

MATH 4000-50 FOUNDATIONS OF ALGEBRA  
SPRING 2009

Instructor: COSTEL IONITA  
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Time: Wednesdays at 5:15-7:45 pm  
Place: NIB 135  
Office Hours: 10:00-11:00 MTWThF, 12:00-1:00 MTWTh  
11:00-12:00 TTh or by appointment  
Text: An Introduction to Abstract Algebra  
with Notes to the Future Teacher by O. Nicodermi et al

1. OBJECTIVES: All classes in mathematics at Dixie College support the general education goal of the college. Each class will:

- Require students to perform mathematical processes including fractions, percentages, decimals, proportions/ratios, algebraic equations and/or calculus techniques.
- Provide students with application problems that use a variety of methods including arithmetical, algebraic and geometric methods.
- Challenge students to make inferences from mathematical models that include formulas, graphs and tables.
- Provide students with real-life applications that use a variety of mathematical functions.

This course will partially fulfill requirements for Mathematics Endorsements Level 3 and 4 through the Utah State office of Education.

Upon successful completion of this course, a student will demonstrate through testing the ability to:

1. Solve problems with integers, unique factorization, and modular arithmetic.
2. Learn about polynomial rings.
3. Determine when an algebraic structure is a group, ring, or field.
4. Find isomorphisms between algebraic structures.

**DMAIL: Important class and college information will be sent to your Dmail email account. This information includes your DSC bill, financial aid/scholarship notices, notification of dropped classes, reminders of important dates and events, and other information critical to your success in this class and at DSC. All DSC students are automatically assigned a Dmail email account. If you don't know your user name and password, go to [www.dixie.edu](http://www.dixie.edu) and select "Dmail," for complete instructions. You will be held responsible for information sent to your Dmail email, so please check it often.**

**DISABILITIES:** If you are a student with a medical, psychological or a learning difference and requesting reasonable academic accommodations due to this disability, you must provide an official request of accommodation to your Professor(s) from the Disability Resource Center within the first two weeks of the beginning of classes. Students are to contact the Center on the main campus to follow through with, and receive assistance in the documentation process to determine the appropriate accommodations related to their disability. You may call (435) 652-7516 for an appointment and further information regarding the Americans with Disabilities Act (ADA) of 1990 per Section 504 of the Rehabilitation Act of 1973.

**IMPORTANT DATES** Go to: <http://new.dixie.edu/reg/?page=spring2009>

**EXAMINATIONS:** Each student is expected to take the examinations as scheduled in the syllabus. Make-up exams will be given at the discretion of instructor, and only if prior arrangements have been made.

**ASSIGNMENTS:** Homework assignments (the \* problems) are due at the beginning of the class.

**HELP:** I am available for help during office hours, and other times by appointment.

**GRADES:** The homework is worth 80%, the Take Home Midterm is due on March 11 and is worth 10%, and the Final Exam is worth 10%. Your semester grade will be based on the following scale: **A**(90-100%), **B+** (87-89%), **B**(83-86%), **B-**(80-82%), **C+**(75-79%), **C**(70-74%), **C-**(65-69%), **D+**(60-64%), **D**(55-59%), **D-**(50-54%), **F**(0-50%).

DATE	SECTION:ASSIGNMENT
01/07	1.1: 1, 2, 3, 4*, 5*, 7* 1.2: 1, 2, 3, 4, 5*, 6, 7*, 8, 9*, 10, 11
01/14	1.3: 1, 2, 3, 9*, 11*, 12* 1.4: 1*, 5, 9*, 11
01/21	1.7: 1, 3, 4*, 7, 9*, 11 1.8: reading 1.9: 1*, 2*, 6
01/28	2.1: 1, 2, 3, 4, 5, 8, 13*, 15*, 17, 19* 2.2: reading 2.3: reading
02/04	2.4: 3, 5, 6*, 7, 8, 10, 11*, 12, 13, 14* 2.5: 2, 3, 5, 6, 9*, 16*, 17
02/11	2.6: 4, 5*, 7, 8, 9*, 10, 14* 2.7: reading 2.8: 1, 2, 4*
02/18	3.1: 1, 2*, 5, 6*, 7, 9, 10, 11*, 14* 3.2: 1, 2*, 3, 4, 5, 8
02/25	3.4: 1, 2*, 6* 3.5: 1, 2, 4, 6*, 7*
03/04	3.7: 1, 2, 3*, 4, 6, 10* 3.9: reading
03/11	4.1: 1, 2*, 3, 4, 5*, 6, 14, 15*, 16*, 18, 19* 4.2: 5*, 6, 8*
03/18	NO SCHOOL
03/25	4.4: 1, 2, 3*, 5*, 7, 9*, 12, 14*, 34 4.5: 1, 2, 16*, 15*, 17*
04/01	4.6: 1*, 2, 6*, 8, 15* 4.7: 1, 2*, 5, 6*, 10* 4.9: reading
04/08	5.1: 1, 2*, 9, 16, 17* 5.2: 1, 2, 3, 6, 7*, 12*
04/15	5.3: 1*, 2, 7* 5.4: 1, 7, 13*, 16*, 18 5.6: 1*, 3*, 5, 6, 7, 16*
04/22	6.1: 1, 2, 3, 5 6.2: 1, 2, 3, 5, 7 6.5: 1, 4

**FINAL EXAM: Wednesday, April 29, 5:00-7:00 pm.**