the requirements for the award of each degree: Degree Completion Requirements for the Graduate School (https://www.umuc.edu/policies/academicpolicies/aa17040.cfm) Degree Completion Requirements for a Bachelor's Degree (https://www.umuc.edu/policies/academicpolicies/aa17041.cfm) Degree Completion Requirements for an Associate's Degree (https://www.umuc.edu/policies/academicpolicies/aa17042.cfm)
170.71	Policy on Grade of Incomplete (https://www.umuc.edu/policies/academicpolicies/aa17071.cfm) - The mark of I is exceptional and considered only for certain courses. Students who have completed 60% of their coursework with a grade of B or better for graduate courses or C or better for undergraduate courses and request an I before the end of the term. The mark of I is not available for noncredit courses.
170.72	Course Withdrawal Policy (https://www.umuc.edu/policies/academicpolicies/aa17072.cfm) - Students must follow drop and withdrawal procedures and deadlines available at https://www.umuc.edu/ (https://www.umuc.edu/) under Academic Calendar.
130.80	Procedures for Review of Alleged Arbitrary and Capricious Grading (https://www.umuc.edu/policies/academicpolicies/aa13080.cfm) – appeals may be made on final course grades as described herein.
205.06	Calculation Of Grade-Point Average (GPA) for Inclusion on Transcripts and Transcript Requests (https://www.umuc.edu/policies/academicpolicies/aa20506.cfm) – Note: Undergraduate and Graduate Schools have different Grading Policies (i.e. The Graduate School does not award the grade of D). See Course Syllabus for Grading Policies.

GRADING

According to UMUC's grading policy, the following marks are used:

	Undergraduate	**Graduate**
A	90-100	90-100
B	80-89	80-89
C	70-79	70-79*
D	60-69	N/A**

F	59 or below	69 or below
FN	Failure-Non attendance	Failure-Non attendance
G	Grade Pending	Grade Pending
P	Passing	Passing
S	Satisfactory	Satisfactory
U	Unsatisfactory	Unsatisfactory
I	Incomplete	Incomplete
AU	Audit	Audit
W	Withdrew	Withdrew

* The grade of "B" represents the benchmark for The Graduate School. Students must maintain a Grade Point Average (GPA) of 3.0 or higher. Classes where final grade of C or F places a student on Academic Probation must be repeated.
** The Graduate School does not award the grade of D.

COURSE EVALUATION SURVEY

UMUC values its students' feedback. You will be asked to complete an online evaluation toward the end of the term. The primary purpose of this evaluation process is to assess the effectiveness of classroom instruction in order to provide the best learning experience possible and make continuous improvements to every class. Responses are kept confidential. Please take full advantage of this opportunity to provide your feedback.

LIBRARY SUPPORT

Extensive library resources and services are available online, 24 hours a day, seven days a week at https://www.umuc.edu/library/index.cfm (https://www.umuc.edu/library/index.cfm) to support you in your studies. The UMUC Library provides research assistance in creating search strategies, selecting relevant databases, and evaluating and citing resources in a variety of formats via its Ask a Librarian service at https://www.umuc.edu/library/libask/index.cfm (https://www.umuc.edu/library/libask/index.cfm).

EXTERNAL LINK DISCLAIMER

This course may contain links to external sites neither owned nor maintained by UMUC. UMUC bears no responsibility for the accuracy, legality, or content of external sites or for that of subsequent links. In addition, the terms of use, security policies, and privacy policies may differ from those of UMUC. Contact the external site for answers to questions regarding its content, terms of use, and policies.

LEARNING MANAGEMENT SYSTEM SUPPORT

To successfully navigate the online classroom new students are encouraged to view the Classroom Walkthrough under Help in the upper right menu of the LEO classroom. Those requiring technical assistance can access Help@UMUC Support directly in LEO under the Help menu. Additional technical support is available 24 hours a day, seven days a week via self-help and live chat at https://www.umuc.edu/help (https://www.umuc.edu/help) or by phone toll-free at 888-360-UMUC (8682).

SYLLABUS CHANGES

All items on this syllabus are subject to change at the discretion of the Instructor and the Office of Academic Affairs.

Class & Assignment Schedule

Week	Activities
1	**ALL Competency Skills Reviews and ALL Competency Demonstration Project assignments for the entire course are available for students to work on beginning Week 1 Day 1** **Week 1: (1/8-1/14)** • Competency 101 - Syllabus & Classroom Knowledge • Competency 201 - Mathematics of Finance **Read**: • eReadings: ◦ Applied Finite Mathematics, "Mathematics of Finance" (Chapter 9) ◦ Applied Finite Mathematics, "Mathematics of Finance: Homework" (Chapter 10) • Course Resources > UMUC Course Modules > Course Module 4 **Watch:** • **Content > Course Resources > Video Library > Video Library Topics for Weeks 1, 5, 6, 7**, select topics under *Finance* **Do**: • Post any questions in the "Have a Question?" discussion (if desired) • Week 1 Homework Assignment for Practice. See **Content > Homework for Practice > Week 1 Homework Instructions** • "Welcome! Please Introduce Yourselves" LEO Discussion Topic Participation: **due 1/14** • 101 - Syllabus & Classroom Knowledge Assessment **due 1/14** • Competency Skills Review - 201: Math of Finance **initial attempt due 1/14** • Work on Loan Project. See **Content > Competency Demonstration Projects > Loan Competency Demonstration Project** in our LEO classroom.

2	**Week 2: (1/15-1/21)** • Competency 202 - Linear Modeling **Read**: • eReadings: ◦ Basic Mathematics Review, Chapter 5 Sections 5.4 - 5.8 ◦ Basic Mathematics Review, Chapter 7, Sections 7.2 - 7.7 ◦ Precalculus, Chapter 2, Sections 2.4 and 2.5; and Chapter 9, Section 9.2 • Course Resources > UMUC Course Modules > Course Module 1, Topic I **Watch:** • **Content > Course Resources > Video Library > Video Library Topics for Weeks 2, 3, 4;** select topics under**:** ◦ *Linear Equations in 1 and 2 Variables* ◦ *Graphing Linear Equations* ◦ *Solving Linear Equation Applications* ◦ *Performing Linear Regression* ◦ *Linear Inequalities in 1 and 2 Variables* **Do**: • Week 2 Homework Assignment for Practice. See **Content > Homework for Practice > Week 2 Homework Instructions** • Competency Skills Review - 202: Linear Equations, Inequalities, and Modeling **initial attempt due 1/21** • Work on Loan Project. See **Content > Competency Demonstration Projects > Loan Competency Demonstration Project** in our LEO classroom.

3	**Week 3: (1/22-/1-28)** • Competency 203 - Linear Systems and Programming **Read**: • eReadings: ◦ Precalculus, Chapter 9, Section 9.2 ◦ Basic Mathematics Review, Chapter 7, Section 7.8 ◦ Applied Finite Mathematics, "Linear Programming - A Geometric Approach" (Chapter 5) ◦ Applied Finite Mathematics, "Linear Programming - A Geometric Approach: Homework" (Chapter 6) • Course Resources > UMUC Course Modules > Course Module 1, Topics I and II **Watch:** • **Content > Course Resources > Video Library > Video Library Topics for Weeks 2, 3, 4;** select topics under**:** ◦ *Linear Inequalities in 1 and 2 Variables* ◦ *Solving Systems of Equations and Inequalities in 2 Variables* **Do**: • Week 3 Homework Assignment for Practice. See **Content > Homework for Practice > Week 3 Homework Instructions** • Competency Skills Review - 203: Linear Systems and Programming **initial attempt due 1/18** • Complete and submit Loan Competency Demonstration Project: **initial submission due 1/28.** See **Content > Competency Demonstration Projects > Loan Competency Demonstration Project** in our LEO classroom • Work on Modeling & Analysis Competency Demonstration Project. See **Content > Competency Demonstration Projects > Modeling & Analysis Competency Demonstration Project** in our LEO classroom.

4	**Week 4: (1/29-2/04)** • Competency 204 - Counting **Read**: • eReadings: ◦ Applied Finite Mathematics, "Linear Programming - A Geometric Approach" (Chapter 5) ◦ Applied Finite Mathematics, "Linear Programming - A Geometric Approach: Homework" (Chapter 6) ◦ Applied Finite Mathematics, "Sets and Counting" (Chapter 11) ◦ Applied Finite Mathematics, "Sets and Counting: Homework" (Chapter 12) • Course Resources > UMUC Course Modules > Course Module 1, Topic II • Course Resources > UMUC Course Modules > Course Module 2, Topic I **Watch:** • **Content > Course Resources > Video Library > Video Library Topics for Weeks 2, 3, 4;** select topics under**:** ◦ *Linear Inequalities in 1 and 2 Variables* ◦ *Solving Systems of Equations and Inequalities in 2 Variables* • **Content > Course Resources > Video Library > Video Library Topics for Weeks 1, 5, 6, 7;** select topics under *Sets* **Do**: • Week 4 Homework Assignment for Practice. See **Content > Homework for Practice > Week 4 Homework Instructions** • Competency Skills Review - 204: Counting **initial attempt due 2/4** • Work on Modeling & Analysis Competency Demonstration Project. See **Content > Competency Demonstration Projects > Modeling & Analysis Competency Demonstration Project** in our LEO classroom.

5	**Week 5: (2/5-2/11) (THE HARDEST WEEK OF CLASS !!!!)** • Competency 205: Probability **Read**: • eReadings: ◦ Applied Finite Mathematics, "Probability" (Chapter 13) ◦ Applied Finite Mathematics, "Probability: Homework" (Chapter 14) ◦ Applied Finite Mathematics, "More Probability" (Chapter 15) ◦ Applied Finite Mathematics, "More Probability: Homework" (Chapter 16) • Course Resources > UMUC Course Modules > Course Module 3, Topic I **Watch:** • **Content > Course Resources > Video Library > Video Library Topics for Weeks 1, 5, 6, 7;** select topics under *Probability* **Do**: • Week 5 Homework Assignment for Practice. See **Content > Homework for Practice > Week 5 Homework Instructions** • Competency Skills Review - 205: Probability **initial attempt due 2/11** • Complete and submit Modeling & Analysis Competency Demonstration Project: **initial submission due 2/11.** See **Content > Compete4ncy Demonstration Projects > Modeling & Analysis Competency Demonstration Project** in our LEO classroom. • Work on data collection for Probability & Statistics Competency Demonstration Project. See **Content > Competency Demonstration Projects > Probability & Statistics Competency Demonstration Project** in our LEO classroom.

6	**Week 6: (2/12-2/18)** • Competency 206: Describing Data **Read**: • eReadings: Online Statistics Education: A Multimedia Course of Study: ◦ Chapter 1, Section: "Distributions" ◦ Chapter 2, Section: "Histograms" ◦ Chapter 3, Sections: ▪ "Measures of Central Tendency" ▪ "Measures of Variability" ◦ Chapter 5, Section: "Binomial Distributions" • Course Resources > UMUC Course Modules > Course Module 3, Topic II **Watch:** • **Content > Course Resources > Video Library > Video Library Topics for Weeks 1, 5, 6, 7;** select topics under**:** ◦ *Probability* ◦ *Describing Data* **Do**: • Week 6 Homework Assignment for Practice. See **Content > Homework for Practice > Week 6 Homework Instructions** • Competency Skills Review - 206: Probability **initial attempt due 2/18** • Work on Probability & Statistics Competency Demonstration Project. See **Content > Competency Demonstration Projects > Probability & Statistics Competency Demonstration Project** in our LEO classroom.

7	**Week 7: (2/19-2/25)** • Competency 207: Normal Data Distribution **Read**: • eReadings: Online Statistics Education: A Multimedia Course of Study: ◦ Chapter 7, Sections: ▪ "Areas of Normal Distribution" ▪ "Standard Normal" ▪ "Normal Approximation to Binomial" • Course Resources > UMUC Course Modules > Course Module 3, Topic II **Watch:** • **Content > Course Resources > Video Library > Video Library Topics for Weeks 1, 5, 6, 7;** select topics under**:** ◦ *Probability* ◦ *Describing Data* **Do**: • Week 7 Homework Assignment for Practice. See **Content > Homework for Practice > Week 7 Homework Instructions** • Competency Skills Review - 207: Normal Data Distribution **initial attempt due 2/25** • Complete and submit **Probability & Statistics Competency Demonstration Project**: **initial submission due 2/25**. See **Content > Competency Demonstration Projects > Probability & Statistics Competency Demonstration Project** in our LEO classroom.

8	**Week 8: (2/26-3/4)** **Review & Comprehensive Competency Assessment (Final Exam)** **Do**: • **Last opportunity to re-attempt Competency Skills Reviews and re-submit Competency Demonstration Projects: 3/1** • **Comprehensive Competency Assessment (Final Exam)**: **due 3/4** The **Comprehensive Competency Assessment** (Final Exam) will be available in LEO at 12:01 a.m. Eastern time on Friday, **3/2**. • The **Comprehensive Competency Assessment** is due 11:59 p.m. Eastern time on Sunday, **3/4**. It is open book and includes multiple-choice and short answer questions. However, you are required to show your work and calculations, where requested, in order to receive full credit. All 8 weeks of course material are covered. The assessment must be individually completed and represent your own personal work. Following is NOT allowed for the assessment: ◦ Collaboration or consultation with any other person(s); ◦ use of any instructors' solutions manuals for any text/e-text; ◦ use of any online problem-solving service. The solutions for the comprehensive competency assessment will not be posted.