University of New Hampshire at Manchester
Department: Mathematics and Statistics
Math 418: Analysis and Applications of Functions
CRN: 51929   Credits: 4

Adjunct Instructor: Lesley Fallu
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Fall 2025: 8/25/25 – 12/10/25
M/W; 3:10 – 5:00; Room P102

This syllabus contains the following:
>   Pages 1-3: Course Expectations and Grading Information
>   Pages 4-5: Tentative Course Schedule (Assignments and Assessments)
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Course Overview: This course provides the necessary background for you to be successful in Calculus I. Concepts from Algebra and Geometry will be combined in the study of functions. It is hoped that you will discover the power of mathematics as you study the properties and graphs of polynomial, rational, exponential, logarithmic, and trigonometric functions. This course is intended for students planning to take MATH 425 Calculus I. This course is not offered for credit if credit is received for MATH 425 Calculus I or MATH 426 Calculus II.

Office Hours: I will be available from 1:30 – 3:00 on M/W, room 115. You do not need an appointment to stop by during these hours. If these times are not convenient, please email to schedule a different time. I am only on campus on Mondays and Wednesdays. If Room 115 is not available on a certain day, I will schedule a different room.

Textbook: *Precalculus 2e*; Jay Abramson; OpenStax Rice University 2021; ISBN-13: 978-1-711494-00-5. This textbook is embedded into MyCourses (canvas), section by section. However, it can be downloaded at no cost and is available in web view or pdf format. The pdf version is better for doing assigned problems. The printed version of the book is available on Amazon. Use the link provided at Openstax.org.

Course Structure: MyCourses (canvas) is the learning management tool we use for this course. The course includes modules for each week outlining sections to be covered as well as videos to support your learning. MyOpenMath assignments are embedded within canvas and available under the "Assignments" tab.

Assignments: Most homework assignments are done using the online platform, MyOpenMath, which is embedded in MyCourses (Canvas). You <u>do not</u> need to go to a different website. You can access the homework assignments for each class immediately following the lecture. Although your answers are posted online, <u>you must have a notebook containing all of your work</u>. This notebook will be checked periodically. All homework assignments have a due date which is approximately 4 days after the open date. There are two late passes for MyOpenMath assignments which you can access if necessary. The late passes will give you an extra 2 days on the assignment. If you start an assignment but leave it unfinished for a while, MyOpenMath may shut you out of that assignment, unless you use a late pass.

There are several other classwork or homework assignments, Written Assignments, either on handouts or from the textbook. These will be collected at the beginning of the class on the due date. Late passes <u>cannot</u> be used on these assignments. Late work on these assignments will receive an automatic 50% reduction in the grade. Additional practice problems may be recommended but not required. To be successful in this course, you should do as many different types of problems as possible and stay current with all assignments.

Calculators: Most of the time, we will not be using calculators. However, at times, we will use graphing or scientific calculators to enhance learning. For graphing calculators, TI-83 and TI-84, or the equivalent, are acceptable, but not

the TI-89 or TI-92. Calculators will be used for some of the trigonometry as well as for the exponential and logarithmic applications. Some of the homework and assessments require a calculator. Note: A cell phone **may not** be used in place of a calculator.

Temporary Academic Supports for Extended Absences with Letter: If you are dealing with an unexpected, extenuating circumstance that will keep you out of class or affect your performance for more than a day or two, reach out to Lisa Enright, Assistant Dean of Student Success, at lisa.enright@unh.edu to request a letter be sent to all your faculty. If you are required to miss significant class time, you will be provided temporary academic supports so that you can continue to make satisfactory progress in this course. Please contact your course instructor to discuss the specific types of supports that will be implemented during your absence

Assessments: Most quizzes will be given at the **end** of the class on selected days. Quiz problems are based on those in the homework assignments, classroom problems, and lecture material. The lowest quiz grade will be dropped if all quizzes have been taken. If you are absent for a quiz, you might receive a zero for the missed quiz. No quizzes, tests, exams can be scheduled during the last five days of the semester.

If you are absent on the night of an exam, you may be able to schedule a make-up exam. This is at my discretion, based on the reason for the absence. There is no obligation to provide such exams. If you have a valid reason to miss class on the night of an exam, please inform me as soon as possible before the exam. We all realize that emergencies do occur, but make-ups will only be allowed for genuine emergencies.

Participation and Attendance: This part of your grade is based on your attendance and effort in this class. These will be judged on your willingness to complete all of your work, to participate in class, to be on time and present for every class, and to comply with UNH and classroom policies, including the electronic device policy. Although subjective, this should be an easy way for you to improve your overall grade and to help ensure that we all have a positive learning environment.

- Students are expected to attend all classes in person. Attendance is crucial to your success. If possible, notify me in advance if you know you will miss a class. Your attendance grade will be decreased for each unexcused absence. See the Attendance and Class Requirements policy in the undergraduate catalog.
- All students are entitled to a positive learning environment without distractions. If you are late to class, please be considerate of others, and quietly take a seat. There is no scheduled break between 3:10 and 5:00. Please do not make a habit of leaving the classroom during the class. **Cell phones are not to be used during class.**
- If the university curtails operations due to weather, we will not hold in-person activities for our safety and the safety of others. As soon as possible, I will post an announcement on Canvas about due dates, any make-up work, and (*if applicable*) any online options that may make sense depending on where we are in the course. Please make sure you have access to the UNH Alert RAVE system. If needed, sign up for RAVE Alerts here.
- The best way to prepare for class is to read the assigned sections prior to the class. Hopefully, the lecture and class activities will reinforce the reading. It is best to complete the assignments as soon as possible after the lecture. Any questions that you have can be addressed at the beginning of the class, or in a help session.

Grading Procedures: Grades will be posted in MyCourses (Canvas). Your grade will be determined as follows:

Attendance/Participation   5%

Quizzes   20%   *The lowest quiz grade will be dropped if all quizzes have been taken.

MyOpenMath HW   10%   *For MyOpenMath assignments only, if you earn 82% or better on a homework assignment, that grade will be counted as 100%.

Written Assignments   5%   *Late passes not accepted. Late work reduced to 50% of your score.

Exam 1, 2   20%   *for each exam

Final Exam   20%   *12/10/25

Letter grade equivalences are given below.

A	92.5-100
A-	90 -92.4
B+	87.5-89.9
B	82.5-87.4

B-	80-82.4
C+	77.5-79.9
C	72.5-77.4
C-	70 -72.4

D+	67.5-69.9
D	62.5-67.4
D-	60 -62.4
F	below 60

The Tentative Course Schedule is continued on the next page.

Date	Sections	Topics	Assignments MyOpenMath unless otherwise noted	Due Dates
Mon. 8/25/25	1.1	Syllabus Overview; Introduction to MyOpenMath; Introduction to MyCourses; Intro to Functions	1.0 Intro to MyOpenMath 1.1 Functions, Function Notation	8/29/25
Wed. 8/27/25	1.2	Domain and Range	1.2	8/31/25
Mon. 9/1/25		Labor Day – No Classes		
Wed. 9/3/25	1.5	Toolkit Functions; Transformations of Functions	1.2, 1.5	9/7/25
Mon. 9/8/25	1.4	Composition of Functions **QUIZ 1 (Sections 1.1, 1.2)**	1.4	9/12/25
Wed. 9/10/25	1.7	Inverse Functions	1.7 and Written Assignment	9/14/25 9/15/25
Mon. 9/15/25	3.1	Complex Numbers **QUIZ 2 (Sections 1.4, 1.5)**	3.1	9/19/25
Wed. 9/17/25	3.2	Quadratic Functions	3.2	9/21/25
Mon. 9/22/25	3.3, 3.4	Power Functions and Polynomial Functions; Graphs of Polynomial Functions	3.3, 3.4	9/26/25
Wed. 9/24/25	3.5, 3.6	Dividing Polynomials; Zeros of Polynomial Functions **QUIZ 3 (Sections 3.2, 3.3, 3.4)** Distribute Review for Exam 1	3.5, 3.6	9/28/25
Mon. 9/29/25	3.7	Rational Functions Review for Exam 1	3.7	10/5/25
Wed. 10/1/25		**EXAM 1 (Ch. 1, Ch. 3, not 3.7)**		
Mon. 10/6/25	4.1, 4.2	Exponential Functions; Graphs of Exponential Functions	4.1, 4.2	10/10/25
Wed. 10/8/25	4.3, 4.4	Logarithmic Functions; Graphs of Logarithmic Functions **QUIZ 4 (Section 3.7)**	4.3, 4.4	10/14/25
Mon. 10/13/25		Fall Break – No Classes		
Wed. 10/15/25	4.5	Logarithmic Properties	4.5	10/19/25
Mon. 10/20/25	4.6	Exponential and Logarithmic Equations	4.6	10/24/25
Wed. 10/22/25	4.7	Applications of Logarithmic Functions **QUIZ 5 (Sections 4.1 – 4.5)**	4.7 Written Assignment	10/26/25 10/27/25

Mon. 10/27/25	5.1	Angles	5.1	10/31/25
Wed. 10/29/25	5.2	The Unit Circle: Sine and Cosine Functions **QUIZ 6 (Sections 4.5, 4.6)**	5.2	11/2/25
Mon. 11/3/25	5.3	The Other Trig Functions	5.3	11/7/25
Wed. 11/5/25	5.4	Right Triangle Trigonometry **QUIZ 6 (Sections 5.1, 5.2)** Distribute Review for Exam 2	5.4 and Written Assignment	11/9/25 11/10/25
Mon. 11/10/25	6.1	Graphs of the Sine and Cosine Functions **Review for Exam 2**	6.1	11/16/25
Wed. 11/12/25		**EXAM 2 (Ch. 4 and Ch. 5 – not 5.4)**		
Mon. 11/17/25	6.2	Graphs of the Other Trigonometric Functions **QUIZ 7 (Sections 5.4)**	6.2	11/21/25
Wed. 11/19/25	6.3	Inverse Trigonometric Functions	6.3	11/23/25
Mon. 11/24/25	7.1	Solving Trigonometric Equations with Identities	7.1 and Written Assignment	11/28/25 12/1/25
Wed. 11/26/25		Thanksgiving Break – No Classes		
Mon. 12/1/25	7.5	Solving Trigonometric Equations **QUIZ 8 (Sections 6.1, 6.2, 6.3)**	7.5	12/5/25
Wed. 12/3/25	7.2, 7.3	Sum and Difference Identities; Double Angle Identities	7.2, 7.3	12/7/25
Mon. 12/8/25		**Review for Final Exam**		
Wed. 12/10/25		**Final Exam**		

UNH policies and important information are continued on the next page.

UNH Expectations

- **Course Workload and Credit Hour:** The University is in compliance with the federal definition of credit hour. For each credit hour, the University requires, at a minimum, the equivalent of three hours of student academic work each week assuming a 15-week semester, approximately 45 hours of work per credit per term.

- **Academic Integrity and AI**: Please familiarize yourself with all UNHM policies and procedures, particularly those regarding plagiarism and cheating. Neither one is tolerated. Information is available at these websites: University Academic Honesty Policy and Tutorial on Plagiarism. Unless otherwise specified, the use of Automated Writing Tools, including ChatGPT and similar artificial intelligence (AI) tools is strictly prohibited in this course, even when properly attributed. The use of such tools is considered plagiarism (as defined by UNH's Academic Integrity Policy) and will be handled in accordance with the existing policy.

- **Academic Alerts:** The University is invested in your academic success, and myWildcatSuccess is a tool to help you, your faculty, and your advisors communicate. If a faculty member is concerned about your academic behavior or performance, they may submit an academic alert -- particularly around Week 5. Academic alerts **are not** punitive. The goal is to provide you with support and resources to support your success. If you receive an academic alert, you and your advisor will receive an email. Alternately, find your Progress Reports under the Reports tab in myWildcatSuccess. If you receive an alert, please meet with your faculty member or your advisor about the concern. The purpose of these alerts is to encourage you to visit the campus resources you need early on, so that you can get back on track for a successful semester.

- **Classroom Environment**: In order to provide a positive learning environment, we are all expected to be respectful of each other at all times. Open and respectful questioning is central to learning. Diverse opinions enrich the educational environment. If you have any concerns about the classroom environment, please let me know immediately.

- **Behavioral Expectations**: To ensure a climate of learning for all, disruptive or inappropriate behavior may result in removal from this class. As a reminder, cell phone use, including texting, videotaping and recording is not permitted in this class by Faculty Senate rules unless by instructor permission.

- **Religious or Cultural Holidays**: If you need an accommodation for a religious or cultural holiday/observance, you are encouraged to make the request as early as possible in the semester.

UNH Referral Resources

- **Confidentiality and Mandatory Reporting of Sexual Violence or Harassment:**
The University of New Hampshire and its faculty are committed to assuring a safe and productive educational environment for all students and for the university as a whole. To this end, the university requires faculty members to report to the university's Title IX Coordinator (Bo Zaryckyj, Bo.Zaryckyj@unh.edu, 603-862-2930/1527 TTY**).** Faculty, staff or students on the Manchester campus can also contact Lisa Enright, Deputy Title IX Coordinator (lisa.enright@unh.edu; 603-641-4336; Room 439) to report any incidents of sexual violence and harassment shared by students.

    If you wish to speak to a confidential support service provider who does not have this reporting responsibility because their discussions with clients are subject to legal privilege, you can contact the SHARPP Center for Interpersonal Violence Awareness, Prevention, and Advocacy at (603) 862-7233/TTY (800) 735-2964, as well as, Caroline Young, SHARRP Center Advocacy Expanded Services Coordinator for UNH Manchester

(caroline.young1@unh.edu; room 417; Available in person Mondays 9 am to 4-pm and available by appointment (in person and virtually) by emailing caroline.young1@unh.edu). Individuals can also access Reach Crisis Services NH 603-668-2299 (24 hours), 77 Sundial Ave., Suite 306W, Manchester, NH.

For more information about what happens when you report, how the university treats your information once a report is made to the Title IX Coordinator, your rights and reporting options at UNH (including anonymous reporting options) please visit student reporting options . The uSafeUS app is also available for students to keep reporting options and resources easily accessible on their phones.

Help us improve our campus and community climate. If you have observed or experienced an incident of bias, discrimination or harassment, please report the incident by contacting the Civil Rights & Equity Office at UNH.civilrights@unh.edu or TEL # (603) 862-2930 voice/ (603) 862-1527 TTY / 7-1-1 Relay NH, or visit the CREO website. Anonymous reports may be submitted.

- **Student Accessibility Services (SAS):**
  According to the Americans with Disabilities Act (as amended, 2008), each student with a disability has the right to request services from UNH to accommodate his/her/their disability. If you are a student with a documented disability or believe you may have a disability that requires accommodations, please contact Student Accessibility Services (SAS) located on the Manchester campus in room 417 or sas.office@unh.edu.

  Accommodation letters are created by SAS with the student. Please follow-up with your instructor as soon as possible to ensure timely implementation of the identified accommodations in the letter. Faculty have an obligation to respond once they receive official notice of accommodations from SAS but are under no obligation to provide retroactive accommodations.

  For more information refer to www.unh.edu/sas or contact SAS at 603.862.2607, 711 (Relay NH) or sas.office@unh.edu.

- **Student Resources**

  UNH provides a variety of resources to support students' academic success, health and well-being, and engagement with the campus community.

  A list of student resources can be found on the Provost's website. These resources are not required for this course but may be helpful to you during the semester.