

MATH 871 – Topics in Mathematics
Modern Algebra with Geometry
Summer 2014: May 12 – June 6



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FNDH 2142

Text: (A First Course In) Abstract Algebra, J.B. Fraleigh, Seventh Edition.

Course Description: We introduce groups leading to a discussion about symmetry groups which appear in the art of M.C. Escher. Next we introduce perspective in geometry leading to projective space, and we discuss the group law on cubic curves. We end with a discussion of ruled surfaces which have beautiful applications in architecture.

Coursework:

1. Some homework will be assigned using problems from the text, and other problems will be available on blackboard.
2. Unless otherwise noted, completed assignments are to be uploaded to blackboard by 5:00 PM CST on the dates that they are due. Students are responsible for maintaining reliable access to blackboard, as late homework may not be accepted.
3. Each assignment may be worth a different number of points. The final grade for this course is the sum of points earned as a percentage of available points.
4. The final assignment will be worth more than any other assignment.

Course Policies:

1. Late homework will never be accepted.
2. Students may discuss the homework by blogging on the course web page, but each student must work each homework problem alone.
3. Work must be shown on assignments, and only neat work will be graded.

Academic Honesty Policy Summary: Any work you turn in must be your own. If you are caught cheating, then you will receive a zero score on that assessment. Additional disciplinary steps may be taken for egregious academic dishonesty, such as plagiarism.

Students with Disabilities or Students Who Are Pregnant: It is the policy of the University of Nebraska at Kearney to provide flexible, individualized, and reasonable accommodations to students with documented disabilities or students who are pregnant. To receive accommodation services for a disability, students must be registered with UNK Disability Services. Contact David Brandt, in the Academic Success Office,

163 Memorial Student Affairs Building, 308-865-8214 or by email brandtdl@unk.edu to register. For students needing accommodation due to pregnancy, you need to contact Student Health. (The following link provides information for students and faculty regarding pregnancy rights. www.nwlc.org/resource/pregnant-and-parenting-students-rights-faqs-college-and-graduate-students)

Grade Distribution:

Grade	Percentage Needed
A+	97.0
A	92.0
A-	90.0
B+	87.0
B	82.0
B-	80.0
C+	77.0
C	72.0
C-	70.0
D+	67.0
D	62.0
D-	60.0
F	0.0

Tentative Course Outline:

Week	Content
May 12 – May 16	Frleigh, Ch. 1-5
May 19 – May 23	Frleigh, Ch. 6-10
May 26 – May 30	Frleigh, Ch. 11-12, Projective Space
June 2 – June 6	Group Law for Cubic Curves, Rule Surfaces