MATH 492/592 SYLLABUS
ABSTRACT ALGEBRA FOR MIDDLE SCHOOL TEACHERS
WINTER TERM 2009

Professor: Dr. Cheryl Beaver Phone: 503-838-8404
Office: MNB 123 Email: beaverc@wou.edu
CLASS MEETS: 4:30 – 6:20 p.m. MW, MNB 103

C. Beaver's Schedule

Time	Monday	Tuesday	Wednesday	Thursday	Friday
10 – 11		*Office*		*Office*	
11 – 12	365	*365*	365	365	
12 – 1		212			
1 – 2	212		212	212	
2 – 3		*Office*			
3:30 – 4:20	*Office*		*Office*		
4:30 – 6:20	492/592		492/592		

Please feel free to drop by my office during my office hours for help. You do not need to make an appointment to come to office hours. At times other than my listed office hours you are welcome and encouraged to call or email me with questions about the course. If you have direct scheduling conflicts with my office hours and would like further help, please let me know.

REQUIRED COURSE MATERIALS
- ***Winter 2009 Course Pack, Math 492/592*** (WOU bookstore)
- Large 3-ring binder & 3-ring section dividers that can be labeled
- Small bound notebook—see the Daily Quiz section of this syllabus
- Set of colored pencils

COURSE PREREQUISITES
Mth 211, 212 & 213, each with a grade of C- or better. Please see me if you have not taken these courses. Students without the correct prerequisite courses may be dropped from the course.

COURSE STRUCTURE
Class will be a mix of an interactive lecture, activities and problem solving sessions. Your attendance and participation in class is crucial and required in this course. We will regularly explore new ideas during class and it will be difficult to make this work up on your own.

COURSE PURPOSE & OUTLINE
This class is designed for students planning to be middle school teachers. In this class we will explore some of the fundamental and beginning "abstract" ideas of mathematics. In particular we will look at:

- Topic One: Whole Number Properties
- Topic Two: Number Sets & Structures
- Topic Three: Beginning Group Theory, in application
- Topic Four: Beginning Modular Arithmetic, in application
- Topic Five: Math Art Posters
- Topic Six: Cryptology (secret codes) as applicable for children.

Topics 1, 2, 3 and 4 directly address the following adopted TSPC competencies recommended for elementary and middle school teachers. Topics 5 and 6 are fun applications of these competencies. By the end of the term, students in Math 492/592 should be successful in all of the following:

TSPC competencies

- Candidates apply commutativity, associativity, distributivity, identities, and inverses as properties of operations on a given domain; seeing computation algorithms as applications of particular axioms; appreciating that a small set of rules governs all of arithmetic.

- Candidates understand concepts of integers and rationals: what integers and rationals (represented as fractions and decimals) are; a sense of their relative size; how operations on whole numbers extend to integers and rational numbers; and the behavior of units under the operations.

- Candidates demonstrate conceptual understanding of real (particularly rationals and integers) and complex numbers; ways of representing number; relationships among number and number systems; and the meaning of operations.

CLASS WEB PAGE

There will be a link for the Math 492/592 web page on my home page:

http://www.wou.edu/~beaverc

Your class schedule and links to the HW assignments will be posted on this page.

HOMEWORK

- See the document "MATH 492/592 HOMEWORK POLICIES" for homework assessment guidelines.
- All homework is due by 4:30 p.m.

CLASSWORK

- See the document "MATH 492/592 CLASSWORK POLICIES" for classwork assessment guidelines.

DAILY HOMEWORK QUIZZES

- Unless otherwise announced, every day will start with a short homework quiz—all topics on previously assigned homework are "fair game" for a quiz question.
- The goal of the homework quizzes is to encourage you to adopt a prompt study program and after each class, review your course materials and start working on your assigned homework.
- Each student will be assigned a class number for homework quiz use.

Quiz Requirements

- Obtain a bound homework quiz notebook to use exclusively for Math 492/592 homework quizzes. This may be a bluebook, a thin 3-hole punched 8.5" x 11" spiral bound notebook, a composition book or other small notebook. You will need 15 – 16 pages in total.
- Please label the book something along the lines of "Math 492/592 Homework Quizzes."
- Please write your name on your quiz book.

Quiz Procedure

- Quizzes start promptly at the beginning of the hour. If you are late, you miss the quiz.
- Get out your quiz notebook and otherwise clear your desk.
- Write the date on a **new** page of your notebook.
- Numbered quiz problems will be written on the board or projected—you do not need to copy down the problem but please write down the quiz number by the date at the top of the page.
- You will have approximately 5 minutes to write out your answers.

Quiz Assessment

- Homework Quizzes will be peer assessed; peer assessment will rotate so that for every quiz you have a different peer assessor.
- Exchange Quiz notebooks as directed.
- Peer assessors must write their CLASS NUMBER inside the front cover of the quiz notebook (for easy reference) and they must write their class number on the page they are grading.
- I will discuss the correct answers/solutions and peer assessors will use the following assessment scale to score your quiz response.

Assessment Scale

- Peers assess solutions using the following 3-point scale:

  3 points
  - Solution is completely accurate.

  2 points
  - Solution is close to accurate but has minor flaws.

  1 point
  - Solution shows some idea of the topic but is inaccurate.

  0 points
  - Solution shows no idea of the topic or solution is missing.

Missed Homework Quizzes

Missed homework quizzes may not be made up. You may drop your lowest quiz grade.

BOOK REPORT

Per student, once per term for students enrolled in Math 492, twice for students enrolled in Math 592. You will be given more information later.

FINAL PROJECT

- There will be an extensive written final project in Math 492/592.
- The details of the final project are described in the document "MATH 492/592 FINAL PROJECT" in your course pack.

IN CLASS EXAMS

There will be three hour-long exams, see your course schedule for exam dates:

- Exam 1 will cover Topics 1 & 2
- Exam 2 will cover Topic 3
- Exam 3 will cover Topics 4 & 6 (Note this exam will be during the last week of class.)
- Math 592 Students will have additional questions on their exam.

- Makeup exams will only be available in the case of documented emergency or a documented university sanctioned absence from class (examples: student teaching in the education program, university representation in a music presentation, etc.). Prior notification and my agreement are required. My voice mail and email are always on; there is no excuse for not contacting me prior to missing an exam.

FINAL EXAM

Students enrolled in Math 592 will have a take home final exam in addition to their final project.

COURSE GRADE MATH 492

Classwork Assessment		10%
Peer Quizzes & Book Report		10%
Exams I, II & III		30%
Course Homework		30%
Course Final Project		20%
TOTAL	100%	

COURSE GRADE MATH 592

Classwork Assessment		8%
Peer Quizzes & Book Reports		8%
Exams I, II & III		30%
Course Homework		28%
Take Home Final Exam		8%
Course Final Project		18%
TOTAL	100%	

LEARNING DISABILITIES

If you have a documented learning disability, please talk to me during the first few days of class, I will be more than happy to accommodate you in any way that I can. If you have a documented disability which requires any academic accommodations, you must go to the Office of Disability Services (ODS) for appropriate coordination of your accommodations. You can drop by APSC 405 or contact ODS at (503) 838-8250 (V,TTY) to schedule an appointment.

INCOMPLETE POLICY

An Incomplete can only be granted for a student who is passing a class and has a documented emergency that prevents them from completing the course.

STANDARD GRADING FOR THIS COURSE

Your grade for this course will be based on the following with A-, B+, B-, C+, C- given as is appropriate: A—90%, B—80%, C—70%, D—60%, F—below 60%