

Winter 2025
MA115: Pre-Calculus
The Science Building 3602
M,T,W,R 8 - 8:50 AM

Instructor: Trent Holmgren

Instructor email: tholmgre@nmu.edu

Office hours: JXJ 2232

Monday: 9:00 - 11:00 AM

Tuesday: 9:00 - 10:00 AM

Wednesday: 9:00 - 11:00 AM

Thursday: 9:00 - 10:00 AM

Else by appointment

Prerequisite: Placement Exam or MA111 (C- or better) or MA100 (A- or better)

NMU General Education Learning Outcomes for Quantitative Reasoning and Analysis (QUAR) – Students will demonstrate

Critical thinking

interpretation of quantitative data leading to conclusions

Course Learning Outcomes

1. Manipulate and interpret functions, including absolute values, polynomials (including polynomials of degree greater than 2 and the fundamental theorem of algebra), rational functions, logarithms, exponential functions, and inverse functions.
2. Apply algebraic techniques in solving linear, quadratic, logarithmic, exponential, and trigonometric equations. Determine when the use of the Law of Sines is appropriate, vs the Law of Cosines.
3. Recall, define, and apply basic identities involving sine, cosine, tangent, secant, cosecant, cotangent, and their inverse functions. **Apply angle sum and difference formulas, including half-angle and double angle formulas.**
4. Recognize graphs of the trigonometric functions and their inverses. Identify amplitude, period, vertical shift, and phase shift

Course Materials: *Algebra & Trigonometry, 10th Edition*. Author: Ron Larson. ISBN-10: 1-337-27117-9. This is a First Day course, meaning you don't need to make an additional purchase for this textbook. You will have access to the eBook once you join my WebAssign class. **A Scientific calculator is allowed, no graphing calculators are allowed.**

Assignments: Homework will be done through WebAssign online. Assignments will be due at 11:59 each Tuesday. Do not start the homework on Tuesday, as there are roughly 4 homework assignments due each week. All assignments will be made available from the first day of the semester if you choose to work ahead. Go to www.webassign.com at the top right of the screen you can enter our class key nmu 8962 5830 which will enroll you into "NMU MA 111, section Holmgren". You will also need to create an account for the site. Use your NMU email.

Course Grading: Homework: 20%
Exams (4): 50%
Final Exam: 30%

Course Grade:

A 93-100%	A- 90-92.9%	
B+ 87-89.9%	B 83-86.9%	B- 80-82.9%
C+ 77-79.9%	C 73-76.9%	C- 70-72.9%
D+ 67-69.9%	D 63-66.9%	D- 60-62.9%
F below 60%		

Exams: There will be four in-class exams and a comprehensive final exam. If you are unable to be in class on an exam day, please let me know before the exam. To receive a passing grade in the course, you need to earn at least 60% on the final exam.

These exams will be closed everything, i.e. no notes, no internet, etc. Only a scientific calculator will be allowed. **YOU ARE NOT ALLOWED TO USE GRAPHING CALCULATORS ON EXAMS!** Cheating will result in an automatic zero on an exam. Devices and phones should be tucked away or lying face down on the desk during exams. If you look at your phone, have it in your hand, or somewhere else not described above, this will also result in an automatic zero on the exam, and the same rules apply for other devices, class notes, etc.

Suggestions: Learning, in my experience, is best in a team. Please answer questions and don't be afraid if you are wrong! We learn through trial and error. In addition to my office hours, the University has established tutoring services that are free-of-charge to NMU students, and I highly encourage you to take advantage of both the Math Department's Math Lab in Jamrich 2100, as well as NMU's All-Campus Tutoring in Harden Hall and the Woods.

At the same time, learning is an active process, and it is critical that you respect this process. Attending every class, being mentally present in those classes, and engaging yourself in the activities we do in class will have a tremendous influence on your success. Work with your classmates, and your peers at the tutoring centers, to grow your skills as you struggle with concepts and problems, make mistakes, and then find the solution. There is a direct relationship with effort and academic success, and I want you to know what resources (and I am one of those resources!) are at your disposal to help you translate your effort into the grade you want, given requisite effort.

ADA Statement: If you have a need for disability-related accommodations or services, please inform the Coordinators of Disability Services in the Dean of Students Office at 2001 C. B. Hedgcock Building (906-227-1737 or disability@nmu.edu). Reasonable and effective accommodations and services will be provided to students if requests are made in a timely manner, with appropriate documentation, in accordance with federal, state, and university guidelines.

Final Disclaimer: As the semester progresses, I reserve the right to alter or change the policies of the syllabus to fit the needs of the classroom and the guidelines placed by Northern Michigan University.