

EDU 347 (001)
Teaching Mathematics in the Middle Grades
3 hours credit
Tuesday and Thursday
3:05 – 4:20 p. m.
August 20 - December 10, 2002
BEP 204



"Providing for the educational needs of all students"

The College of Education will prepare exemplary educators who demonstrate the knowledge, skills, and professional dispositions necessary to provide for the educational needs of all students in a diverse and technological society. In teaching middle grades mathematics, a reflective professional educator knows how to evaluate student progress in mathematics and how to modify teaching approaches to meet the needs of the students. This ability is grounded in a thorough knowledge of mathematics as well as knowledge of the current research and theories on the development and learning of young adolescents. This forms the basis for theories and research on how best to teach mathematics to this age group. These theories and research are reflected in recommendations from state and national organizations

The College of Education is aware of the necessity to prepare teacher candidates in each of the New Teacher Standards as established by the Kentucky Education Professional Standards Board. The objectives of EDU 347 are derived from the essential knowledge, established and current research findings, and sound professional practices as they relate to all of the NCTM *Principles and Standards* as well as the Kentucky's Core Content for Assessment, Program of Studies in Mathematics, and New Teacher Standards particularly: Standard I (Designs/Plans Instruction), Standard IV (Assesses/Communicates Learning Results), Standard VI (Collaborates with Colleagues), Standard VIII (Knowledge of Subject Matter), and Standard IX (Demonstrates Implementation of Technology). The College of Education places particular emphasis on the NCATE themes of diversity, technology, assessment, evaluation, intellectual vitality, conceptual framework, and professional community. In particular this course will focus on the themes of technology, assessment, evaluation, and intellectual vitality.

The evaluation measures of this course will assess the student's understanding of these standards and his/her ability to apply these concepts to the teaching/learning process.

Professor: Linda Sheffield, Ph. D. **Email address:** Sheffield@nku.edu
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Office Hours: Monday 9:00 - 11:00 a.m.; Tues. and Thurs. 12:00 - 2:00 p.m. and by appointment

Homepage: <http://www.nku.edu/~sheffield/> and <http://www.nku.edu/~sheffield/edu347.html>

Blackboard.Com - <http://learnonline.nku.edu> This class will be web-enhanced and all students should follow the Student Login Directions to enter the class on-line.

Text: Sheffield, L J. and Cruikshank, D. E. (2000). Teaching and learning elementary and middle school mathematics. (4th Ed. Updated). New York: Wiley.

Recommended: Becker, J. P. and Shimada, S. (3eds.). (1997) The open-ended approach: A new proposal for teaching mathematics. Reston, VA: National Council of Teachers of Mathematics.

Ma, L. (1999) Knowing and teaching elementary mathematics: Teachers' understanding of fundamental mathematics in China and the United States. New York: Lawrence Erlbaum Assoc.

National Council of Teachers of Mathematics. (2000). Principles and standards for school mathematics. Reston, VA: NCTM.

Sutton, J. and Krueger, A. (eds.) (2002). EDThoughts: What we know about mathematics teaching and learning. Arora, CO: McREL.

Internet Readings: NCTM *Principles and Standards* (<http://standards.nctm.org/>); Kentucky's Core Content for Assessment (http://www.kde.state.ky.us/oapd/curric/corecontent/core_content_index_version_30.asp), Kentucky's Program of Studies in Mathematics (<http://www.kde.state.ky.us/oapd/curric/Publications/ProgramofStudies/>), and Kentucky's New Teacher Standards (http://www.kde.state.ky.us/otec/epsb/standards/new_teach_stds.asp).

Rationale: The purpose of this course is to familiarize prospective teachers with effective methods for teaching mathematics to students in the middle grades. The emphasis is on teaching for mathematical power, understanding, enjoyment, reasoning, connections, communication, applications, representations, and problem solving in a wide range of mathematical areas, including: number and computation; probability and statistics; geometry and measurement; and algebraic ideas. Topics include: a psychological overview (including neuropsychology), current recommendations from national and state commissions and organizations, recent research in middle school mathematics learning and teaching strategies, teaching aids including the use of physical models and technology, activities and resources, developing curricula and evaluation tools, serving traditionally underserved populations including females, minorities, promising and handicapped students; and other current issues in mathematics education.

EDU 347 specifically addresses the Kentucky New Teacher Standards identified below (means of assessment noted in boldface). An * indicates an item that is acceptable for inclusion in the student's portfolio.

Standard I: The teacher designs/plans instruction and learning climates that develop student abilities to use communication skills, apply core concepts, become self-sufficient individuals, become responsible team members, think and solve problems, and integrate knowledge.

Performance Criteria:

1.1 focuses instruction on one or more of Kentucky's Learning Goals and Outcomes.

LESSON PLANS (project)*, **LEARNING CENTER** (project)*, **CLASS PRESENTATION** (class assignment)

1.2 develops the student's ability to apply knowledge, skills and thinking processes.

LESSON PLANS (project)*, **LEARNING CENTER** (project)*, **CLASS**

PRESENTATION (class assignment)

1.3 integrates skills, thinking processes, and content across disciplines.

LESSON PLANS (project)*

1.4 proposes learning experiences that challenge, motivate and actively involve the learner.

LESSON PLANS (project)*, **LEARNING CENTER** (project)*, **CLASS**

PRESENTATION (class assignment)

1.5 proposes learning experiences that are developmentally appropriate for learners.

LESSON PLANS (project)*, **LEARNING CENTER** (project)*,

1.6 incorporates strategies that address physical, social and cultural diversity and shows sensitivity to differences.

LESSON PLANS (project)*

1.8 includes creative and appropriate use of technology as a tool to enhance student learning.

CLASS PRESENTATION (class assignment), **BLACKBOARD ACTIVITIES** (class assignment)

1.9 includes appropriate assessment strategies and processes.

LESSON PLANS (project)*, **CLASS PRESENTATION** (class assignment)

1.11 includes learning experiences that encourage students to be adaptable, flexible, resourceful, and creative.

LESSON PLANS (project)*, **LEARNING CENTER** (project)*, **CLASS**

PRESENTATION (class assignment)

Standard IV: The teacher assesses learning and communicates results to students and others with respect to student abilities to use communication skills, apply core concepts, become self-sufficient individuals, become responsible team members, think and solve problems, and integrate knowledge.

Performance Criteria:

4.1 uses multiple assessments and sources of data.

LESSON PLANS (project)*, **LEARNING CENTER** (project)*, **CLASS**

PRESENTATION (class assignment)

4.3 accurately assesses student performance using the established criteria and scoring guides consistent with Kentucky's assessment program and the Kentucky Core Content Test (KCCT)

LESSON PLANS (project)*, **CLASS PRESENTATION** (class assignment)

Standard VIII: The teacher demonstrates a current and sufficient academic knowledge of certified content areas to develop student knowledge and performance in those areas.

Performance Criteria:

8.1 accurately communicates the skills and core concepts related to certified academic areas.

LESSON PLANS (project)*, **LEARNING CENTER** (project)*,

EXAMS & FINAL EXAMINATION (test)

8.4 utilizes technology related to the certified academic areas.

LESSON PLANS (project)*, **BLACKBOARD ACTIVITIES** (class assignment),

EXAMS & FINAL EXAMINATION (test)

Standard IX: The teacher uses technology to support instruction; access and manipulate data; enhance professional growth and productivity; communicate and collaborate with colleagues, parents and the community; and conduct research.

9.6 uses the computer to do word processing, create databases and spreadsheets, access electronic mail and the Internet, make presentations, and use other emerging technologies to enhance professional productivity and support instruction.

LESSON PLANS (project)*, **BLACKBOARD ACTIVITIES** (class assignment),

CLASS PRESENTATION (class assignment)

9.9 designs lessons that use technology to address diverse student needs and learning styles

LESSON PLANS (project)*, **CLASS PRESENTATION** (class assignment)

9.13 applies research-based instructional practices that use computers and other technology.

LESSON PLANS (project)*, **CLASS PRESENTATION** (class assignment)

All students must have accounts for Email and WebPages on the university's mainframe computer to assist them in accessing the latest technology and to help them keep in touch with each other and the professor. In addition, all students must log on to the class at Blackboard.com for web-based course support.

Objectives

At the completion of the course, the student should be able to:

1. Demonstrate mastery of middle-grades mathematics topics and curricula.
2. Describe the recommendations of the National Council of Teachers of Mathematics *Principles and Standards* and the Kentucky Mathematics *Program of Studies* and *Core Content for Assessment* for teaching middle-grades mathematics and give the rationale and research that led to these recommendations.
3. Use a variety of teaching and assessment strategies, including technology and physical models, appropriate for middle grades students learning mathematics. This includes ideas for teaching special populations of students.
4. Discuss historical and current issues in mathematics education such as the teaching of reasoning and problem solving, using cooperative learning, and using teaching aids ranging from fraction bars and algebra blocks to calculators and computers.
5. Write objectives related to the Kentucky Program of Studies and Core Content for Assessment in mathematics, and plan inquiry-based learning and assessment experiences on the concrete, connecting, and abstract levels.
6. Use problem seeking and solving and creativity throughout all lessons. Encourage students to use metacognitive methods as they solve problems.
7. Develop alternative methods of testing, assessment, and evaluation.

Student Requirements and Experiences:

1. Attend all class sessions and participate in class discussions, pop quizzes, web-based discussions and projects, and lab activities. Attendance will be taken.
2. Complete assigned readings and technology assignments before class and be prepared to discuss, analyze and apply the ideas gleaned from them.
3. Successfully complete two tests and final exam.
4. Complete daily assignments either individually or in cooperative learning groups as assigned. Check for email and/or Blackboard.com assignments and discussions daily.
5. With a partner (if assigned to the same teacher and schedules coincide) and with advice from the cooperating teacher at your assigned middle school develop and teach two **lesson plans** each based upon the NCTM Principles and Standards, the Kentucky Core Content for Assessment and the Program of Studies in Mathematics. These two lessons should each have a different emphasis; one will be an open-ended, Japanese-style lesson and the other one will include KCCT-type assessment with multiple choice and open response questions. Since you will each be creating two lessons where you are the lead teacher, you should plan to be the assistant for your partner's two lessons. That means that together you will teach a total of a minimum of four lessons, two using a Japanese-style, open-ended, inquiry-based lesson and two incorporating KCCT-type open response and multiple choice questions. These must follow the adapted KTIP Lesson Plan format on the course website and will be evaluated individually using the rubric that is also on this website.
6. Individually, prepare a **Learning Center** for use by up to ten eighth grade students

at a time. This center will be used for Middle Grades Math Day on Friday, November 22, 2002. If you are unable to attend the Middle Grades Math Day, a student from my EDU 306 class will facilitate your project. You will also need to do the activity with students in your practicum assignment, if you are unable to attend the Math Day. This would be in addition to the other lessons that you will be teaching those students. You will also present your project in class. You will need to do the following during your presentation:

- Describe/share the project
- Engage your peers in the activity if time permits
- Describe how students responded to the project
- Describe changes that might need to be made
- Answer questions from your peers

You will need to hand in a write-up of the project that includes numbers 1, 3, and 4 from above in addition to the Center itself. This will be graded using the guidelines and scoring rubric on the class webpage.

7. This year, teachers across Kentucky will be reviewing math programs for possible adoption during the 2003 – 04 academic year. To help you prepare for this, you and one or two partners will review one of the programs from the math adoption list that are available in the LRC or BEP 204. You will prepare a **class presentation** on this program and one of the core content areas. This presentation must include a review of the middle grades mathematics program upon which it is based, an open-ended problem and approach to teaching, and sample expected responses. Details for the assignment and a scoring guide are available on the class website

Each member of a group will be responsible for all components of a group project. Any group member may be questioned and expected to be able to respond regarding any component. Conflicts within the group must be resolved prior to the project due date. The instructor reserves the right to grade each member separately; otherwise each member of the group will receive the same grade. A decision to complete a group project as an individual does not mean a reduction in the requirements of the project.

This syllabus outlines the minimum requirements for successful completion of the course. Fulfillment of only the minimum requirements does not automatically correlate to superior performance. For a complete description of the requirements for superior (and other) performance requirements, please refer to the scoring guidelines for each assignment. All assignments must be typed or word-processed. Handwritten assignments will not be accepted. NOTE: A separate reference list (in APA style) must be included with all final projects (lesson plans, learning centers and class presentations). All sources should be recent unless given for historical reference.

Lesson Plans – There will be two lesson plans, each with a different emphasis.

- an open-ended, Japanese-style lesson;
- a lesson that includes KCCT-type assessment with multiple choice and open response questions;

Each lesson is worth 50 points and this includes planning, teaching, and reflection. Details, samples lessons, and scoring guidelines are available on the class webpage or Blackboard.com.

Learning Center – This center will be used on Friday, November 22 for Middle Grades Math Day and is worth 50 points. Details and scoring guidelines are available on the class webpage or Blackboard.com.

Class Presentation

From the following list, choose a mathematics program for teaching middle grades mathematics and one of the core content areas in mathematics to present with one or two partners. For your presentation, you need to include the following on a two to four-page handout for each person in the class. The handout should include:

- a. An overview of the program including the development of the program, the students it is intended for, any special features of the program, any technology associated with the program, and other significant highlights.
- b. A critique of how the program correlates with the Kentucky Program of Studies
- c. An open-ended, inquiry-based problem from one of the Content Strands that you have chosen for presentation. Specify the specific area(s) of the Core Content and specific section(s) of the Program of Studies that the problem is intended to exemplify. If you cannot find a problem that you believe is open-ended enough, you may modify one of the problems in the program.
- d. At least three different solutions or methods of solution for your problem. Each solution must be worked completely as expected of a student at the distinguished level.
- e. At least three related problems that you might use for homework or to extend your original problem. (Parts d. and e. should not be given to the class until after your presentation.)
- f. A reference list including print and electronic resources given in APA format.

You should plan your presentation for no longer than 15 - 20 minutes. Of this time, spend no longer than 5 minutes on the overview. Follow the open-ended problem guidelines for presentation of your problem. Use at least one form of technology in your presentation.

Content Strand (Choose One)	Mathematics Program
<ul style="list-style-type: none"> • Rational Numbers • Integers • Geometry • Measurement • Algebra • Probability • Statistics and Data Analysis 	<ul style="list-style-type: none"> • Connected Mathematics (grades 6 - 8) (Prentice Hall) • Mathematics in Context (grades 5 - 8) (Encyclopedia Britannica) • MathScape: Seeing and Thinking Mathematically (grades 6 - 8) (Glencoe/McGraw Hill) • MATHThematics (STEM) (grades 6 - 8) (McDougall Littell) • Middle School Math (grades 6 – 8) Scott Foresman/Addison Wesley • Middle Grades Math (grades 6 – 8) Prentice Hall • Everyday Mathematics/Transitions (grades 5 – 6, 7 or 8) University of Chicago

For additional information about these programs see the following:

The Show-Me Center, in partnership with five NSF-sponsored middle grades curriculum development satellites and their publishers, provides information and resources needed to support selection and implementation of standards-based middle grades mathematic curricula. <http://showmecenter.missouri.edu>

The Exemplary and Promising Mathematics Programs Report provides a comprehensive description of each program designated by the Mathematics and Science Expert Panel as "exemplary" or "promising" (Connected Mathematics Project, and others). Each description includes a general overview, a discussion of related professional development, program costs, a description of program quality, evidence of the program's effectiveness and success, the program's educational significance and usefulness to others, and ordering and contact information. This report can be found at

http://www.enc.org/professional/federalresources/exemplary/promising/document.shtm?input=CDS-000496-496_toc

Project 2061 is the long-term initiative of the American Association for the Advancement of Science (AASP) working to reform K-12 science, mathematics, and technology education nationwide. They have recently released Middle Grades Mathematics Textbooks: A Benchmarks- Based Evaluation, which can be found at <http://www.project2061.org/matheval/>

Scoring guidelines are available on the class webpage or Blackboard.com.

Optional

Students have the option of receiving a maximum of six points extra credit for one of the following activities (or other option approved by the instructor). Extra credit assignments are due no later than November 21, 2002.

1. Review three middle grades mathematics education articles from three different recent (within last 5 years) journals. These articles must be different from articles used for other assignments. For each article, include the full reference in APA format, a one-page word-processed critique, and a copy of the article. Each critique must have the following three sections:
 - a) Brief summary of the article (Labeled)
 - b) Critical evaluation of the article (Labeled)
 - c) Suggestions for applying information from the article to your own teaching (Labeled)
2. Attend a mathematics education conference or school district mathematics professional development and report on at least three sessions. You must include the name and date(s) of the conference or professional development, the name of each presenter and title of each session attended. For each of the sessions, include a one-page summary of the topics discussed. A minimum of three one-hour sessions is required. This is due no later than one week after the conference or professional development. There will be a meeting of the Kentucky Council of Teachers of Mathematics Sept. 13- 14 in Lexington, and a regional meeting of the National Council of Teachers of Mathematics in Paducah Oct. 10 – 12. Either of these would be a good opportunity to join one or both of these professional organizations.

Evaluation

The grade will be proportioned as follows:

1. Exams 2 @ 50 pts. each	100 pts.
2. Two lesson plans (2 x 50)	100 pts.
3. Learning Center	50 pts.
4. Daily assignments, online discussions, quizzes, class participation, etc.	25 pts.
5. Class Presentation	50 pts.
6. Final Exam	75 pts.
Total	<hr/> 400 pts.

Grading Scale

92% - 100%	A	368 - 400 pts.
85% - 92%	B	340 - 367 pts.
75% - 85%	C	300 - 339 pts.
70% - 75%	D	280 - 299 pts.
0 - 70%	F	Below 280 pts.

Please note that the College of Education will use the following criteria for grades in

undergraduate courses:

- A. Superior: Exceptional performance for undergraduate students. Understanding of terms and concepts thoroughly demonstrated; ideas clearly and thoughtfully presented; activities effectively completed; competence clearly demonstrated in performance and knowledge areas; appropriate English usage and spelling.
- B. High Achievement: High achievement; clearly very good but not outstanding performance for undergraduate students. Understanding of terms and ideas well demonstrated; ideas clearly presented; activities completed; competence well demonstrated in performance and knowledge areas; appropriate English usage and spelling.
- C. Adequate: The minimum expected of undergraduate students. Understanding of terms and concepts adequately demonstrated; ideas adequately presented; activities completed; competence demonstrated in performance areas; written materials readable, with a few English and/or spelling errors.
- D. Unsatisfactory: Understanding of terms and concepts only vaguely demonstrated; competence in performance areas not clearly demonstrated; English usage and spelling marginal or below average.
- F. Unacceptable: Not acceptable for undergraduate credit.

PROFESSIONALISM: Much of the following information has been specified within various categories contained in this syllabus. Professional behavior is expected of all students.

This course is part of an accredited preparation program that leads to professional certification. Students are required to demonstrate behavior consistent with a professional career. In particular, students are expected to:

- Attend all class meetings. The professor must be notified of any absences in advance. Absences may require the completion of make-up assignments.
- Prepare carefully and completely for class. Students must be ready to discuss all readings thoughtfully.
- Complete all assignments on time. Exceptions or extensions may be granted only if the professor is notified in advance. Penalties will be assessed for late work.
- Collaborate responsibly with colleagues. Students must fulfill their collegial responsibilities in coursework and field experiences.
- Interact professionally with classmates. Students must demonstrate respectful standards of behavior during class discussion. In addition, university coursework is not an appropriate place for nonprofessional guests. Audio or video taping of class sessions is appropriate only during lectures, and only with the professor's prior consent.

Failure to demonstrate the above behaviors will have an immediate and severe impact on a student's grade. Consistent shortcomings in the above areas will lead to a student's dismissal from the Teacher Education Program. See the NKU Student Honor Code and College of Education Code of Ethics for details.

- The instructor reserves the right to make changes in the syllabus, and/or class calendar if circumstances so dictate.
- 10% of the original point value of an assignment is deducted for assignments that are up to 2 days late. Additional points will be deducted for assignments that are later. Assignments will not be acceptable after 1 week except in extreme instances.
- "The work you will do in this course is subject to the NKU Student Honor Code. The Honor Code is a commitment to the highest degree of ethical integrity in academic conduct, a commitment that, individually and collectively, the students of Northern Kentucky University will not lie, cheat, or plagiarize to gain an academic advantage over fellow students or avoid academic requirements." Cheating, plagiarism, and illegal copying of software will not be tolerated. This includes the unlawful use of material found on the

Internet.

- If an exam is missed due to an unavoidable situation, the instructor may allow a make-up. It may be different than the original exam. It may be written or oral. Any exam may be subject to oral questioning. You must contact the instructor before the next class period if an exam is missed.

Reference List:

Becker, J. P. and Shimada, S. (3eds.). (1997) The open-ended approach: A new proposal for teaching mathematics. Reston, VA: National Council of Teachers of Mathematics.

Kentucky Department of Education (1993). Transformations: Kentucky's curriculum framework. Frankfort, KY: Author.

Kulm, G. Assessing higher-order thinking in mathematics. Washington, D. C.: American Association for the Advancement of Science.

Ma, L. (1999) Knowing and teaching elementary mathematics: Teachers' understanding of fundamental mathematics in China and the United States. New York: Lawrence Erlbaum Assoc.

Mathematical Sciences Education Board. (1993). Measuring up: Prototypes for mathematics assessment. Washington, DC: National Academy Press.

National Council of Teachers of Mathematics. (2000). Principles and standards for school mathematics. Reston, VA: NCTM.

Sheffield, L. and Cruikshank, D. (2000). Teaching and learning elementary and middle school mathematics. (4th ed. updated). New York: John Wiley.

Wah, A. & Picciotto, H. (1994). Algebra, Mountain View, CA: Creative Publications.

Webb, N.L. & Coxford, A. F. (Eds.). (1993) Assessment in the mathematics classroom. Reston, VA: National Council of Teachers of Mathematics.

Professional journals/related publications:

NCTM: Teaching Children Mathematics

- Mathematics Teaching in the Middle School
- Mathematics Teacher
- Journal for Research in Mathematics Education
- Principles and Standards for School Mathematics: Navigations Series

SSMA: School Science & Mathematics

KCTM: Kentucky Math Journal

ISTE: Learning and Leading with Technology

(Several other publications related to special interest groups/topics)

Useful Web sites:

- Kentucky Council of Teachers of Mathematics: <http://www.kctm.org/>
- Kentucky Department of Education: <http://www.kde.state.ky.us/>
- National Council of Teachers of Mathematics: <http://www.nctm.org/>
- Northern Kentucky Council of Teachers of Mathematics: <http://www.nku.edu/~nkctm/>
- Northern Kentucky University Mathematics Education: <http://www.nku.edu/~mathed/>
- Northern Kentucky University College of Education: <http://www.nku.edu/~education/>
- School Science and Mathematics: <http://www.ssma.org/>
- Dr. Sheffield: <http://www.nku.edu/~sheffield>
- Show-Me Center: Supporting Implementation of Standards-Based Middle Grades Mathematics Curricula: <http://www.showmecenter.missouri.edu/>
- Marco Polo Internet Content for the Classroom: <http://marcopolo.worldcom.com/>

APA EDITORIAL STYLE

- For web citations: <http://www.apastyle.org/elecref.html>
- Other citations: <http://www.apa.org/journals/faq.html>
http://www2.gasou.edu/library/broch_ref/apastyle.pdf

Tentative Schedule for Edu 347 - Fall 2002

Date	Topic	Assignments and Readings Due To Be Completed Before Class
Tu, 8/20	Introductions, Course Overview, Pretest	Buy book and check out course website and Blackboard .
Th, 8/22	State and Natl. Standards, Professional Organizations, NAEP, CATS, TIMSS	Read Ch. 1, Participate in discussion on Blackboard. Check out links on website.
Tu, 8/27	Learning Theory, Psychology and Assessment	Read Ch. 2, Turn in pretest, checklist, and form from syllabus. Decide on Class Presentation.
Th, 8/29	Open-Ended Problems and Creativity, Problem Solving and Posing	Read Ch. 3
Tu, 9/3	Technology in Support of Mathematics	Read Ch. 4
Th, 9/5	Logic, Reasoning and Communication	Read Ch. 5, Create draft of problem for open-ended lesson to turn in (teach between 9/12 and 10/3)
Tu, 9/10	Concepts of Whole Numbers and Exponents	Read Ch. 6
Th, 9/12	Consolidating Whole Number Operations	Read Ch. 7 – 8, Decide on topic/problems for Learning Center
Tu, 9/17	Review for Exam 1	
Th, 9/19	Exam 1	Study Ch. 1 – 8, websites, assns.
Tu, 9/24	KCCT Assessment	See web for sample open response and multiple choice items
Th, 9/26	Concepts of Rational Numbers & Proportional Reasoning	Read Ch. 9
Tu, 10/1	Addn. and Subtr. of Ratl. Nos.	Read Ch. 10, Student presentation on Rational Numbers
Th, 10/3	Mult. and Div. of Ratl. Nos.	Complete all work on open-ended lesson
Tu, 10/8	Concepts and Operations with Integers	Read pp. 427 – 430, Student presentation on Integers, Turn in completed Open-ended Lesson, Student Work, Reflection, etc.
Th, 10/10	Probability	Read Ch. 11, Student presentation on Probability, Create draft of lesson and assessment for second lesson to turn in (teach between 10/17 and 11/14)
Tu, 10/15	Fall Break	Enjoy
Th, 10/17	Graphing	
Tu, 10/22	Statistics	Student presentation on Statistics & Data Analysis
Th, 10/24	Introducing Geometry	Read Ch. 12, Student presentation on Geometry
Tu, 10/29	Developing Geometry Concepts	
Th, 10/31	Introducing Measurement and Formulae	Read Ch. 13, Student presentation on Measurement
Tu, 11/5	Introducing Algebra	Read Ch. 14, Student presentation on Algebra
Th, 11/7	Developing Algebraic Concepts	
Tu, 11/12	Review for Exam 2	Review Chapters 1 – 14, web assignments, projects, etc.
Th, 11/14	Exam 2	Complete all work on second lesson

Tu, 11/19	Focus on Alternative Assessment and Evaluation	Turn in completed Second Lesson, Student Work, Reflection, etc.
Th, 11/21	Organizing for Instruction	Read Ch. 15
Fri, 11/22	Middle Grade Math Day	Present center, if possible
Tu, 11/26	Share Learning Centers	Turn in completed learning center, reflection, etc.
Th, 11/28	Thanksgiving	Enjoy
Tu, 12/3	Your personal philosophy of teaching	
Th, 12/5	Review for Final Exam	
Tu, 12/10	Final Exam	Good Luck

Student Information Form

On the form below, please fill in your name, email address, phone number and address. These will be kept confidential. Please sign in the space provided to acknowledge that you have received and understand the course syllabus. In addition, please sign to acknowledge that you are willing to have your work appear for professional development in print or electronic form.

Name _____ Date _____

Home phone number _____ Best time to call _____

Other phone number where you can be reached (work, etc.) _____

Email address: _____

Please list all mathematics and mathematics education that you have taken.

I have read and understand the information contained in the syllabus for EDU 347, Teaching Middle Grades Mathematics.

Student Signature _____

(Do not print.)

Date _____

I give Dr. Linda Sheffield permission to use my mathematics work and/or photos for the purpose of sharing with other teachers and education professionals. I understand that this material might appear in written or electronic form, including books, disks, digital photos, and web pages.

Signature _____

Name printed _____ Date _____

Address: _____

If you would prefer that your name **not** appear on these materials, please sign here.
