

Syllabus for College Algebra/Calculus Prep - 10769 - MA 111 – 01

CLASS TIME: 2 – 2:50 p.m., Jamrich 3103, MWRF.

INSTRUCTOR: Dr. TRUONG, Bao

OFFICE: Jamrich 2216

OFFICE PHONE: 906-227-1610

EMAIL: btruong@nmu.edu

OFFICE HOURS: MWRF 4 – 6:00 pm, or by appointment

FAX: (906) 227-2010

PREREQUISITES: A grade of B- or better in MA 100 or satisfactory score on Math Placement Exam.

This course satisfies the Foundation of Natural sciences/Mathematics requirement. Students who complete this course should be able to demonstrate a basic understanding of mathematical logic; use mathematics to solve scientific or mathematical problems in college classes; express relationships in the symbolic language of mathematics; and appreciate the role of mathematics in analyzing natural phenomena.

TEXT: An access to Connect Math for “*College Algebra 3rd edition by John Coburn and Jeremy Coffelt,*” which can be purchased on the publisher’s website or through NMU’s bookstore. A hard copy of the textbook is not required.

COURSE DESCRIPTION: This course involves the continued development of students' abilities to manipulate algebraic statements and solve problems. A study of functions, graphing, equation solving techniques, exponents and logarithms, and systems of equations. **Topics, applications and pace are tailored for those students intending to take calculus.**

EXPECTED STUDENT LEARNING OUTCOMES: Students who successfully complete MA111 should be able to

- Recognize and avoid common algebra mistakes.
- Determine parallel and perpendicular lines including vertical and horizontal lines.
- Determine the domain and range of a relation or function given its equation and/or graph.
- Graph the functions which yield the parabola, the absolute value, the cubic, the square root, the cube root, and ones defined piecewise; solve linear and radical equations, and absolute value equalities and inequalities.
- Graph a parabola given by a quadratic function and determine the center and radius of a circle from its equation.
- Give a rough sketch of the graph of a polynomial function of degree three or larger given its factored form.
- Determine the domain and range as well as the horizontal and vertical asymptotes of a rational function, and use that information to graph it; also be able to solve rational equations.
- Use the following theorems (over the complex numbers): Remainder, Factor, Fundamental Theorem of Algebra, Rational Roots (with synthetic division), and Conjugate Roots to solve polynomial equations.
- Graph exponential and logarithmic functions.
- Convert equations back and forth from exponential to logarithmic form.
- Apply the rules of logarithms involving logarithms of products, quotients, powers, and change of base and solve logarithmic functions.
- Solve exponential equations which do have the same base on both sides and ones that do not have the same base on both sides of the equation by using logarithms.
- Solve systems of linear equations using substitution and addition (elimination) with two and three variables and determine consistency and dependency as germane.

Evaluation of these learning outcomes will be done through assignments, tests, and exams.

ATTENDANCE: Class attendance is mandatory. I will take attendance most days, and anyone who has missed lots of classes and is doing poorly in the course should not expect much sympathy from me. If you do miss a class, it is your responsibility to make up the material and make sure your homework is turned in on time. Notice that “Each day you miss, it takes one day longer to be good”.—Ben Hogan, Golfer.

HOMEWORK, QUIZES AND TESTS: Two homework assignments will be due each week. Quizzes will be given on **Fridays**. There will be four major tests during the semester scheduled tentatively on **Wednesdays** February 01, February 22, March 29 and April 19, and a **comprehensive** two-hour final examination on Tuesday, May 2, 2 p.m.-3-50 p.m. I apologize, but I could not accept late homework. No makeup quizzes and tests*, but the

lowest score will be dropped. The final exam counts 20% toward the final grade, each test 15%, quizzes 15%, and homework 15%. The remaining 5% is assigned based on your attendance and class participation. It is important to take the quizzes and exams at the scheduled time.

*Any student who must miss a scheduled test because of an official University function must reschedule and take this exam at a time BEFORE the exam is scheduled to be given. NO OTHER rescheduling will be allowed.

*If you require additional accommodation as determined by the Disability Service Office, please let your instructor know as soon as possible.

FINAL GRADE: Grading scale (approximate)

A	93% up	A –	90 – 92.9%	B –	80 – 82.9%
B +	87 – 89.9%	B	83 – 86.9%	C –	70 – 72.9%
C +	77 – 79.9%	C	73 – 76.9%	F	below 60%
D +	67 – 69.9%	D	60 – 66.9%		
Weighted percentage:	Tests	45%	Quizzes	15%	
Attendance	5%	HW	15%	Final	20%

You must get at least 70% on Homework in order to pass this course.

A comprehensive final exam will be given on Tuesday, May 2, 2017 from 2 p.m.-3-50 p.m.

EXTRA HELP:

- My office: during regular office hours or by appointments.
- Mathematics Tutor Lab: West Science 3810. Mathematics Tutor Lab is open M – R 9:00 am – 4:00 pm and F 9:00 am – 3:00 pm.
- All Campus Tutoring: LRC 111H. All Campus Tutoring is open S – W 2:00 pm – 10:00 pm.

ACADEMIC NEEDS: If you have a need for disability-related accommodations or services, please inform the Coordinator of Disability Services in the Dean of Students Office at 2101 C. B. Hedgcock Building (227-1700 or disserv@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.

CALCULATOR: Graphing calculators are welcome in our classroom. **Cell phone calculators are prohibited.**

ELECTRONIC DEVICES: All cellular phones, pagers, and other electronic equipment should be turned off during the class period, during movies, in churches, bookstores, restaurants, elevators, grocery stores, and especially while operating a motor vehicle.

SPECIAL NOTE: Students must take the responsibility of telling the instructor in advance if they must leave early and must discuss with the instructor immediately after class if they entered the classroom after class has begun. It is the student's responsibility to make sure the attendance record is correct. Students will arrive for every class with necessary tools: text, notebook, pencil, and calculator.

OTHER NOTES: Keeping up with the homework assignments is essential to learning Mathematics. No one is able to learn mathematics without working problems. You should expect to spend 8 – 12 hours a week working homework problems, reading the text, and going over your class notes. I urge you to work together in groups.



**Math is Not a Spectator Sport
Work to Understand the Principles
Mathematics is Cumulative**

