

4/3/08

Math 4310 Syllabus ** Summer, 2008 Semester ✧ Distance Delivery Version



Course Title: Introduction to Algebraic Structures
 Credits: 3 semester
 Prerequisites: The equivalent of 6 semester hours of upper level mathematics courses

Class Meeting Schedule: Early Summer Semester (May 6 – June 19) on Tuesdays and Thursdays from 4:15 p.m. to 7:15 p.m. at your distance deliver site (class originates from USU's Logan Campus in Engr 401)

Instructor: Jim Cangelosi

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Math 4310 is organized into three overlapping units:

1. **Logic and Set Theory**

The goal of Unit 1 is for you to apply the (a) epistemological principles by which mathematical propositions are formulated and their truth values determined and (b) the precise language of set theory to comprehend and express propositions, the reasoning supporting propositions, and proofs w/r the truth values of propositions.

2. **Relations**

The goal of Unit 2 is for you to (a) construct the concept of *relation* as well as the sub-concepts of *function* and the sub-sub-concepts of *binary operation* and *sequence*, (b) formulate propositions involving relations (with emphases on set-theoretic based arithmetic and the arithmetic of *integer congruence classes*, *matrices*, and *polynomials*), and (c) address problems w/r truth values of the propositions you formulate (e.g., by devising proofs).

3. **Groups, Rings, and Fields**

The goal of Unit 3 is for you (a) construct the concept of *algebraic structure* (with emphases on *groups*, *rings*, and *fields*), (b) formulate propositions involving algebraic structures (with emphases on homomorphic and isomorphic relations), and (c) address problems w/r truth values of the propositions you formulate (e.g., by devising proofs).

You will be provided with four opportunities to demonstrate progress w/r your achievement of the goals of the three units. These opportunities are tentatively scheduled for the 3rd, 6th, 11th, and

14th class meetings and will influence the final course grades as follows:

Opportunity	Tentative Date	Units Involved	Relative Influence on Final Grade
#1	05/13/08	1	10%
#2	05/22/08	1, 2	20%
#3	06/10/08	1, 2, 3	30%
#4	06/19/08	1, 2, 3	40%

Note: In coordination with the Disability Resource Center, reasonable accommodations will be provided for qualified students with disabilities. If you need accommodations because of special exceptionalities, please contact Jim to make arrangements. Accommodations and alternative format print materials (e.g., large print, audio, diskette or Braille) are available through the Disability Resource Center, located in Taggart Student Center room 104, phone number 797-2444.