PROFESSOR: J. Freeman
OFFICE: West 313
CELL/TEXT: 319-743-8487
E-MAIL: jfreeman@cornellcollege.edu

Class Meetings: Class will meet from 9:15am–11:00am and 1:14pm–3:00pm except for Wednesday, October 30 and Thursday, November 7. There will be a final exam on Wednesday, November 13. Students are expected to attend all class meetings, unless an agreement is reached with the instructor.

Attendance: A student may have one unexcused absences from class during the block. After one unexcused absence, the student will get no consideration when the instructor decides on final grades. This may result in a student getting a lower grade than a student with a lower average. The instructor is very willing to give appropriate excused absences. If you feel you have a legitimate reason for missing class, just talk to the instructor.

Exams: There will be three exams in this class. The exams on Wednesday, October 30, and Thursday, November 7, will be scaled to 225 points. The final on November 13 will be cumulative and the student's grade will be scaled to the appropriate percentage of 250 points.

You may start the Monday exams as early as about 8 a.m., but must start the exam by 9 a.m. The final may be started as early as 7 a.m. with agreement with the instructor. The final must be started by 9 am. There is no formal time limit on the exams. Feel free to bring food to the exam. The instructor will only grade exams in which the student submits solutions in numerical order.

Homework: Homework will be assigned and most of it will be graded. Each problem will be graded 10, 9, 8, 7 or zero. A grade of 10 means the instructor can find no issue with the problem. A grade of 9 means the problem is solved correctly, but the expression of the solution is inadequate. An 8 means that the solution is incorrect, but a serious effort was made to solve the problem. A grade of 7 indicates that the student has no idea how to solve a problem but made a good faith effort to describe the solutions attempted and why they do not work. In some cases, a student who clearly describes the different techniques they tried to solve the problem and explains why they do not work, may get a grade higher than a seven, depending on the clarity of the exposition. A 0 means that the student made no real progress towards a correct solution.

The instructor expects homework grades to be high, if the student is making a reasonable effort in the class. The due dates for each assignment will be given with the assignment, although most assignments will be due at the end of afternoon class on the second day after the homework was assigned. For example, homework assigned on Monday will be due Wednesday afternoon. Students should expect between 12 and 20 problems of this type per night. The students percentage of homework points achieved by the student will be taken out of 200 possible points in calculating the students final grade.

Homework needs to be neatly written and organized in the order in which the homework was assigned. Homework failing this condition will not be looked at by the instructor and grades of 0 will be assigned. It is perfectly acceptable to have one problem per page.

Class problems: Five problems from each day's assignment will be assigned to individual students at the end of morning class. That student will be responsible to carefully write the solution on the board by 1:15p.m. The class will discuss the quality of the solution. An essentially correct solution will receive a grade of 1; an essentially correct solution with significant wording problems will receive a 0.9; a well worded incorrect solution will receive a grade of 0.8; and incorrect solution that shows effort will receive a grade of 0.7; and otherwise the grade will be a 0.The average of the grades will be the student's grade for the problem. The percentage of class problem points achieved by the student will be taken out of 40 possible points in calculating the student's final grade.

These problems need to be clearly written and well organized on the board. Complete sentences and punctuation are required.

Written problems: One problem a day will be assigned as a written problem. These problems must be written up using LaTeX. These problems will be graded on a 0 or 1 basis. A grade of 1 will be achieved if there are

no problems with the solution. Otherwise a grade of zero will be awarded. If a student receives a 0, they may resubmit the solution with a paragraph explanation of the problem with their original solution for a one tenth of a point deduction of grade. So a student who must do a single rewrite of a solution will receive a grade of 0.9 for the problem; two rewrites will receive a grade of 0.8; and so on. A single misplaced comma or period will result in the student having to do a rewrite of the solution. The percentage of written problem points achieved by the student will be taken out of 60 possible points in calculating the student's final grade.

Question of the class: A student is responsible for asking and recording on the attendance sheet 15 questions during the block. These questions must be of a mathematical nature and can be a transcription of a question asked in class or simply a question the student had during class, but did not want to share with the class. You will only get credit for a question if the question is unique to the student posing the question. For example, no credit will be given for recording a question asked by a different student than the student making the recording on the attendance sheet. A question is deemed acceptable by the instructor simply if the question shows involvement in the class. Questions do not need to be earth shattering. If a student does not submit the sufficient number of questions, one percent will be removed from their final class percentage for each question not submitted. In addition, if insufficient number of questions are submitted, the student will get no consideration when the instructor decides on final grades. This may result in a student getting a lower grade than a student with a lower average.

Honors Problems: The instructor will assign about four problems daily denoted as honors problems. These problems will be graded on a 1.0 or 0.0 scale. Non-serious errors in exposition will be ignored for honor problems. These problems must be solved by individual students using only the text, notes, statement of the problem, and the student's own efforts. No collaboration or use of other references are permitted on these problems. If a student solves 50% of the problems, their grade will be raised one-third of a grade point. A student can't receive an A in this course if they do not complete the required number of honors problems. The instructor reserves the right to lower, not raise, the 50% completion rate for honor problems.

Grading: Student grades will be based on the percentage of points out of the possible 1,000 points of the class (225 for exams on October 30 and November 7; 250 for exam on November 13; 200 for homework; 40 for class problems; and 60 for written problems). The instructor will use the following scale, although the instructor reserves the right to decrease (not increase) the scale.

- 100–89: A-
- 77–88: B- or above
- 65–76: C- or above
- 50–64: D- or above

If a student receives 50% or more of the points for the Honor Problems, their grade will be raised one grade level, i.e., a B changed to a B+. The instructor reserves the right to lower, not raise, these percentages.

DROPS: The instructor follows faculty legislation concerning 15th day drops. Students whose exam/homework average is below 40% will be judged not to have made a reasonable effort in the course and no drop will be signed in this case unless the student has a very compelling reason. The instructor reserves the right to change this policy in special circumstances.

DISHONESTY IN ACADEMIC WORK: The instructor refers students to http:\\www.cornellcollege.edu\catalogue\acade info\academic-honesty.shtml. Because of the way this course is organized, the instructor's most likely penalty for a charge of dishonesty will be failure of the class.

Behavior during exams should be clear to a student. As the exams are closed book, reference to any material/person other than the printed exam during the exam is considered dishonesty.

The instructor expects that students will extensively work together during this class and strongly encourages this. Students working in isolation will most probably have significant difficulty with this course. On homework other than Honor Problems, students may discuss solutions all they want and may refer to any reference material they wish, no matter the form of the reference material (this is a fancy way to say that you may use human beings as reference material, even other instructors). The only activity a student must avoid is writing a solution while looking at reference material or the work of another student. Always reference the individual or source when you get complete or substantial insight into a solution. If you are not certain if you should give a reference, then do it.

As indicated above, students working on Honor Problems must do their own work. Students may only reference the text and class notes to work on these problems, unless the statement of the problem gives permission to reference other sources.

A student permitting another student to look at their work while writing a solution will also be charged with dishonesty, so protect your work.

Accommodation: Cornell College is committed to providing equal educational opportunities to all students. Students who need accommodations for learning disabilities must provide documentation from a professional qualified to diagnose learning disabilities. For more information see http:\\www.cornellcollege.edu\disabilities\documentation\index.shtml.

Students requesting services may schedule a meeting with the disabilities services coordinator as early as possible to discuss their needs and develop an individualized accommodation plan. Ideally, this meeting would take place well before the start of classes.

At the beginning of each course, the student must notify the instructor within the first three days of the term of any accommodations needed for the duration of the course.

Course Objectives: The student is expected to learn the following skills in this class:

- ability to read a mathematics text book (Knowledge, Reasoning)
- ability to make conjectures and develop insight (Reasoning, Inquiry)
- ability to write a clear mathematical proof (Reasoning, Communication)
- written and oral communication skill (Communication)
- ability to do group theory (Knowledge)

Expectations of Students: This course is part of a two course sequence in Algebra. A student must complete a two course sequence to complete a major in mathematics. The instructor expects this course will demand the most work of all the courses he teaches. Students should expect to work 7 days a week in this course and spend a significant portion of their waking hours working on mathematics. It is imperative that students don't get behind in their work or miss getting sufficient sleep. Students must go to sleep each night at a reasonable hour. The instructor will work with students to find a pacing of the class which gives every student a reasonable chance at success.

MATERIAL: *Comtemporary Abstract Algebra, 9th edition, Chapters 0-10*, by Joseph Gallian.