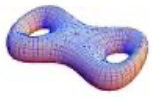
INQ 241: Running the World Efficiently
Spring 2025

Contact Me	Meet with Me	Class Info
		
Name: Dr. Maggie **Pronouns:** She/Her/Hers **Email:** rahmoeller@roanoke.edu	**Office:** Trexler 270B **Student Hours:** Tues 2:00-3:30PM Thurs 9:30-11:00AM	**Location:** Trexler 374 **Days:** MWF **Time:** 9:40-10:40AM

Student Hours Comments:

- The given times above will be consistently available unless emergencies arise
- These are opportunities for you to ask me questions about material and/or class, including celebrations and concerns. **Please come prepared to ask your questions!**
- It's always ok to pop by and say, "HI!" – I love getting to know you and chatting with you! But, these have to be short, fun visits ☺ Sadly, none of us have time to sit back and chill anymore. But – please pop by any time for a short 5-10 minute hello. And – never be afraid to come by if you need help ☺

Course Description: An important aspect of mathematical reasoning is modeling real world problems with various mathematical methodologies. This course applies a specific mathematical discipline, Graph Theory, to problems concerning optimization and efficiency. The course is split into six units, each of which focuses on a specific question. The first three units focus on various routing problems, the fourth on maintaining connections, the fifth on pairings, and the sixth unit focuses on resource management. Graph theory provides an avenue for advancing critical thinking skills, formulating complex problems into a mathematical structure, and applying and understanding limitations of solution techniques.

Intended Learning Outcomes: By the end of this course, you will be able to:

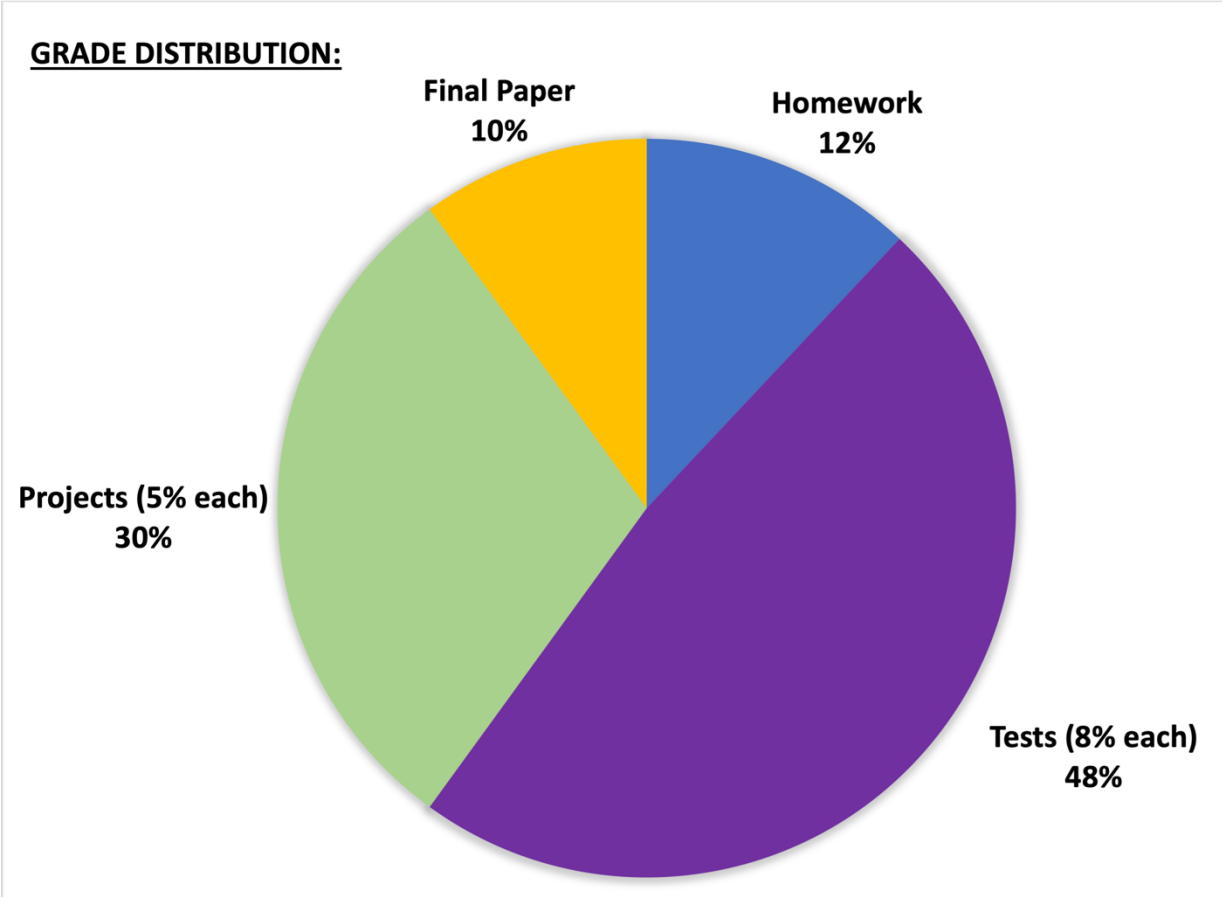
- Describe and apply methodologies of math appropriate for the course's discipline and topic.
- Write about course topics clearly and effectively.
- Interpret quantitative information related to the course topic.

Your success in this class is important to me! We all learn differently and bring a variety of strengths and needs to the class. If there are aspects of the course that prevent you from learning or that make you feel excluded, please let me know as soon as possible. Together we'll develop strategies to meet both your needs and the requirements of the course.

Required Materials:

- *A Tour through Graph Theory*, Karin Saoub
- Any basic calculator
- A laptop computer is recommended

Commitment Hours: This course expects you to spend at least 12 hours of work a week inside and outside of class.



A:	93-100	B:	83-87	C:	73-77	D:	63-67
A-:	90-93	B-:	80-83	C-:	70-73	D-:	60-63
B+:	87-90	C+:	77-80	D+:	67-70	F:	Below 60

COURSE EXPECTATIONS

Classroom Environment: You are expected to treat all students in the class and me with courtesy and respect. Your comments to others should be factual, constructive, and free from harassing statements. You are encouraged to disagree with other students, but such disagreements need to be based upon facts and documentation (rather than prejudices and personalities). My goal is to promote an atmosphere of mutual respect in the classroom. Please let me know if you have suggestions for improving the classroom environment. (Source: Iowa State University)

Diversity and Inclusivity

I consider this classroom to be a place where you will be treated with respect, and I welcome individuals of all ages, backgrounds, beliefs, ethnicities, genders, gender identities, gender expressions, national origins, religious affiliations, sexual orientations, ability – and other visible and nonvisible differences. All members of this class are expected to contribute to a respectful, welcoming and inclusive environment for every other member of the class.

Attendance Policy: Our course's success depends on you attending class! If you miss class, you will miss community building, engaging conversations, and information that I deem worthy of your time! Plus, we will miss you!

However, life happens! You may get sick, have a game scheduled, or have something else come up. It will not be the end of the world if you miss a class *very occasionally*. At some point, though, missing class can be detrimental to success. So, do your best to be in class! Strive for perfect attendance!

Communication is key. Let me know as soon as you know you will miss class.

****I WANT YOU TO SUCCEED IN MY CLASS****

I am willing to put in as much effort to help you in my class as you put into my class. So, do the work, come to office hours, attend subject tutoring, ask questions, and do a little MATH 122 every day.

Inquire Policy: You are responsible for:

- **Being aware of all postings on Inquire:** you need to check Inquire for course information every day!
- **Uploading your assignments to Inquire:** anything due on Inquire will not be accepted in any other form.
- **Making and checking successful submissions:** to receive credit for uploads, your file must be readable on the instructor's college computer.
- **Resolving technology problems:** through our Information Technology (IT) department.

Academic Integrity: I expect all of you to follow the Academic Integrity policies of Roanoke College (https://www.roanoke.edu/inside/a-z_index/academic_integrity). All work submitted for a grade must be your own (for instance, you cannot use internet resources aside from videos/resources linked on Inquire and, if you do work and study with others, the final write-up must be done by yourself). If you ever have questions about how these policies apply to our class, please contact me. Any violations of our Academic Integrity policies will automatically be turned over to the Academic Integrity Council.

Artificial Intelligence: There are situations when the use of generative Artificial Intelligence may be appropriate and educational. If you believe that your use of generative Artificial Intelligence is appropriate for a given assignment, please contact me (via email, or in person at least 3 days before the due date) to explain your rationale for its use. No use is permitted without prior permission.

WHY? You spend a lot of money attending Roanoke College working toward a (or several) degree(s). Don't you want that degree to mean something? If RC students are only getting degrees by cheating, then does that degree actually mean anything? If we were to get a reputation for a "cheating" school…do you think you'd get a job after Roanoke College?

COURSE ASSIGNMENTS & LATE POLICIES

Interactive Textbook Reading: You should attempt as many of the problems in the book as possible. Some problems have answers in the back of the book – so, work through those on top of assigned problems and examples from within the sections. Remember, reading a math textbook must be done interactively.

Homework: Homework will be assigned after nearly every class. This work will be collected at the start of our next class period. If you miss class, you can submit your work to Inquire before the start of class. Late work will be accepted but loses .5 percentage points for every hour (or partial hour) past the deadline. Late work must be submitted to Inquire.

Projects: Projects will be assigned throughout the term. Each project will apply the concepts from a class unit to a business scenario, and therefore are more in-depth and open ended than problems appearing in the homework. Instructions will be handed out well in advance and I will gladly help you with the assignments up until the night before they are due. Projects will be graded on the correctness of the mathematics and models used, explanations of concepts, and the overall form of the document. A grading rubric will be provided along with the assignment instructions.

Final Paper: Even though this is a math course, we will be spending some time on written communication. Each project will contain a writing component, but the initial grade will primarily focus on the mathematics completed. By the end of the semester, four of the projects will be compiled into a longer paper whose grade will more heavily rely on the written portion, though the correctness of the mathematics will still be emphasized. The paper will be a formal report that could be submitted to a business, and therefore must be a polished document with all figures and tables labeled and referenced appropriately.

Tests: There will be six tests this semester. Homework and class notes are absolutely the best sources of review! The tests will not be designed to be cumulative, but as with any course involving mathematics, material from previous tests can be thought of as a prerequisite for future tests. See schedule for dates.

Test Make-up Policy: Anticipated, excused absences must be reported to the instructor with appropriate certification **well before** the scheduled test date. Legitimate emergency absences must be reported with appropriate documentation **within one week of returning to class**. No other make-ups will be given.

Final Exam Time Slot: Your final paper is due during your final exam time slot – no final exam will be give. See schedule for date.

****In summary, the best thing you can do is *communicate* with me.** Let me know if you have concerns about turning in an assignment on time – I will do my best to work with you.**

MCSP Tea Time

Tuesdays, 2:20 – 3:20PM
Trexler 271

A chance to chill with peeps while munching on cookies and sipping tea! Often cards make an appearance – or other games! Take an opportunity to relax, have fun, and hang with other students and professors!

RESOURCES

Accessible Education Services (AES) is located in the Goode-Pasfield Center for Learning and Teaching in **Fintel Library**. AES provides reasonable accommodations to students with documented disabilities. To register for services, students must self-identify to AES, complete the registration process, and provide current documentation of a disability along with recommendations from the qualified specialist. Please contact Dustin Persinger, Assistant Director of Academic Services for Accessible Education, at 540-375-2247 or by e-mail at aes@roanoke.edu to schedule an

appointment. If you have registered with AES in the past and would like to receive academic accommodations for this semester, please contact Dustin Persinger at your earliest convenience to schedule an appointment and/or obtain your accommodation letter for the current semester.

Subject Tutoring, located on the lower level of Fintel Library (Room 5), is open 4-9 PM, Sunday-Thursday. Subject Tutors are highly trained, current students who offer free, one-on-one (and small group) tutorials in over 80 courses taught at Roanoke College, including: Business, Economics, Mathematics, INQ 240, Modern Languages, Lab Sciences, and Social Sciences. Check out all available subjects and schedule 30- or 60-minute appointments at www.roanoke.edu/tutoring. If you have a question, feel free to stop by, or contact us at subject_tutoring@roanoke.edu or 540-375-2590. See you soon!

Student Health & Counseling Services supports students through in-person health appointments, in-person counseling, 24/7 telehealth (TimelyCare), Therapy Assistance Online, as well as resources related to general wellness, LGBTQ+, sexual assault, substance abuse, and suicide prevention. Unmet health needs can negatively impact your performance in this course. Student Health & Counseling Services can help. Please see https://www.roanoke.edu/shcs for more information and to access services.

TENTATIVE COURSE SCHEDULE

Day	Date	Topic	Projects Due
Mon	Jan 13	Section 1.1	
Wed	Jan 15	Section 1.2	
Fri	Jan 17	Section 1.3	
Mon	Jan 20	**No Class!**	
Wed	Jan 22	**No In-Person Class – watch videos & do assignments out of class (Section 1.4)**	
Fri	Jan 24	Section 1.5	
Mon	Jan 27	Review	Project 1
Wed	Jan 29	**Test 1**	
Wed	Jan 31	Section 2.1	
Mon	Feb 3	Section 2.1	
Wed	Feb 5	Section 2.2	
Fri	Feb 7	Section 2.2	
Mon	Feb 10	Section 2.3	
Wed	Feb 12	Review	Project 2
Fri	Feb 14	**Test 2**	
Mon	Feb 17	Section 3.1	
Wed	Feb 19	Section 3.1	
Fri	Feb 21	Section 3.2	
Mon	Feb 24	Section 3.2	
Wed	Feb 26	Review	
Fri	Feb 28	**Test 3**	
SPRING BREAK!			
Mon	Mar 10	Section 4.1	Project 3
Wed	Mar 12	Section 4.1 + 4.2	
Fri	Mar 14	Section 4.2	
Mon	Mar 17	Section 4.3	
Wed	Mar 19	Review	
Fri	Mar 21	**Test 4**	
Mon	Mar 24	Section 5.1	Project 4
Wed	Mar 26	Section 5.2	
Fri	Mar 28	Section 5.2	
Mon	Mar 31	Section 5.3	
Wed	Apr 2	Section 5.4	
Fri	Apr 4	Review	Project 5
Mon	Apr 7	**Test 5**	
Wed	Apr 9	Section 6.1	
Fri	Apr 11	Section 6.2	
Mon	Apr 14	Section 6.3	
Wed	Apr 16	Section 6.4	
Fri	Apr 18	**NO CLASS!**	
Mon	Apr 21	Review	Project 6
Tue	Apr 22	**Test 6**	
Thurs	April 24	**Final Paper Due By 11:30AM**	