Math 344: Group Theory
Winter 2020 // CRN 21270 // MW 4:00-5:50 pm MNB 103

Professor: Dr. Leanne Merrill
Office: MNB 126
Phone: (503) 838-9342 (calls only, no texts)
Office Hours: Mon. 10am-11am, Tues. 12pm-2pm, Weds. 2pm-3pm, Thurs. 9am-10am, and by appointment
Website: www.wou.edu/math/people/merrill/
Email: merrill@wou.edu

Prerequisite: C- or better in Math 341 and at least one of Math 337, 346, 355, or 441.

Materials: Your textbook is Abstract Algebra: Theory and Applications, 2019 edition, by Thomas W. Judson. This book is available for free at abstract.ups.edu. You can also purchase a paper copy for a reasonable price, but the paper copy is not required. You should have either a paper copy or an electronic copy available most days in class (on your phone is fine). You should bring pencil and paper to class every day.

Course Goals: This course is an introduction to abstract algebra, specifically focusing on groups and morphisms of groups. This course will continue to develop your proof-writing and mathematical reasoning abilities. In this course,

1. Students will demonstrate the ability to make rigorous mathematical arguments in axiomatic and non-axiomatic systems. [Note: This outcome aligns to the Mathematics Program Learning Outcomes.]

2. Students will demonstrate effective written communication of mathematical concepts. [Note: This outcome aligns to the Written Communication Learning Outcome for General Education.]

3. Students will demonstrate a thorough understanding of groups and subgroups, especially permutation, cyclic and modular groups, as well as isomorphisms and applications.

Expectations: In this class, you will be responsible for your own learning. I will provide in-class instruction on some, but not all, topics. You will be expected to complete assigned readings (see Notes below) before class to become familiar with the material. You will be working in groups during class very often, and will have time to complete homework during class (though you will also need to work on it outside of class).
Course Structure

Notes: I will be assigning and collecting your reading notes in this class. Additional information will be provided in the Instructions for Notes Document.

Homework: There will be six homework assignments in this class of varying lengths, graded for both completeness and correctness. You may rewrite your homework as many times as you would like to maximize your grade, provided that you turn in an on-time first attempt containing an honest attempt at every problem. Though you may work with other people on the assignments, you must write up each assignment on your own. I strongly discourage you from using other resources (e.g. looking up the answer) to help with your homework so that you build the necessary mathematical skills. If you use a source besides the textbook or your own notes for this or another class you’ve taken, you must cite it. Assignments written in LaTeX will have a 5% increase applied to their score, for a maximum score of 105%.

Classwork: Throughout the term there will be a variety of classwork activities that will be worth credit. Your full participation is expected to earn credit.

Reflections: I will ask you to complete reflections each week about your mathematical progress and attitudes. These will be administered via Moodle.

Check-Ins: There will be three Check-In Exams in this course, focusing on the most recent material. They will consist of a short no-notes section followed by a longer section during which you may use a note sheet to work on deeper mathematical questions.

Grading: Your percentage grade will be calculated as follows:

- Notes: 10%
- Classwork: 10%
- Homework: 30%
- Reflections: 5%
- Check-In Exams: 45%

Letter grades will be determined as follows:

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<th>Grade</th>
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<td>A-</td>
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<td>B+</td>
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<td>C+</td>
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Course Policies and Resources

Absences: If you know you are going to miss class due to a previously scheduled activity, you must notify me before the absence in order to be excused (and therefore eligible for make-up work). Except in the case of WOU-sanctioned activities, I reserve the right to not allow make-up work. If you miss class due to an unforeseen emergency, please notify me as soon as possible, and submit a report by going to www.wou.edu/advising/absence. Exams and classwork may not be made up unless at least one of these two channels is followed in a reasonable timeframe.

Late Work: For individual homework assignments, 10% will be deducted from the score on the assignment for each weekday it is late, except in the cases of excused absences, up to a maximum of 50% deduction. I will not deduct homework more than 50%.

Incompletes: An Incomplete can only be granted for a student who is passing a class and has a documented emergency that prevents them from completing the course.

Student Success: If I am concerned about your academic progress and ability to succeed in the course, I may make a referral to Student Success and Advising through the Wolf Connection System (WCS). If a referral is created, an Academic Success Advisor from SSA will connect with you via email or telephone to discuss challenges you may be facing and your plan to overcome those obstacles and achieve success. This referral process is in place as a way to support you in this class and not a punishment. Anytime you want to discuss strategies for academic success, you may schedule an appointment with an Academic Success Advisor by calling 503-838-8428, emailing studentsuccess@wou.edu, or online by logging into the Portal, selecting WCS and selecting Get Advising.

Accommodations: If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact both your instructor and the Office of Disability Services, APSC 405, or at 503-838-8250, as early as possible in the term. Students needing medical or mental health care can access the Student Health and Counseling Center by calling 503-838-8313, emailing at health@wou.edu, or by visiting the SHACC building.
Course Policies and Resources

Veterans/Military: Western Oregon University recognizes that those who are actively serving in the Reserves or National Guard of the United States are required by their military contract to attend mandatory training. If you will be absent due to military orders, I strongly encourage you to communicate that with me as soon as possible so we may discuss alternative arrangements.

Reporting: As an employee at Western Oregon University, I am required by federal law to report any incident of sexual misconduct. If you wish to talk with me about something that has occurred to you or another student, I must inform university personnel. Reporting this information helps the university to safeguard students and get students the help and support needed. You have the right to maintain your privacy. I will only report what you confide in me. If you would like additional information about sexual misconduct response at WOU, please visit the website at http://www.wou.edu/student/sexual-misconduct-resources/sexual-assault-care/

Mental Health: If you experience overwhelming academic stress, difficult life events, or feelings of anxiety or depression, I strongly encourage you to seek support. Remember that getting help is a smart and courageous thing to do – for yourself, for those you care about, and for those who care about you. Here are some resources available to you.

- Student Health and Counseling Center (wou.edu/health). Counseling services are free for all WOU students taking at least 6 on-campus credits.

- WOU’s Suicide Prevention and Mental Health Promotion program (wou.edu/mental-health).

- For life threatening situations, call 911 or Campus Public Safety (wou.edu/safety) at (503) 838-9000.

- I am a SafeZone (LGBTQ+) Ally, I am trained in the QPR Suicide Prevention Technique, and I serve on the Abby’s House (Center for Equity and Gender Justice) Board, so I can provide support and referrals in difficult situations.
Course Policies and Resources

Academic Honesty: I expect you to be honest in this course. I will be clear about when you can and cannot talk to one another about assignments, and when you may use resources (such as the internet) to get help. If you are ever confused, please ask me. For more specific information about WOU’s academic misconduct policy, see the WOU Student Code of Responsibility, available from the Office of Student Conduct.

Email: Please use your WOU Gmail to send me an email; otherwise, it may be sent to my spam folder. I will respond to all emails within 48 hours, and usually much quicker. Likewise, you must check your WOU Gmail at least once per weekday while you are enrolled in this course, and you must read my emails entirely. When you are composing a message to me, please consider readability and tone.

Moodle: At moodle.wou.edu you may access all course documents such as this syllabus, handouts, homework assignments, and keys. I may also post short videos or other resources that supplement what we’ve done in class and on homework. In addition, you may view your scores on previous assignments and your current course grade. I will post announcements in Moodle as well, and I will always duplicate such announcements in class.

Getting Help: Come to office hours! You do not need an appointment to attend my scheduled office hours – just drop in when it is convenient for you. If none of my office hours times work for you, please talk to me after class or email me to set up a different time. There is also free drop-in tutoring in the Math Center on the second floor of Hamersly Library, though not all tutors will be familiar with this content.

Suggestions: Success in mathematics does not rest on innate ability, but rather upon diligent and careful work over time. Most of your learning will take place on your own and everyone will move at their own pace in understanding the material. Do not be discouraged if you don’t get something the first, second, or even third time. Most of us didn’t either. Mathematics is a habit of thought, and it takes time to develop this habit. Focus on understanding and appreciating the material and everything else will fall into place.