

## MATH 108-01 – Math Problem Solving

### COURSE SYLLABUS · FALL 2022

INSTRUCTOR: Roger Griffiths

OFFICE: Old Main 305

EMAIL: [rgriffiths@mercyhurst.edu](mailto:rgriffiths@mercyhurst.edu)

PHONE: (814) 824-2123

CLASS TIME: Mon, Wed, Fri: 9:00 - 9:50, (3 semester credits)

LOCATION: Hirt M214

WEB: [www.integral-domain.org/rgriffiths/courses/m108/](http://www.integral-domain.org/rgriffiths/courses/m108/)

TEXTBOOK: *Thinking Mathematically*, (8th edition) by Robert Blitzer  
MyLab Math with Pearson eText – 18-Week Instant Access  
ISBN-13: 9780137551354

#### OFFICE HOURS:

Mon: 12:00 - 12:50

Tues: 9:00 - 9:50 (Zoom)

Tues: 11:00 - 11:50 (Zoom)

Wed: 10:00 - 10:50

Thur: 8:00 - 8:50 (Zoom)

Fri: 10:00 - 10:50

## COURSE CONTENT

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This course is intended to put the mathematical skills you already have to good use, and learn some new ones along the way. We will see how mathematics can help us better understand the world around us. Most importantly, we'll understand how the strategies used to solve a specific problem can be expanded and used in a wide array of real life situations.

## LEARNING OBJECTIVES

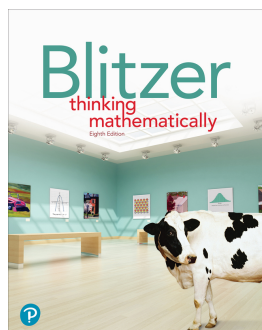
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On successful completion of the course, students will be able to:

- Interpret and formulate problems in the language of mathematics
- Display mastery of basic computational skills
- Solve problems using essential principles from geometry, algebra, and statistics
- Demonstrate the use of mathematical reasoning by justifying and generalizing patterns and relationships
- Demonstrate the use of basic mathematical processes and algorithms

## TEXTBOOK

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*Thinking Mathematically*, (8th edition) by Robert Blitzer You will need to purchase the *MyLab Math with Pearson eText – 18-Week Instant Access* version (ISBN-13: 9780137551354)

You will have to enroll using the course ID which will be provided in an e-mail.

## EVALUATION

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Your letter grade in this course will be based on:

- 100 points: **Quizzes** Your quiz average (percentage) out of 100 points, will drop 2 quiz scores
  - 400 points: **Exams:** 5 exams at 100 points each, *will drop low exam score*
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- 500 points: **Total points** in the course (There will be no final exam in this class)

And assigned according to the following scale:

Total Class Points	Percent %	Letter Grade
450 - 500	90 to 100	A
435 - 449	87 to 89	B+
400 - 434	80 to 86	B
385 - 399	77 to 79	C+
350 - 384	70 to 76	C
300 - 349	60 to 69	D
0 - 299	Below 60	F

- ✓ Your overall performance in the course is measured by the total number of points you accumulate relative to the maximum 500 points possible. Your letter grade in this course will be based on the distribution above, the standard scale used in the Mathematics Department.
- ✓ Class attendance and/or class participation is not factored into your grade.
- ✓ These are the only points possible in this class. Out of fairness to all students in the class, I do not give extra credit opportunities to improve your final grade.

## COURSE POLICIES

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- ✓ Handouts, slides, and other materials for this course will be posted on the course Blackboard site. If you are missing any materials, please check there.
- ✓ You are responsible for all that is announced or covered in class even if you are absent.
- ✓ You are responsible for all the material in a given section unless told otherwise, use the course schedule and suggested homework as a guide.
- ✓ A prerequisite for additional help outside the classroom is regular class attendance.
- ✓ You do not need to let me know if you will have to miss class.
- ✓ Every student is required to establish a *class contact*, that is, a fellow classmate that you may contact in case you are having a problem with a particular homework exercise at night/weekend or in the event you miss class. If you do miss class, please find out what was discussed in class and get the notes from your 'class contact'.
- ✓ My scheduled office hours are when I will be available to you, that means you do not have to let me know ahead of time that you are coming – simply drop in (either on Zoom or in person, which ever we decide in class).
- ✓ Email is great for **simple** communications, but for more complex issues please visit with me during office hours.
- ✓ Please read this syllabus and get clarification of any items you do not understand during the first week of class. So please do not send me an email asking me about something covered in this syllabus.

## HOMWORK

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I do not collect or grade your written homework. You will complete your homework using the MyLab Math application through Blackboard. You will receive feedback on that homework through MyLab Math.

## HOMWORK SUGGESTIONS

- The homework problems will be very similar to the quiz questions which will then be very similar to the exam questions.
- When you complete the homework you are checking your understanding of the material and getting to see the types of questions that will be asked on the quiz, both the content and the manner of answering.
- Homework is far and away the single most important part of any mathematics course because this is when most (all) of the learning takes place. Homework problems will be assigned for each class and you are encouraged to complete them before each quiz.
- If you have a question about the homework, it is quite likely someone else has the same question, so you are doing the entire class a favor by asking. Or you may ask during office hours.

## QUIZZES

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- Before you can get started with a graded quiz, you will need to complete the *Skills Check Quiz* on MyLab Math. This ungraded quiz is to help you get acquainted with MyLab Math and its expectations.
- Everyone is allowed to miss two quizzes without penalty (for any reason - including forgetting the quiz); thus, there are NO make up quizzes. If you end up taking all of the quizzes, your lowest 2 quiz scores will be dropped. If we end up taking 13 quizzes, then you will get to drop your lowest three quiz scores.
- The quizzes serve as an immediate assessment of the extent to which you mastered a particular assignment. Good quiz results should serve as positive feedback, but poor quiz results suggest that you must go back and master that material. Repeatedly failing quizzes will almost certainly lead to failing the course, you must take immediate and corrective action if you ever do poorly on a quiz.

## EXAMS

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- There will be five midterm exams given throughout the semester. There will be no final exam. The material on the exams will be very similar to topics covered on quizzes and homework.
- Your lowest exam grade (including a missed exam) will be dropped. A grade of 0 on an exam due to academic dishonesty will not be dropped. A second missed exam will receive a grade of 0 (zero).
- There will be no late '*make-up*' exams, as this is unfair to the rest of the class. If you know in advance you will not be available during the block of time an exam will be available, let me know well in advance of the exam.

## QUIZ AND EXAM POLICIES

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- All quizzes and exams will be delivered via MyLab Math; see section below for further information.
- If you experience any technical issues with a quiz/exam, let me know as soon as possible; you must let me know before the quiz closes.
- You will only have one chance to take each quiz/exam.
- You will not be able to change your responses after submitting. You will not be required to submit any written work for your quizzes or exams.

## YOU MAY:

refer to your textbook and course materials while taking quizzes and exams.

## MORE INFORMATION ABOUT QUIZZES AND EXAMS ON MYLAB MATH

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Pearson | MyLab | Math

MyLab Math is an online interactive and educational system designed by Pearson Education to accompany its published math textbooks, including homework, quizzes, tests, full eText, and multimedia tutorials.

### ACCESSING MYLAB MATH

At the beginning of the semester, you should access the Pearson MyLab Math portion of Blackboard; there is a link in the left menu: "MyLab Math".

You will need to be logged into Blackboard, what you see will depend on if you have signed in before.

### QUESTION STYLES

The quizzes and exams you will take on MyLab Math are based on homework problems from the textbook. Many questions are multiple choice, and others will require you to enter a numerical answer. When necessary, specific instructions will be provided with a question. Questions will be asked one at a time, so you can focus on each individual question as you work.

### TIME RESTRICTIONS

You will be required to finish each quiz or exam within a certain period of time (typically, 1 hour for quizzes and 2 hours for exams). Any work you have completed will be submitted at the end of this period, even if you have not finished the assessment.

### AVAILABILITY WINDOWS

Each quiz and exam can only be submitted during its availability window, on its due date. You will generally have a 12 hour period in which to complete a quiz or 17 hours for an exam.

Please note that once you begin a quiz or exam, you will be required to complete it within the given time period or before the end of the availability window, whichever comes first. For instance, if you have a 2 hour time limit on an exam that is due by midnight, starting the exam at 11 pm will give you only 1 hour to finish it. Be sure to allow yourself enough time to finish each assessment before you begin.

### GRADES

Your quiz and exam scores will be available immediately when the availability window closes. Correct answers and detailed solutions will be available the day after the quiz is available.

Grades will be transferred to Blackboard so you can keep track of your overall progress in the class. The gradebook for the class will be maintained on Blackboard.

### TECHNICAL SUPPORT

If you have questions or issues with the course itself, or if you encounter any problems with a quiz or exam, please notify me as soon as possible.

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## UNIVERSITY RESOURCES AND POLICIES

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### FOOD AND DRINK IN THE CLASSROOM

In light of the COVID-19 situation, eating is not permitted in classrooms, labs, or other academic spaces. A water bottle or cup with a lid (and preferably a straw) is permitted to be used in classrooms and labs.

### ADA ACCOMMODATIONS/ACADEMIC SUPPORT

Mercyhurst University values inclusion and is committed to the goal of providing equal opportunities for all. Mercyhurst abides by federal, state, and local laws in admissions, employment, academic programs, and all services provided.

Mercyhurst University is committed to complying with its obligations under the Americans with Disabilities Act (ADA), Section 504 of the Rehabilitation Act and the Fair Housing Act to ensure that a person with a disability is granted reasonable accommodations, when such accommodations are necessary, to afford that person equal opportunity to obtain a Mercyhurst education and use university facilities. Please refer to the HUB:

<https://lakersmercyhurst.sharepoint.com/sites/StudentsHub>

and select the Services tab, then ADA Accommodations from the dropdown for instructions to request an accommodation. You may also contact Susan Reddinger, ADA Coordinator, [ADA@mercyhurst.edu](mailto:ADA@mercyhurst.edu), 814-824-2362, Egan Hall 200.

For students with questions about Academic Support, please refer to the HUB:

<https://lakersmercyhurst.sharepoint.com/sites/StudentsHub>

and select the Academic Resources tab, then Academic Support for more information.

### TITLE IX SEXUAL MISCONDUCT/SEXUAL HARASSMENT REPORTING

Mercyhurst is committed to providing an environment free from sex discrimination, including sexual harassment and sexual violence. Please refer to the HUB:

<https://lakersmercyhurst.sharepoint.com/sites/StudentsHub>

and select the Resources tab, then Title IX – Sexual Respect from the dropdown for more information. If you would like to file a sexual misconduct complaint, please contact Ann Miller, Title IX Coordinator and Compliance Officer, [titleix@mercyhurst.edu](mailto:titleix@mercyhurst.edu), 814-824-2363. Please be aware that in compliance with Title IX, educators must report incidents of sexual assault/harassment, stalking, and domestic/dating violence. If you disclose any of these situations in class, in papers, or to me personally, I am required to report it to the Title IX Coordinator (or any of the Deputy Title IX Coordinators).

### ACADEMIC HONESTY

Students are required to uphold academic integrity throughout the course. In particular, the use of unauthorized materials or collaboration on quizzes or exams and other incidences of academic dishonesty will be handled according to the policies set forth in the Student Handbook.

MATH 108-01 · MATH PROBLEM SOLVING · TENTATIVE COURSE SCHEDULE · FALL 2022

Monday	Wednesday	Friday
	Aug 24 Course Introduction & MyLab Math	Aug 26 <i>Complete Quiz Tutorial</i> § 1.1: Inductive and Deductive Reasoning
Aug 29 § 1.2: Estimation, Graphs, and Mathematical Models	Aug 31 § 1.3: Problem Solving	Sep 2 <i>Quiz 1</i> § 1.3: Problem Solving Chapter Summary, Review
Sep 5 No Class: Labor Day	Sep 7 § 2.1: Basic Set Concepts	Sep 9 <i>Quiz 2</i> § 2.2: Subsets
Sep 12 § 2.3: Venn Diagrams and Set Operations	Sep 14 § 2.4: Set Operations and Venn Diagrams with Three Sets	Sep 16 <i>Quiz 3</i> § 3.1: Statements, Negations, and Quantified Statements
Sep 19 <b>NO CLASS MEETING</b> <b>EXAM 1</b>	Sep 21 § 3.2: Compound Statements and Connectives	Sep 23 <i>Quiz 4</i> § 3.3: Truth Tables for Negation, Conjunction, and Disjunction
Sep 26 § 3.4: Truth Tables for the Conditional § 3.5: Equivalent Statements	Sep 28 § 5.1: Number Theory: Prime and Composite Numbers	Sep 30 <i>Quiz 5</i> § 5.2: The Integers; Order of Operations
Oct 3 § 5.3: The Rational Numbers	Oct 5 § 5.4: The Irrational Numbers	Oct 7 <i>Quiz 6</i> § 5.5: Real Numbers and Their Properties
Oct 10 § 5.6: Exponents and Scientific Notation	Oct 12 <i>Quiz 7</i> § 6.1: Algebraic Expressions and Formulas	Oct 14 No Class: Fall Break
Oct 17 <b>NO CLASS MEETING</b> <b>EXAM 2</b>	Oct 19 § 6.2: Linear Equations in One Variable and Proportions	Oct 21 <i>Quiz 8</i> § 6.3: Applications of Linear Equations
Oct 24 § 6.4: Linear Inequalities in One Variable	Oct 26 § 6.5: Quadratic Equations	Oct 28 <i>Quiz 9</i> § 7.1: Graphing and Functions
Oct 31 <b>NO CLASS MEETING</b> <b>EXAM 3</b>	Nov 2 § 7.2: Linear Functions and Their Graphs	Nov 4 <i>Quiz 10</i> § 7.3: Systems of Linear Equations in Two Variables
Nov 7 § 7.6: Modeling Data: Exponential, Logarithmic, and Quadratic Functions	Nov 9 § 8.1: Percent, Sales Tax, and Discounts	Nov 11 <i>Quiz 11</i> § 9.1: Measuring Length; The Metric System
Nov 14 § 9.2: Measuring Area and Volume	Nov 16 § 10.2: Triangles	Nov 18 <b>NO CLASS MEETING</b> <b>EXAM 4</b>
Nov 21 § 10.4: Area and Circumference	Nov 23 No Class: Thanksgiving	Nov 25 No Class: Thanksgiving
Nov 28 § 11.1: The Fundamental Counting Principle	Nov 30 § 11.2: Permutations	Dec 2 <i>Quiz 12</i> § 12.1: Sampling, Frequency Distributions, and Graphs
Dec 5 § 12.2: Measures of Central Tendency	Dec 7 <i>Quiz 13</i> - Review -	Dec 9 <b>NO CLASS MEETING</b> <b>EXAM 5</b>