MATH 4220–01
Abstract Algebra
Spring 2012
3:00–3:50 p.m., MWF, SC 226

Instructor Dr. Derek W. Hein
office: ELC 418
phone: (435) 586–7902
email: hein@suu.edu

Office Hours 2:00–2:50 p.m. MTWRF and by appointment

Description Elementary number theory and an introduction to the study of the fundamental algebraic systems: groups, rings, and fields.

Prerequisite Math 3120 (Foundations of Algebra and Analysis)

Textbook *A First Course in Abstract Algebra*, 7th edition, Fraleigh, ©2003, Pearson Ed. Inc., ISBN 978–0–201–76390–4

Calculator Any scientific or graphing calculator is acceptable.

Course Fee $3 (Program Fee–COSE)

Objective Upon completion of this course, the student will learn the basics of abstract algebra, including groups, rings and fields (with applications).

Assessment Course assessment will be monitored by frequent homework, weekly quizzes, three exams and a final exam. *Quiz dates*: Jan. 13, 20, 27; Feb. 10, 17, 24; Mar. 9, 23, 30; Apr. 13, 20. *Exam dates*: Feb. 3; Mar. 2; Apr. 6. *Final date*: Monday, Apr. 30, 3:00–4:50 p.m. in our classroom. *The final exam will not be comprehensive.*

Homework will be worth a total of 100 points. Quizzes (given out at the end of class; collected at the beginning of the next class) will be worth a total of 100 points. Examinations are worth 100 points each. The final exam will be worth 100 points. Thus, there will be 600 points available in the course.

A	93%	558+ points	C	73%	438–461 points
A–	90%	540–557 points	C–	70%	420–437 points
B+	87%	522–539 points	D+	67%	402–419 points
B	83%	498–521 points	D	63%	378–401 points
B–	80%	480–497 points	D–	60%	360–377 points
C+	77%	462–479 points	F	<60%	<360 points

Late Work Late work will be assessed a 20% per day penalty unless it is *preapproved* by me AND *documented* by someone official (doctor, etc.) If you are not in class when an assignment is distributed or collected, and you don't have a valid excuse, you will not get credit for that assignment. There will be very little extra credit in this course (but there may be other incentives at the instructor's discretion).

Quotation *In the Republic, Plato (ca. 427–347 B.C.) wrote that his ideal State should be ruled by philosophers educated first in mathematics. He believed that the value of mathematics is how it trains the mind, and that its practical utility is of minor importance.*

This philosophy is as valid now as it was then. A modern education might include vocational or technical training (such as engineering, medicine or law), but at its core, there are the English and mathematics courses which make up a liberal education.

Though mathematics has rather surprising utility, for many students the most important lesson to be learned in their math classes is how to think analytically, creatively and rigourously.

`A Survey of Classical and Modern Geometries`
Aurthur Baragar, ©2001, Prentice–Hall, Inc., p. ix

Administrivia Please do not procrastinate studying advanced mathematics!!! The material at this level takes time and effort to assimilate. *"We could compare learning to ... the way a pianist prepares for a concert. A pianist cannot cram his knowledge of music and his playing skill into one week or even one month of solid practice to prepare for a concert. But he prepares himself through consistent, diligent practice, day by day over a long period of time."* (Joseph B. Wirthlin, *Finding Peace in Our Lives*, p. 75) You will not do well on the exams if you do not do well on the homework and quizzes.

I suggest that you do all of your work in a loose–leaf, 3–ring binder (or notebook) that you can bring with you to class and to office hours. Thus, you will have something to take notes in, write questions in, refer to, etc.

Please use office hours! (This is one of the big secrets of success for an undergraduate education!) You are not getting your (or your family's) money's worth if you do not. You are not bothering me in office hours – I get paid to answer questions and attend to students' needs.

Daily attendance is expected, though not formally recorded. Please attend class every day — your grade will suffer drastically if you do not.

It is rude and disruptive to use cell phones during class. **PLEASE DO NOT TEXT–MESSAGE OTHERS DURING THE LECTURE!** If you phone rings during class, *leave the room* and answer it.

You may work on homework and quizzes with anyone in the class, but the exams will reflect *only your work*. Scholastic dishonesty will not be tolerated and will be prosecuted to the fullest extent. You are expected to have read and understood the current issue of the student handbook (published by Student Services) regarding student responsibilities and rights, and the intellectual property policy, for information about procedures and about what constitutes acceptable on–campus behavior.

Students with medical, psychological, learning or other disabilities desiring academic adjustments, accommodations or auxiliary aids will need to contact the Southern Utah University Coordinator of Services for Students with Disabilities (SSD), in Room 206F of the Sharwan Smith Center or phone (435) 865–8022. SSD determines eligibility for and authorizes the provision of services.

In case of emergency, the University's Emergency Notification System (ENS) will be activated. Students are encouraged to maintain updated contact information using the link on the homepage of the *mySUU* portal. In addition, students are encouraged to familiarize themselves with the Emergency Response Protocols posted in each classroom. Detailed information about the University's emergency management plan can be found at `http://www.suu.edu/ad/facilities/emergency-procedures.html`

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Information contained in this syllabus, other than the grading, late assignments, makeup work, and attendance policies, may be subject to change with advance notice, as deemed appropriate by the instructor.

Outline

Day		Section	Day		Section
Jan	9	intro, 1	Mar	5	18 I
	11	2		7	18 II
	13	3		**9**	19
Jan	16	*Holiday*	Mar	12–16	*Spring Break*
	18	4 I			
	20	4 II	Mar	19	20
				21	21
Jan	23	5 I		**23**	22
	25	5 II			
	27	6	Mar	26	23
				28	24
Jan	30	7		**30**	26
Feb	1	review			
	3	**Exam 1**	Apr	2	27
				4	review
Feb	6	8 I		6	**Exam 4**
	8	8 II			
	10	9	Apr	9	29
				11	30
Feb	13	10		**13**	31
	15	11			
	17	13	Apr	16	33
				18	48
Feb	20	*Holiday*		**20**	49
	22	14 I			
	24	14 II, 15 I	Apr	23	50
				25	review
Feb	27	15 II		27	*Study Day*
	29	review			
Mar	2	**Exam 2**	Apr	**30**	**Final Exam**