

**MATH 446**  
**SPRING 2009**

**General Information.**

Instructor: Bart Snapp  
Email: [snapp@coastal.edu](mailto:snapp@coastal.edu)  
Room and Time: MWF 10:30–11:20 119 Wall Building  
Office: 101H Wall Building  
Office Hours: MWR 4:30–5:30 or by appointment.  
Class Webpage: <http://ww2.coastal.edu/snapp/446/>  
Deadline to Drop: Tuesday, January 20th, 2009  
Monday, March 30th, 2009 (W)  
Friday, May 1st, 2009 (WF)  
Textbook: *Elements of Abstract Algebra*. Allan Clark.

**Grading.** Your grades will be based on the following:

- 50% for homework.
- 50% for exams.

**Grading Scale.**

0–59%	F	65%–69%	D+	75%–79%	C+	85%–89%	B+	90%–100%	A
		60%–64%	D	70%–74%	C	80%–84%	B		

You can check your grades at anytime using Blackboard. Check out:

<http://bb.coastal.edu/>

**Homework.** All homework should be neat, one-sided, easy to read, and stapled (if more than one page). If you do not follow these instructions, I reserve the right to give you **no credit** for your work.

You may work in groups on your homework but each of you must hand in your own work, in your own words. **Answers that correspond with those of your classmates verbatim are not acceptable.**

**Exams/Final.** We will have an exam at the end of each chapter and they will be announced at least a week in advance. We will discuss their format in class.

- The final is on Wednesday, May 6th 11:00AM–1:00PM.

**Course Objectives.** In this course we will introduce the foundational topics of modern algebra. Additionally, we will discuss the impossibility of trisecting an arbitrary angle with compass and straightedge alone. We will also discuss cases of Fermat’s Last Theorem.

### Student Learning Outcomes.

- The student will be able to write formal proofs concerning topics in abstract algebra.
- The student will develop a collection of examples from which to build algebraic intuition.
- The student will be able to state basic definitions and prove basic results related to the theory of groups, fields, vector spaces, and rings.

**Attendance Policy.** The University requires you to attend at least 75% of classes during the semester. Absences, whether excused or not, do not absolve you from your responsibility to keep informed as to the goings-on in this class. Please get the notes from any class missed from another student. Remember, **you miss school, you miss out!**

**Students with Disabilities.** Any student with a documented disability needing academic adjustments or accommodations is requested to speak with me during the first week of class. All discussions will remain confidential.

**Course Overview.** In this class we will work through the following sections (time provided) of our text:

- (1) Chapter 2: Sections 26–47 and Sections 60–68.
- (2) Chapter 3: Sections 87–121.
- (3) Chapter 5: Sections 150–175.

We will cover 2-3 sections a day.

### Errata for the text.

p. 19 Under **26 $\kappa$** , the reference should be **8 $\alpha$**

p. 72 The second displayed equation should read:

$$\beta_1 = c_1^{-1}(\alpha_1 - c_2\beta_2 - \cdots - c_n\beta_n),$$

p. 99 The last displayed equation on the page should read:

$$\frac{1}{a+bi} = \left( \frac{a}{a^2+b^2} \right) - \left( \frac{b}{a^2+b^2} \right)$$

p. 199 The *associative law* is linked to the incorrect section in the index, it should read 27 $\gamma$ .