

Northern Michigan University
Mathematics and Computer Science Department
Intermediate Algebra (4 credits)
MA100-03 (80989) MTWR 12:00 – 12:50pm, JXJ 2317

Instructor: Dr. Carol Bell

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Office Hours: MW 1:00 – 3:00, or by appointment

Prerequisite

MA090 (passed with a C- or better) or appropriate math placement.

Course Description:

The study of rational, radical, and quadratic expressions, equations, and functions, including graphing basic functions, domain and range. Emphasis on quadratic functions and an introduction to exponential and logarithmic functions.

Text and Other Requirements:

- Required (ebook access): Miller/O'Neill/Hyde: Beginning and Intermediate Algebra, 6th Ed. (McGraw-Hill) - ALEKS 360. Web site: <https://www.aleks.com/>
- Aleks class code: **EDLKJ-643GV**
- Optional (hard copy): Beginning and Intermediate Algebra, 6e, Miller, O'Neill, Hyde (ISBN 978-1-260-67353-1)
- A scientific or graphing calculator may be useful to aid in working some of the problems. You may not use a CAS graphing calculator or one that has a problem solver, such as TI-36.
- It is recommended that you download a PDF scanner app to your smartphone. The app will allow you to take photos of your written work and save them as a single pdf file in case you want to email me your written homework for review. Recommended apps are TurboScan, Genius Scan, and CamScanner.

Classroom Rules:

- If you have questions during class, please ask.
- No cell phones on desks. Please make sure they are set to vibrate so there are no disruptions during class.
- If you need to use the restroom or leave for another reason, then do so.
- **If you feel sick, stay home! Please email me so I know you will not be in class.**

How do I get help in the class?

- 1) Meet with me during office hours or by appointment.
- 2) Meet with your assigned TA.
- 3) Get help in the math tutoring lab in Jamrich 2100 (M-F 10:00 am – 6:00 pm).
- 4) Go to All Campus Tutoring (generally available on the weekends). Check their walk-in tutoring schedule at <https://www.nmu.edu/tutoring/>.

Student Learning Outcomes for Intermediate Algebra:

1. Perform operations on polynomials, including long division
2. Factor polynomials, including ac-method, sum and difference of cubes
3. Solve equations using the zero product property
4. Solve systems of linear equations, focusing on applications
5. Evaluate, perform operations and simplify rational expressions
6. Solve equations with rational expressions
7. Graph and interpret basic functions to include linear, quadratic, cubic, absolute value, square root function, exponential and logarithmic. Include domain and range in interval notation.
8. Translate basic graphs
9. Perform operations on and compose functions
10. Solve and graph linear absolute value equations
11. Solve inequalities. Include compound, polynomial, rational and absolute value
12. Graph linear inequalities in two dimensions
13. Evaluate, perform operations, and simplify radical expressions
14. Solve equations with radical expressions. Include complex and extraneous solutions
15. Solve quadratic equations by square root method, completing the square, and quadratic formula. Include complex solutions.
16. Use properties of logarithms to simplify expressions and solve equations
17. Solve applied problems such as those using systems of linear equations, quadratic, rational and radical equations, problems of variation, geometry and basic exponential problems

Learning outcomes will be assessed using assignments and tests.

Assessment Format: Specific information on each assessment is below.

- **Attendance (5%):** You must attend every class period. Be an active learner by participating and asking questions. This will also help you to focus your attention on this class. Come prepared for class by making sure the nightly homework assignment is attempted or done. Ask questions on the problems you did not understand. The objective is to increase your mathematics knowledge base and that is very difficult to do if you are not attending and participating. Each student, present or not, is responsible for all directives announced in class. The TA will keep the attendance records so if you are late to class, be sure you notify the TA of your presence.

Students who are unable to attend class for various reasons must notify the instructor. Students should create a plan for staying on top of the material or catching up with missed work. Present or not, students are responsible for all course work.

Religious and Spiritual Observances: *Faculty, staff, and students practice a variety of religious and spiritual traditions, which enhance the diversity of our campus community. NMU acknowledges that scheduling conflicts between required academic activities and religious and spiritual obligations are inevitable. Additionally, we*

recognize that some religious and spiritual obligations extend for multiple days and/or start at sundown of one day and extend through sundown of another day. In the event of conflicts, I will make every effort to help students avoid any negative academic consequences of observing religious and spiritual obligations. Students should consider the implications of missing class due to religious and spiritual obligations and should take into consideration these impacts when making decisions regarding any other absences during the term.

When an exam, assignment, or class conflicts with a religious or spiritual obligation, students are responsible for notifying me at least one week in advance of the date(s). You are not exempt from meeting course requirements or completing assignments in a timely manner as determined by this instructor.

- **Aleks Homework (10%):** Online homework is via Aleks. There are assignments every day so make sure you stay on top of the work. Do your work in a homework journal so your work is organized. This will make it easier to identify the problems you had difficulty doing. That way, you can ask about them the next class day. Be sure to write down the question along with all your work done in completing the problems so you have a good reference to use when studying for tests. If you need a little more time to get an Aleks assignment done, it is your responsibility to email me or the TA so that we can extend the deadline for you. A one-day extension is acceptable, but beyond that a late penalty may be applied. Assignments will not be opened for you, once we have the test over that material.
- **Written Homework (15%):** Written homework is assigned regularly (see the calendar). Each homework assignment is 10 points. They are due **at class time** on the due date. Late homework is penalized 50% and I will not accept it after the solutions are posted in EduCat. Your lowest written homework score is dropped.
- **Tests (50%):** You will have four written tests throughout the semester with each one worth 50 points. Each test consists of 15-20 questions. Be sure you show work on all problems. Answers without supporting work are scored 0. A university-approved excuse is required for rescheduling any test. *Make-up tests are not given.* If you miss a test, half of your raw score on the final exam will replace the missed test. Additional tests missed receive a score of 0. **If you plan to take your tests through Disability Services, please remember to set up your appointment one week before the scheduled test date.**

In addition to the four unit tests, there is a pretest. You must take the pretest during your scheduled class period on Thursday of the first week of classes. The pretest is a test of prior knowledge to make sure that MA100 is the right course for you. If you score too low on the pretest, I will recommend that you move to MA090. Failure to take the pretest will result in a 1% penalty to your final course grade.

- **Final Exam (20%):** The final exam is cumulative and is worth 100 points. Please see the final exam schedule for the date and time.

- **Extra Credit** – each unit test has a corresponding set of review problems in Aleks. Towards the end of the semester, there will be additional review problems covering material from the previous unit tests. If you complete these extra assignments/problems, you will receive up to 2% extra credit added to your final course percentage at the end of the semester.

Students may withdraw from the course prior to the University's class withdrawal deadline.

Grading Scale (%): Your course grade will be weighted according to the percentages outlined under Assessment Format. Corresponding grades based on a percentage are below.

100 – 93.0: A	86.4 – 82.5: B	76.4 – 72.5: C	66.4 – 62.5: D
92.9 – 89.5: A-	82.4 – 79.5: B-	72.4 – 69.5: C-	62.4 – 59.5: D-
89.4 – 86.5: B+	79.4 – 76.5: C+	69.4 – 66.5: D+	59.4 – 0: F

NMU's Non-Discrimination Statement:

Northern Michigan University does not unlawfully discriminate on the basis of race, color, religion, sex, national origin, age, height, weight, marital status, familial status, handicap/disability, sexual orientation, or veteran status in employment or the provision of services, and provides, upon request, reasonable accommodation including auxiliary aids and services necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities.

Anyone having civil rights inquiries may contact the Equal Opportunity Office, 502 Cohodas Hall, telephone number 906-227-2420.

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.

Statement of Respect:

My classroom is a place where you will be treated with respect. In this course, each voice has something of value to contribute. Please take care to respect the different experiences, beliefs, and values expressed by students, faculty, and staff. Each member of this class is expected to contribute to a respectful, welcoming, and inclusive environment for every other member of the class.