

Northern Michigan University
Mathematics & Computer Science Department
MA350-01 (81322) Methods and Materials in Teaching Secondary Mathematics
TR 1:00 – 2:40pm, JXJ 3313

Instructor: Dr. Carol Bell

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

Prerequisites:

Admission to the methods phase of teacher education, MA312 and MA331. ED349 should be taken concurrently or have been completed already.

Course Description:

A course designed to acquaint prospective secondary teachers with contemporary methods and materials employed in the teaching of mathematics in the secondary school. Field experiences are required.

Learning Outcomes:

Upon successful completion of this course, a student should be able to:

1. Examine the changing emphasis of the curriculum as described in current and relevant publications such as the "Agenda for Action", and NCTM's "Curriculum and Evaluation Standards for School Mathematics" and "Principles and Standards for School Mathematics."
2. Use hard copy and electronic sources to find ideas to enhance teaching and learning.
3. Use a variety of teaching strategies for mathematical topics at the middle school and high school levels. This includes the use of supplementary materials and technology to enhance teaching and learning.
4. Know issues related to teaching students with special needs (low achievers and the talented) and be prepared to meet the needs of these students.
5. Develop a philosophy of teaching mathematics.
6. Know a variety of ways to assess the learning of mathematics and to apply appropriate remediation.
7. Develop skills in short and long-range planning for teaching middle/high school.

Evaluation of these learning outcomes done through assignments and fieldwork experiences.

Assessment Format: Specific information on each assessment is below.

- **Participation/Attendance/Fieldwork (30%):** 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 assignments are done. Students who are unable to attend class for various reasons must notify the instructor. When a class period is missed, 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. The instructor reserves the right to

reduce a student's grade due to an excessive number of absences or to give the student a failing grade in the course. Students may withdraw from the course prior to the University's class withdrawal deadline.

Fieldwork Experiences: You are expected to complete a minimum of 10 hours in the field. Some of you may be concurrently taking ED380 in which you will be given a field placement. Otherwise, you may contact a previous host teacher or request that the School of Education help in finding a placement for you in a middle school or high school.

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.

- **Written Assignments (20%)**: Many of the written assignments are a personal reflection based on your fieldwork experiences. Another example includes writing a statement of your teaching philosophy.
- **Lesson Plans/Written Test (30%)**: A variety of lesson plans will be completed that coincide with the State of Michigan Mathematics Standards and the NCTM Principles and Standards. If time permits, you will have the opportunity to participate in mini-teaching some of your lessons to your peers in the class. You will also create your own test based on a chapter from a textbook.
- **Unit Plan (20%)**: You will develop a unit plan consisting of five lesson plans for a particular middle school or high school grade. Each lesson in your unit plan should follow a similar lesson format. I suggest you build off one of the previous lessons completed this semester, such as the one you taught during your fieldwork experience in the schools. This is a unit plan so the lessons must build off of one another. Your last lesson in the unit plan may not be a unit test; however, it could be a culminating project that assesses students' knowledge of the topics learned from the four lessons you developed.

As teachers, you will communicate with students, parents, administrators, and others in correct and proper English. Therefore, such things as grammar, spelling, punctuation, and syntax are considered in the evaluation of your written work.

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, including the instructor.

Important Deadlines (Full Semester Class):

- Last day to add a class – Thursday, August 29, 5:00pm
- Last day to drop with 100% refund and no grade – Tuesday, September 3, 5:00pm
- Last day to drop with a W grade – Friday, December 6, 5:00pm