

MGF1107 Fall 2020 Syllabus

Students enrolled in the course should view this content on the Canvas page. The Canvas page has the same information formatted in a format that is easier to browse. This document begins with a summary of course policies followed by a weekly schedule and a complete list of graded work.

Course Policies

Area 1: Basic Course Communication Information

This section tells you how to contact the course instructor and TA, and gives an overview of how communication will happen and in what time frame.

Instructor Name: Dr. Ross Ptacek

Office Location: LIT 442 (but I won't be there)

Phone and Email: (352) 294-2350 [department], rptacek@ufl.edu

Preferred form of Contact: Please use Canvas messages or email. For grade inquiries you should use Canvas messages.

Office Hours: MWF 10:00-11:00 AM EST via Zoom

TA (Co-Instructor) Name: Jason Johnson

Office Location: LIT 477 (but I won't be there)

Phone and Email: (352) 294-2350 [department], jasonchaos@ufl.edu

Preferred form of Contact: Please use Canvas messages or email. For grade inquiries you should use Canvas messages.

Office Hours: TBD via Zoom

Statement on TA's Role: The TA in this class, Jason Johnson, functions like a co-instructor in this class. He will be present at every one of our synchronous meetings and will take a roughly equal role in facilitating group activities and in-class explanations. If you have administrative questions, you should direct your inquiry to Dr. Ptacek.

Communications: We primarily will communicate with the entire class through Canvas announcements. Otherwise, communication will come to your ufl.edu email address. If you send an email, you can generally assume a same business day response and no longer than two business days. If you don't get a response by then, please resend your message to *both* of us.

Class Compartment: Please treat our synchronous Zoom classes as you would a live class. Dress as though you are in the classroom. Sticky notes will fall and pets or software glitches will unmute your camera. Failure to dress properly will result in loss of participation points for that day. There is a significant discussion component to this class. Treat one another with respect. I don't generally have a problem with this, but please do report anything that makes you feel uncomfortable. Do not take action yourself. We are committed to diversity and inclusion of all students in this course. We acknowledge, respect, and value the diverse nature, background and perspective of students and believe that it furthers academic achievements.

Area 2: Required and Recommended Materials for this Course

This section overviews the materials you will need to complete the assigned work in the course.

- Required Reading and Other Course Materials: There is no textbook for this course. Notes will be distributed for every section via Goformative (described below.)
- Required Technology:
 - **Zoom**: We will use Zoom for office hours, but that's it. UF's website for Zoom is <https://video.ufl.edu/conferencing/zoom/>. As a student you will be clicking Zoom links from within Canvas and this should all work automatically.
 - **Goformative (www.goformative.com)**: Goformative is an online system for facilitating both classwork and homework. You will need to make a free account. Full instructions on joining the class are on Canvas in the introduction module.
 - **Ziteboard (www.ziteboard.com)**: Ziteboard is an online whiteboard service that we will be using for collaboration this term. Again, you will need to make a free account in order to use the whiteboards and participate in the group activity.
- Materials and Supplies Fee: n/a.

Area 3: Grading Policies and Grade Scale

Grading in this course takes place within the following parameters.

- Grades are assigned as A,B,C,D, or E according to the scale at the bottom of this section. Plus and minus grades are given at the instructor's discretion, typically on the strength of the final project and incomplete level 3 homework assignments. Otherwise, this grading scale will be strictly adhered to. The University's grade point policy can be found here: <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx> (Links to an external site.).
 - Grading in this class is consistent with UF policies available at: <https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>
- Mastery Grades: Some assignments are graded for mastery. You will see these on the [List of Graded Work](#). This means that an essentially complete solution is required to get *any* credit at all for these assignments. Students are encouraged to engage in frequent communication with the instructors to ensure that they are meeting these standards.
- Assignment Values: Point values for each assignment are available in the [List of Graded Work page](#).
- Policy on Late and Make-up Work: Requirements for class attendance and make-ups, assignments, and other work in this course are consistent with university policies that can be found at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

Any makeup request **must be made prior to the deadline of the assignment** unless an emergency prevents communication. Makeups are only approved in the case of official UF business, religious observances, or personal emergency. Makeups may be denied if the reason for absence was known about well before it being communicated.

- Grade Return Timing: Most assignments will be graded automatically by the Goformative software and will be returned almost as soon as the deadline passes. Some questions require manual grading, so you may see some things marked wrong that you know are right. Please wait a few days before reporting these grading errors. Mastery assignments are like small

projects and usually take a week or so to grade properly. So these may linger as zeros until they are graded.

- Point Range for this Class: Letter grades are assigned according to a 125 point scale. As described above, plus/minus grades are given by instructor discretion.
 - 875-1000 points is an A
 - 750-874 points is a B
 - 625-749 points is a C
 - 500 - 624 points is a D
- Grade Disputes: Students are strongly encouraged to ask questions about potential mistakes in graded assignments. However, they are encouraged to do so as assignments are graded, not at the end of the term. End of term point scrounging will be penalized with a minus grade. For example a student with 874 points (in the B range) who asks for grade leniency at the end of the term will receive a B- instead of what would certainly have been a B+. If you think an assignment has a mistake in it, bring it to my attention. If you think your answer should have been accepted, bring it to my attention, but please do not haggle for every individual point and, moreover, don't do it on the last day of the semester.

Area 4: UF Policies Shaping This Course

This course is aligned with the UF policies below.

- Contact Hours: "Contact Hours" refers to the hours per week in which students are in contact with the instructor, excluding office hours or other voluntary contact. The number of contact hours in this course equals the number of credits the course offers.
- Workload: As a Carnegie I, research-intensive university, UF is required by federal law to assign at least 2 hours of work outside of class for every contact hour. Work done in these hours may include reading/viewing assigned material and doing explicitly assigned individual or group work, as well as reviewing notes from class, synthesizing information in advance of exams or papers, and other self-determined study tasks. This works out to 9 hours per week spent on this class.
- Accommodation for Student with Disabilities: Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting <https://disability.ufl.edu/students/get-started/>. This class supports the needs of different learners; it is important for students to share their accommodation letter with their instructor and discuss their access needs as early as possible in the semester.
- Statement Regarding Evaluations: Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available from [the Gatorevals website](#). Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via [the evaluation system](#). Summaries of course evaluation results are available to students at the [public results website](#).

- Statement Regarding Course Recording: Our class sessions may be audio visually recorded for students in the class to refer back to and for use of enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate verbally are agreeing to have their voices recorded. If you are unwilling to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.

Area 5: Additional Course Policies and Information

The following are additional policies that shape my approach to teaching.

- I believe that very little math is done in many math courses. Math is not memorizing formulas and plugging into them. Math is about playing with ideas and seeing where it takes you, and that's what we'll be doing in class. We will be exploring different mathematical ideas and seeing what comes of our explorations. I am not primarily concerned with the precise bits of math that you learn so much as how well you develop the skills to think through difficult problems and apply mathematical ideas to them.
- This course is a **synchronous** course. Participation in the class activities is an essential part of the class. I understand that we are in the midst of a pandemic and circumstances may arise that cause you to miss a class or two. In fact, a few absences are baked into the grading scheme for in-class assignments, but you should have signed up for this class with the expectation that you can be available at the scheduled time.
- *UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment."* The Honor Code (sccr.dso.ufl.edu/process/student-conduct-code/) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.
 - Violations of the honor code will result in a 0 on the corresponding assignment.
 - This is especially true when it comes to plagiarism on the final project paper.
- I believe that my strength as an educator is not in showing students how to solve problems but in being able to engage in the Socratic method with students. I want to ask the questions that kickstart your own thinking. Because of this, the use of a tutor is **strongly discouraged** and in most cases will be considered an **honor code violation**. The point is to think, not to present someone else's thoughts. Both skills are important, but in this class we focus on the former. In general, if a student cannot adequately explain their reasoning to the point that the instructor

does not believe that it is the student's work, it will be treated as though the student copied the answers. A primary goal of this course is to foster regular communication both among students and between student and instructor about mathematical ideas.

Additional UF Policies and Resources

University Police

[The UF police are together for a safe campus. 392-1111 \(or 9-1-1 for emergencies\)](http://www.police.ufl.edu/)
<http://www.police.ufl.edu/>.

Career Connections Center

[Career Connections Center](mailto:CareerCenterMarketing@ufsa.ufl.edu) (352-392-1601 | CareerCenterMarketing@ufsa.ufl.edu) connects job seekers with employers and offers guidance to enrich your collegiate experience and prepare you for life after graduation.

Counseling and Wellness Center

[Counseling and Wellness Center](#) (352-392-1575) provides counseling and support as well as crisis and wellness services including a [variety of workshops](#) throughout the semester (e.g., Yappy Hour, Relaxation and Resilience).

Dean of Students Office

[Dean of Students Office](#) (352-392-1261) provides a variety of services to students and families, including [Field and Fork](#) (UF's food pantry) and [New Student and Family programs](#)

Disability Resource Center

- [Disability Resource Center](mailto:DRCaccessUF@ufsa.ufl.edu) (DRCaccessUF@ufsa.ufl.edu | 352-392-8565) helps to provide an accessible learning environment for all by providing support services and facilitating accommodations, which may vary from course to course. Once registered with DRC, students will receive an accommodation letter that must be presented to the instructor when requesting accommodations. Students should follow this procedure as early as possible in the semester.

Multicultural and Diversity Affairs

[Multicultural and Diversity Affairs](#) (352-294-7850) celebrates and empowers diverse communities and advocates for an inclusive campus.

Office of Student Veteran Services

[Office of Student Veteran Services](#) (352-294-2948 | vacounselor@ufl.edu) assists student military veterans with access to benefits.

ONE.UF

[ONE.UF](#) is the home of all the student self-service applications, including access to:

- [Advising](#)
- [Bursar](#) (352-392-0181)
- [Financial Aid](#) (352-392-1275)
- [Registrar](#) (352-392-1374)

Official Sources of Rules and Regulations

The official source of rules and regulations for UF students is the [Undergraduate Catalog](#) and [Graduate Catalog](#). Quick links to other information have also been provided below.

- [Student Handbook](#)
- [Student Responsibilities](#), including academic honesty and student conduct code
- [e-Learning Supported Services Policies](#) includes links to relevant policies including Acceptable Use, Privacy, and many more
- [Accessibility](#), including the Electronic Information Technology Accessibility Policy and ADA Compliance
- [Student Computing Requirements](#), including minimum and recommended technology requirements and competencies

Weekly Schedule

- Week 1: Introduction to the course and course technologies
- Week 2: Basic graph theory, chromatic number, walks
- Week 3: Complete graphs, trees
- Week 4: Spillover graph theory, final project topics
- Week 5: Topological invariants, surfaces
- Week 6: Euler characteristic, maps
- Week 7: Combinatorial games, solutions
- Week 8: Short impartial games, strategy stealing
- Week 9: Spillover time, final project sources
- Week 10: Probability, sample space, events
- Week 11: Permutations, combinations, conditional probability
- Week 12: Strategic games, dominance
- Week 13: Thanksgiving
- Week 14: Nash equilibrium, iterated games

- Week 15: Final projects!

List of Graded work

Final Project

- 6-8 page paper using quality sources on a mathematical result or mathematician. A list of acceptable topics and what constitutes a quality source is explained in detail on the assignment submission page.
 - **Submit:** Canvas at [Final Project](#)
 - **Value:** 125 points
- Visual aid which helps explain the chosen topic.
 - **Submit:** Canvas at [Final Project](#)
 - **Value:** 125 points

Level 1 Homework

- Each homework set is broken up into levels 1, 2, and 3. The level 1 homework is designed to either reinforce one of the core topics covered in class or to lay the groundwork for one of the optional topics.
- Each level 1 homework is designed to take at most 1 hour. If you find an assignment taking longer than this, you should seek assistance during office hours.
- Only your best 10 level 1 homework assignments count toward your grade.
 - **Submit:** Goformative (link varies per assignment)
 - **Value:** 10 points x 10 assignments = 100 points

Level 2 Homework

- Each homework set is broken up into levels 1, 2, and 3. The level 2 homework goes slightly beyond the fundamentals in class and the level 1 assignment and lays the groundwork for the level 3 assignment.
- Each level 2 homework is designed to take at most 2 hours. If you find an assignment taking longer than this, you should seek assistance during office hours.
- Only your best 8 level 2 homework assignments count toward your grade.
 - **Submit:** Goformative (link varies per assignment)
 - **Value:** 20 points x 8 assignments = 160 points

Level 3 Homework

- Each homework set is broken up into levels 1, 2, and 3. The level 3 homework assignment does not require any new material. However, successful completion will require clever application of material from the level 1 and 2 homework and some element of mathematical proof.
- Level 3 homework will require at least 3 hours of work. If you find progress is slow after an hour of work, you should seek assistance during office hours.

- Level 3 homework assignments are graded based on mastery. Only competent efforts will receive any points at all. See the syllabus for a full description.
- Only your best 5 level 3 homework assignments count toward your grade.
 - **Submit:** Goformative (link varies per assignment.) Additional work may be submitted on Canvas on the assignment page.
 - **Value:** 40 points x 5 assignments = 200 points

Quizzes

- There is one quiz for each of the 14 full weeks of class. They will always cover the previous week's worth of material and/or a documentary. Of the 14, only 10 will count for credit.
- Quizzes are open notes.
 - **Submit:** Goformative (link varies per assignment.) during class
 - **Value:** 10 points x 10 assignments = 100 points.

Pre-Classwork

- There will be an assignment due prior to (usually midnight before) almost every class period. These will usually take around half an hour and never longer than an hour. This is as close as we get to a lecture in this course. Sometimes there will be a mini-lecture with definitions and examples, but sometimes it will just be some reading and prompts to focus your thoughts for class.
 - **Submit:** Goformative (link varies per assignment.) prior to class.
 - **Value:** 5 points x 20 assignments = 100 points

Classwork

- Participation in every class activity is worth 5 points. There are 22 such activities.
- It is impossible to make up a missed class activity since interaction is a crucial part of them, but 4 of them are dropped to account for unavoidable absences
 - **Submit:** Goformative (link varies per assignment.) prior to class.
 - **Value:** 5 points x 18 assignments = 90 points