

Instructor : Aaron Montgomery

Class : MTR @ 3:30–4:40 in Bouillon 106

Office Hours : W @ 10, MT @ noon, R @ 2

Email : montgoaa@cwu.edu **Phone** : 963-1906

Text : Fraleigh's *A First Course In Abstract Algebra*, 7th ed

Web : <http://webwork.math.cwu.edu/~montgomery/181/461/>

Textbooks: In addition to the required text, you can find some information about general proof writing in the first three Chapters of my MATH 351 packet available at my MATH 351 website <http://webwork.math.cwu.edu/~montgomery/181/351/>.

Course Outcomes: This course will introduce the basic concepts of abstract algebra. In particular, we will study groups, subgroups, normal subgroups, and group homomorphisms. This material is presented in the first three chapters of Fraleigh's text.

Office Hours: I have four hours set aside for office hours each week. During those times, I will be in my office and you can drop in to ask questions. You can also send me an email and we can set up an appointment to meet at other times. Typically, when you request an appointment, I will put together a list of times I am available for the remainder of the week, you get to pick one and (if it is still free), I'll put you in my calendar. When you come to office hours, be prepared.

If you are asking questions about a proof, I will expect you to be able to tell me the definitions of all the terms in the theorem and to construct some examples that may or may not satisfy the conditions of the theorem. If you cannot do these things, I will send you off to do them before I will help you. Unlike using mathematics, doing mathematics (also known as proof writing) is not an activity that can be effectively mimicked. Do not expect to come to my office and watch me do a proof that is almost identical to the proof you are supposed to write. I will try to provide you with hints and examples that will help you understand the concepts involved and you will be expected to use this understanding to synthesize the proof. This means that asking lots of questions on Thursday is not a good way to have the homework done by Friday. Ask questions on Tuesday and Wednesday so that you have time to build an understanding by Thursday.

Graded Coursework

Homework: 140 Points — There will be 7 homework assignments (all assignments are posted on the website), each worth 20 points for a total of 140 points. After getting your homework returned, you will have one week during which you can attempt to rework **boldface** problems you missed for reduced credit. Late homework is not accepted. Homework turned in one week after the due date will be graded with the reworked problems and will be assigned reduced credit. I will post solutions one week after the due date. At least six of your homework assignments must be turned in physically to my mailbox in the Math Department. You may turn in up to one (1) homework electronically (to allow for the possibility that you cannot make it on to campus that week).

Much of your homework involves writing proofs (those problems are listed in boldface on the website). I expect proofs to be complete and follow the guidelines in the MATH 351 packet. Minimal points will be given for homework that requires me to rotate the page, squint to make out the words, or fill in missing boilerplate. I'm not going to spend my time doing the easy parts of your assignment for you. If you expect a good grade, you are going to need to at least make the effort to do the easy parts yourself.

You may work on homework with other students in the class, however, you must turn in your own copy of the homework.

Exams: 90 Points —

There will be two exams. A midterm (see website for date) and a cumulative final exam (see CWU's standard final schedule for date and time). Exams will be in-class and will require you to be able to write proofs. The midterm will be worth 40 points and the final exam worth 50 points.

Presentation: 20 Points —

During the last week of class, each of you will present a proof from the homework. I will begin assigning homework problems for people to present roughly halfway through the course. You will be graded on its accuracy, your presentation, and your ability to answer questions about the steps in

the proof. You can use a prepared slideshow if you wish.

Final Grades: 250 Points —

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|------------|----|--|------------|---|--|------------|----|
| ≥ 218 | B+ | | ≥ 233 | A | | ≥ 225 | A- |
| ≥ 193 | C+ | | ≥ 208 | B | | ≥ 200 | B- |
| ≥ 168 | D+ | | ≥ 183 | C | | ≥ 175 | C- |
| | | | ≥ 158 | D | | ≥ 150 | D- |

Accommodations

Central Washington University is committed to creating a learning environment that meets the needs of its diverse student body. Students with disabilities should contact Disability Services to discuss a range of options to removing barriers, including accommodations. Disability Services is located in Hogue 126. Call (509) 963-2214 or email ds@cwu.edu for more information.