

MATH 252: ABSTRACT ALGEBRA II SPRING 2012

JOHN VOIGHT

COURSE INFO

- **Lectures:** Monday, Wednesday, Friday, 11:45 a.m.–12:35 p.m.
- **Dates:** 18 January 2012–2 May 2012
- **Room:** Lafayette L210
- **Course Record Number (CRN):** 11078

- **Instructor:** John Voight
- **Office:** 16 Colchester Ave, Room 207C
- **Phone:** (802) 656-2271
- **E-mail:** jvoight@gmail.com
- **Instructor's Office Hours:** Wednesdays, 9:00-10:00 a.m. and 2:00-3:00 p.m.; or just make an appointment!
- **Course Web Page:** <http://www.cems.uvm.edu/~voight/252/>
- **Instructor's Web Page:** <http://www.cems.uvm.edu/~voight/>

- **Prerequisites:** Math 251.
- **Required Text:** David Dummit and Richard Foote, *Abstract Algebra*, Third edition, 2004.
- **Grading:** Weekly homework will count for 50% of the grade and daily “readiness” homework will count for 15%. Class participation and preparedness will count for 10% of the grade. One “challenge problems set” will count for 25% of the grade.

HOMEWORK

The homework assignments are posted on the course webpage. Late homework will not be accepted. There will be two types of homework.

- (1) The first type of homework, counting for 50% of the grade, consists of standard weekly homework assignments due on Fridays.
- (2) The second type of homework, counting for 15% of the grade, consists of one “readiness” problem due each class. We will usually go over this problem in class, and after this discussion the problem will occasionally be collected and graded for completeness. You may take notes during this discussion but only if you use a red pen.

Be sure to show your work and explain how you got your answer. Correct but incomplete answers will only receive partial credit. Part of the beauty of mathematics is in the elegance of its proofs, and one goal of this course is for you to learn to write mathematics excellently.

Cooperation on homework is permitted (and encouraged), but if you work together, do not take any paper away with you—in other words, you can share your thoughts (say on a

blackboard), but you have to walk away with only your understanding. In particular, write the solution up on your own.

Plagiarism, collusion, or other violations of the Code of Academic Integrity

(see <http://www.uvm.edu/policies/student/acadintegrity.pdf>)

will be referred to the The Center for Student Ethics and Standards.

CLASS PARTICIPATION AND PREPAREDNESS

You are expected to read the section before we cover it in class. Come with good questions! Your participation and preparedness in class is essential for your success and will be assessed accordingly.

You must come to my office at least once during the semester: if you cannot make it during office hours, please e-mail me to set up an appointment.

EXAMS, CHALLENGE PROBLEMS SET

No exams will be given. A “challenge problems set” will take the place of a final exam, consisting of 5 difficult problems of your choice. You must turn in a rough draft of these problems on (or before) 9 April 2012. You will receive comments and a “maximum score” rating, indicating my perception of the total level of difficulty of the problems you have chosen which will give an indication of the maximum total number of points for your final submission, like in figure skating. Typically, doing the last problem in 5 sections will be enough to get a full maximum score. (Part of this assignment is for you to learn how to characterize the difficulty of problems!)

You are encouraged, but not required, to use L^AT_EX to typeset your solutions.

The revised 5 problems (which could be 5 completely new problems, if you wish) are due on the last day of class: Wednesday, 2 May 2012. The grading will be extremely critical, so your solutions should not only be correct, but they should be beautifully clean and sparkling clear.

The cooperation rule for homework applies for these challenge problems as well.

ACCOMMODATION

Appropriate and fair accommodations will be provided for students with documented special needs; please contact the ACCESS office (<http://www.uvm.edu/~access/>) directly and early in the semester.

Students have the right to practice the religion of their choice. Each semester students should submit in writing by the end of the second full week of classes their documented religious holiday schedule for the semester.

SYLLABUS

According to the official catalog description, we will cover:

Modules, vector spaces, linear transformations, rational and Jordan canonical forms. Finite fields, field extensions, and Galois theory leading to the insolvability of quintic equations.