

NEW HAMPSHIRE COMMUNITY TECHNICAL COLLEGE – LACONIA

379 Belmont Road
Laconia, NH 03246
(603) 524-3207

COURSE OUTLINE/SYLLABUS SHEET

- **COURSE NO:** MATH225L

- **COURSE TITLE:** Finite Math

- **CREDIT HOURS:** 4

- **SEMESTER:** Spring 2022

- **INSTRUCTOR:** Julie Morin, email jmorin@ccsnh.edu; phone 366-5233

- **OFFICE LOCATION:** Turner Building, Rm. 208a, (at back of room 208)

- **CONFERENCE HOURS:** Wed. & Thurs 1:00-3:00 via Zoom. Sometimes additional time or one-on-one assistance is needed. The instructor is normally available during the conference hours listed above-or you may make an appointment with the instructor for other times. **Due to COVID, please contact instructor to set up meeting time via phone or Zoom. Limited on campus meetings are available by appointment.**

- **PREREQUISITES:** MATH142L, MATH210L, or equivalent with a grade of C or better or competence demonstrated on math placement exam.

- **COURSE DESCRIPTION:** Topics in this course include linear, quadratic, exponential and logarithmic functions; financial formulas such as rate of change, growth, compounding, etc.; the use of matrices and linear programming techniques in solving multi-variable problems; basic set and probability theory with Venn diagrams, permutation/ combination formula analysis.

- **TEXT/INSTRUCTIONAL MATERIALS AND EQUIPMENT NEEDED:**
Access to Lumen OHM required. Text is Business Precalculus; Edition 0.1, by David Lippman. Students are required to use the Lumen OHM online program for all course work. Access code must be purchased through LRCC bookstore. Maintaining access to Lumen OHM is the student's responsibility. Temporary free access is available for 14 days; students must convert to permanent access before the 14 days expires. Students are responsible for resolving technical issues with Lumen Support, support@lumenlearning.com)

Graphing Calculator, such as TI-83 or higher model (May use free online calculators, although handheld is typically most convenient.)

- **GRADING:** The following criteria will determine your grade for the course:

<u>Category</u>	<u>Total Points</u>
Weekly Contact Assignments	10%
Homework	20%
Quizzes	10%
Exams	50%
<u>Final Exam</u>	<u>10%</u>
Total	100%

Weekly Contact Assignments will be part of each weekly Canvas Module. Weekly contact will vary from week to week. Examples of weekly contact are participation in a Zoom meeting or phone call, OHM Messaging, or office hour appointment. This is an online, asynchronous course so there will be flexibility regarding this contact. The instructor will work with students to determine the best approach. **No make-up assignments will be given; as weekly engagement is based on consistent and timely participation.**

Homework assignments are given for all sections covered in the text. Specific due dates for each homework assignment are posted in Canvas. Unlimited attempts are available on all homework problems. You are expected to complete these by the due dates; however, the assignments will remain open all semester so that you may still practice the concepts as needed. **No make-up assignments will be given for any homework; however, 1 low grade will be dropped.**

Quizzes are given for all sections covered in the text. These are set up to provide practice for the exams. Two attempts are allowed and the higher grade is counted in the final course grade. **No make-up assignments will be given for any quizzes; however, 1 low grade will be dropped.**

Exams must be taken on or before the scheduled dates. One attempt is allowed and all exam grades are counted in the final course grade. **All exams are included in final course grade.**

Late Work Policy: This course is online, but it is not self-paced. Weekly completion of assignments is critical to student success. Occasionally, a situation may arise that requires an exception. Each student has been given 5 Late Passes within Lumen OHM. A Late Pass enables access to an assignment past the due date.

Final course grades are assigned on the following basis:

	A	93 -100	A-	90 - 92	
B+	87 - 89	B	83 - 86	B-	80 - 82
C+	77 - 79	C	73 - 76	C-	70 - 72
D+	67 – 69	D	63 - 66	D-	60 - 62
F	< 60				

NEED FOR ASSISTANCE: Each student is assumed to be earnestly working to the best of his or her ability in the course. **It is the student's responsibility to be aware of his/her progress, and initiate a request for help.** The instructor is normally available during the conference hours listed above-or you may make an appointment with the instructor for other times.

Free tutoring may be available for students enrolled in courses at LRCC. Students needing tutoring services should email Gloria Moulton, gmoulton@ccsnh.edu to request a tutor.

COURSE OUTCOMES

- Graph linear functions and in "real-world" applications using a calculator graphing function.
- Use financial formulas to calculate simple interest, compound interest, present values, future values, annuities and amortization.
- Solve systems of equations graphically and with matrix operations
- Solve and interpret systems of linear inequalities
- Determine theoretical and empirical probabilities through the use of various probability formulas
- Create and use probability distributions to analyze data
- Analyze data using graphical analysis and descriptive statistics
- Recognize normal distributions and how to use their properties in real-life applications

COURSE COMPETENCIES

1. Solve linear equations and inequalities in one variable.
2. Use the slope/y-intercept form in graphing straight lines and linear inequalities.
3. Apply the concept of the linear function, $f(x) = ax + b$ in "real-world" situations.
4. Calculate simple interest, future & present value, for single investment situations.
5. Calculate future value, effective rate & present value of compounded dollars.
6. Calculate future & present value of ordinary annuities.
7. Apply the financial formulas in "real-world" situations.
8. Graph systems of linear inequalities.
9. Solve systems of linear equations using standard elimination method.
10. Graphically determine minimum and maximum values in linear programming exercises.
11. Solve systems of equations in 3 variables using the Gauss-Jordan method.
12. Add, subtract, & multiply matrices.
13. Apply matrix operations in "real-world" situations.
14. Solve matrix equations.
15. Use basic set operations of intersection, union and complement.
16. Construct Venn diagrams.
17. Determine probabilities of various simple events.
18. Determine the conditional probability of dependent events.
19. Evaluate factorials, permutations & combinations.
20. Use permutations & combinations operations in "real-world" situations.
21. Construct bar, pie, line graphs from data sets.
22. Analyze data sets using measures of central tendency and dispersion.
23. Normalize data and display it in a normal distribution graph

ATTENDANCE POLICY: It is my expectation that you will complete work each week according to the schedule posted in Canvas. If an absence is unavoidable, contact me as soon as you possibly can via phone, email, or at an office hour. I will do my best to help you determine how best to stay on track in the course.

Extended absence may result in your removal from the course. If you miss class for 3 consecutive weeks and do not contact me within that 3-week timeframe I will notify our campus counselor. If after 3 weeks you do not contact me, I will remove you from the course and record a grade of AF (Academic Failure).

Proposed Course Schedule (Spring 2022)

Instructor may announce changes to this schedule; students are expected to stay informed of schedule changes.

	CLASS TOPIC	HOMEWORK ASSIGNMENT
Week 1 1/18-1/24	Course Introduction- Set up Lumen OHM access Chapter 1, Functions and Lines Sections 1.1-1.3	Canvas-Week 1 Module- Complete OHM Student Assignment Tutorial, Homework 1.1-1.3, Quiz 1.1-1.3, Week #1 Contact
Week 2 1/25-1/31	Chapter 1, Functions and Lines Sections 1.4-1.5; Section 3.1, Inequalities and Absolute Value Functions	Canvas-Week 2 Module – Homework 1.4, 1.5, 3.1, Quiz 1.4, 1.5, 3.1, Week #2 Contact
Week 3 2/1-2/7	Chapter 1, Functions and Lines Sections 1.6-1.7; Section 2.1, Systems of Equations	Canvas-Week 3 Module – Homework 1.6, 1.7, 2.1, Quiz 1.6, 1.7, 2.1, Week #3 Contact
Week 4 2/8-2/14	Exam #1 (Ch. 1, Sections 2.1, 3.1)	Canvas-Week 4 Module - Exam #1, Week #4 Contact
Week 5 2/15-2/21	Chapter 2, Systems of Equations and Matrices, 2.2-2.4	Canvas-Week 5 Module- Homework 2.2-2.4, Quiz 2.2- 2.4, Week #5 Contact
Week 6 2/22-2/28	Chapter 3, Linear Programming. 3.2-3.5	Canvas-Week 6 Module - Homework 3.2-3.5, Quiz 3.2- 3.5, Week #6 Contact
Week 7 3/1-3/7	Review & Exam #2 (Chapters 2 & 3)	Canvas-Week 7 Module - Exam #2, Week #7 Contact
Week 8 3/8-3/13	Chapter 4, Polynomial and Rational Functions, 4.1-4.3	Canvas-Week 8 Module - Homework 4.1-4.3, Quiz 4.1- 4.3, Week #8 Contact
3/14-3/20	SPRING BREAK	
Week 9 3/22-3/28	Chapter 5, Exponential and Logarithmic Functions, 5.1-5.3	Canvas-Week 9 Module – Homework 5.1-5.3, Quiz 5.1- 5.3, Week #9 Contact
Week 10 3/29-4/4	Review & Exam #3 (Chapters 4 & 5)	Canvas-Week 10 Module - Exam #3, Weekly Contact #10
Week 11 4/5-4/11	Chapter 6, Finance, 6.1-6.4	Canvas-Week 11 Module - Homework 6.1-6.4, Quiz 6.1- 6.4, Week #11 Contact
Week 12 4/12-4/18	Exam #4 (Chapter 6) Chapter 7: Sets, 7.1-7.2	Canvas-Week 12 Module – Exam #4; Homework 7.1-7.2, Quiz 7.1-7.2, Week #12 Contact
Week 13 4/19-4/25	Chapter 8, Probability, 8.1, 8.2,8.4	Canvas-Week 13 Module –Homework 8.1, 8.2, 8.4, Quiz 8.1, 8.2, 8.4, Week #13 Contact
Week 14 4/26-5/2	Exam #5 (Chapters 7 & 8)	Canvas-Week 14 Module - Exam #5, Week #14 Contact
Week 15 5/3-5/5	Final Exam	Canvas-Week 15 Module – Final Exam

It is my hope that this course meets your every expectation as a challenging, engaging, and respectful learning experience. If you find this not to be the case, I would welcome the opportunity to address your concerns. This is not only a courtesy, it is a matter of process and procedure. Should we fail to arrive at a mutually satisfactory understanding, you should take the matter to my Program Coordinator, Matthew Simon, msimon@ccsnh.edu.