Math for Liberal Arts Majors II (MGF1106)
Fall 2022

Course Description: MGF1107, Math for Liberal Arts II is a general education Mathematics course which is not intended to prepare you for precalculus or calculus. Despite their similar names and numbers, the content of MGF1107 is independent of MGF1106.

This course will cover a variety of interesting topics from mathematics. Our focus will less on formulas and memorization and more about how we can reason about the truth of mathematical statements.

Instructor and TA Information

Instructor Name: Dr. Ross Ptacek
Office Location: LIT 442
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: Th 11:45-12:35 (Period 5). MF 10:40-11:30 (Period 4)

Role of TA: There will be a TA in this class, but they have not been assigned yet. In this class the TA will assist with group activities during class and will hold additional office hours. For administrative issues such as grade inquiries, extensions, or makeup work, please contact Dr. Ptacek directly.

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.

Class Comportment: There is a significant discussion component to this class. Treat one another with respect. Please report anything that makes you feel uncomfortable, but 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.

Course Materials

- Required Reading and Other Course Materials: There is no textbook for this course. Notes will be distributed for every section via Formative (described below.)
- Required Technology:
  - **Zoom:** We will use Zoom for some office hours, and optionally for course meetings. 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.
  - **Formative (https://www.formative.com/):** Formative is an online system for facilitating both classwork and homework. You will need to make a free account by

going to https://app.formative.com/signup. The course code will be provided on Canvas at the beginning of the term. You must **use your ufl email address** when signing up.

- **Ziteboard (https://ziteboard.com/):** Ziteboard is an online whiteboard service that we will be using for collaboration this term. This is mainly for those who intend to attend the course virtually. Again, you will need to make a free account in order to use the whiteboards and participate in the group activities. Just click on the "Log In" link from the top right on https://ziteboard.com/ and you will be prompted for an email address and password. It's nice to use your ufl email when signing up for this but it is not required.

- Optional Technology:
  - **Discord (https://discord.com/):** Discord is a social media app that supports chat rooms, video calls, and other collaborative features. This term I'm trying out Discord as an alternative to Canvas discussions and as a way for you all to collaborate outside of the classroom. It's also a nice way to communicate with me about low-importance issues. An invitation link will be provided on the first day of class.
- Materials and Supplies Fee: n/a.

Course Content

We will cover four main topics over the course of the term.

1. **The Mathematics of Relationships (Graph Theory).** Graph theory is the mathematics which studies how objects are related to one another. This definition is broad enough to cover a large variety of situations such as how people are arranged by friendship in a social network or how groups have competing needs for resources. The fundamental question we'll be considering is how we can tell whether two seemingly different graphs are actually the same.

2. **The Mathematics of Shape (Topology/Geometry).** Classical geometry is extremely rigid, a little too rigid perhaps. For two shapes to be the same they must have exactly the same side lengths and angles. We don't think of a basketball's shape as changing with each bounce, after all. Topology analyzes shape by allowing objects to bend and stretch without changing their shape. The fundamental question is (again) how we can determine whether two shapes are the same. We also will cover some related topics such as the mathematics of origami.

3. **The Mathematics of Decision-Making (Game Theory).** Life is full of complicated decisions. Our choices impact the choices that others make which in turn comes back to influence our future choices. Game theory is branch of mathematics that studies how to make good choices. We'll study two flavors of game theory. The first is combinatorial game theory where we limit ourselves to games with no randomness, perfect information, and two players who take turns. The second is game theory from the point of view of economics where there the players may take simultaneous action. In both settings, we will study how to solve these games.

4. **The Mathematics of Chance (Probability Theory).** While studying game theory, we'll see that sometimes the only winning move is to play randomly. This will lead into a review of probability theory. Unlike usual treatments of this material, we'll view it through the lens of

graph theory, using graphs to represent complicated random processes to assist our computations.

Course Learning Goals: The primary goal of this class is for students to be (more) fluent in mathematical argument. This means that by the end of the class students will be able to

- communicate mathematical ideas both verbally and in writing to convince their peers, and
- detect when a mathematical argument is lacking.

Course Learning Objectives: We will practice these skills using a number of interesting areas of mathematics. In terms of mathematical skills, students will be able to

- Use graph invariants to determine that two graphs are different.
- Use topological invariants to determine that two shapes are different,
- Determine which player (if any) has a winning strategy in a combinatorial game,
- Find the expectation of simple random experiments,
- Find both pure and mixed equilibria of strategic games with two players, and
- Write a short paper with an accompanying visual aid to explain a recent mathematical discovery or the work of a recent mathematician.

Course Format

This class is best described as a "flipped" class. Almost every class meeting will be preceded by a short assignment to introduce new concepts and terminology. These assignments are typically accompanied by a video to help explain difficult concepts. As a result, our class meetings do not involve any significant lecture portion. We will spend class time either engaging in a discussion or working in small groups on challenging problems and sharing solutions with the class. There will be weekly (usually) in-class diagnostic quizzes to make sure that nobody is falling behind. Topics from class will be both reinforced and expanded upon in the homework. Lastly, there is a final project which will be worked on over the course of the term. All of these are assignments are explained in more detail in the List of Graded Work at the end of this document.

Notably, there are no exams or other high pressure timed assignments in this class. Instead, there is a type of homework exercise, called a mastery assignment, which fills the role of major during-term assessments. Mastery problems are difficult, open-ended problems in which student and teacher engage in dialog to guide the student toward solution. These are discussed in more detail in the List of Graded Work.

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.

Statement on 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.

In this class this works out to 9+ hours per week as follows.

- 3 hours in our T/R class meetings (contact hours)
- 2 hours of pre-classwork assignments (1 each for T/R class)
- 4+ hours spent on homework, the final project, or other studying

If you find yourself putting in more than 9 hours per week but still struggling, please reach out so that we can work out a plan to get you back on track.

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.

With the passing of HB 233, the rules for students recording class need to be carefully explained. Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A "class lecture" is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the
University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments
(quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To "publish" means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the

publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

Weekly Schedule

What follows is a weekly schedule for the course. Abbreviations such as GT1 give the relevant section of the provided notes that we will be covering.

- **Week 1 (8/24 – 8/26).** Obtain access to the course materials. Introduction to the course (INT1).

- **Week 2 (8/29 – 9/2).** Graph theory: Intro, walks, chromatic number (GT1, GT2). Quiz 1 on Syllabus).

- **Week 3 (9/6 – 9/9).** Graph theory: bipartite graphs and trees (GT3, GT4). Quiz 2 on GT1, GT2.

- **Week 4 (9/12 – 9/16).** Graph theory overflow. Graph theory mastery assignments. Quiz 3 on GT3, GT4. Documentary: Story of Maths 1 & 2

- **Week 5 (9/19 – 9/23).** Topology: Intro, surfaces and orientability (T1, T2). Quiz 4 on documentary.

- **Week 7 (9/26 – 9/30).** Topology: Identification diagrams and Euler characteristic (T3, T4). Quiz 5 on T1, T2.

- **Week 8 (10/3 – 10/7).** Topology overflow (Fold and Cut). Topology mastery assignments. Quiz 6 on T3, T4. Documentary: Story of Maths 3 & 4. Final Project topic selection.

- **Week 9 (10/10 – 10/14).** Combinatorial Game Theory: game trees and symmetry (CGT1, CGT2). Quiz 7 on documentary.

- **Week 10 (10/17 – 10/21).** Combinatorial Game Theory: Misère games, N and P positions, (CGT3, CGT4). Quiz 8 on CGT1, CGT2.

- **Week 11 (10/24 – 10/28).** Combinatorial Game Theory overflow. Mastery assignments. Documentary: Between the Folds. Quiz 9 on CGT3, CGT4. Final Project full bibliography.

- **Week 12 (10/31 – 11/4).** Probability: Sample Space and Events (P1, P2). Quiz 10 on documentary.

- **Week 13 (11/7 – 11/10).** Probability: Expectation and Conditional Probability (P3, P4). Quiz 11 on P1, P2.

- **Week 14 (11/14 – 11/18).** Strategic Games: Dominance and Nash Equilibrium (SGT1, SGT2). Quiz 12 on P3, P4

- **Week 15 (11/21 – 11/22).** Final Project Draft. **Thanksgiving Break.**

- **Week 16 (11/28 – 12/2).** Strategic Games: Iterated Games and Mixed Strategies (SGT3, SGT4). Quiz 13 on SGT1, SGT2.

- **Week 17 (12/5 – 12/7).** Strategic Games: Tragedy of the Commons. Quiz 14 on SGT3, SGT4. Final projects due.

Grading Policies

There are 1000 total points in this class, broken down as follows.

```
Pre-Classwork Assignments          100 points (20 assignments, 5 pts each)
Classwork                           90 points (best 18, 5 pts each)
Lv1 Homework                       100 points (best 10, 10 pts each)
Lv2 Homework                       160 points (best 8, 20 pts each)
Lv3 Homework (Mastery)             200 points (best 4, 50 pts eatch)
Quizzes                            100 points (best 10 of 14, 10 pts each)
Final Project                      250 points (125 pts paper, 125 pts visual aid)
Total                             1000 points
```

A full description of these assignment categores are in the List of Graded Work. Final grades are assigned on a 125 point scale:

- 1000-875 is an A
- 874-750 is a B
- 749 - 625 is a C
- 624 - 500 is a D
- Anything lower is an E

A C or higher is needed to meet degree requirements. Plus and minus grades are awarded based on the strength of the final project, Lv3 homework, class participation, and overall growth over the course of the term. Otherwise, the grading scale is strictly adhered to. Grading in this class is consistent with the UF polices at https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/. You can also find UF's grade point policy at this link.

Mastery Grades: The Level 3 homework is graded for mastery. This means that only essentially correct solutions will receive any points. There is a well-defined review and resubmission process by which students will refine their answers with instructor guidance. Please consult the List of Graded Work at the end of this document for a full description.

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 (this includes extension) 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. In most cases, documentation is required to verify the reason for absence. 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 Formative 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.

Grade Disputes: Students are strongly encouraged to ask questions about potential mistakes in graded assignments. Discussing why something was marked as incorrect is a great way to learn, and this discussion is a fundamental part of mastery assignments as outlined above. However, these discussions should occur as assignments are returned, not as an end-of-term attempt to scrape together a few extra points. In general, students have **one week** after a grade is returned to review the assignment and dispute a grade. Discussion after this window is still encouraged, but it will not result in an improved grade. Moreover, end of term point negotiations 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+. So please discuss solutions with us, but do not haggle for every individual point and, moreover, don't do it on the last days of the semester.

Honor Code

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.

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 independently, not to present someone else's thoughts. Both skills are important, but in this class we focus on the former. In this class collaboration with your peers is encouraged, but the final submitted product must be your own work. In general, if a student cannot adequately explain their answers to the point that the instructor does not believe that it is the student's own work, it will be treated as though the student copied the answers, an honor code violation.

Any violation of the honor code will result in a final grade of 0 on the corresponding assignment with no further opportunities for resubmission. This is especially true for plagiarism on the final project.

Additional UF Policies (Top)

This course is aligned with the following UF polices

- 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 .

UF Student Resources

- **UF Police:** The UF police are together for a safe campus. 392-1111 (or 9-1-1 for emergencies) and https://police.ufl.edu/.
- **Career Connections Center:** Career Connections Center (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 (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

List of Graded Work

Final Project

The final project is an investigation into a famous mathematical result or mathematician. Most topic choices are contemporary to show how math has continued progressing. The project consists of two parts: a research paper and an accompanying visual aid. A full description of the project parameters, including a list of acceptable topics, can be found on the Final Project assignment page on Canvas.

- **Submit:** Canvas (paper and visual aid)
- **Value:** 200 points (100 paper, 100 visual aid)

In short, the final project paper is graded on the following criteria:

- The paper must explain the significance of the person or theorem using accessible language.
- The paper must explain the person or theorem using the author's own language. In particular, plagiarism will earn a 0 on the paper part of the assignment.
- The paper must not contain basic factual errors. Students are encouraged to discuss their topic with the instructor and/or TA.
- The paper must use mostly non-encyclopedia sources. All sources must be reputable.

The final project visual aid is judged on the following criteria:

- The visual aid should contribute to the understanding of the paper.
- This visual aid should be the student's own work, not a recreation of an existing visual aid.
- While the paper will likely contain figures, the visual aid should be more than just a collection of figures.
- The visual aid should represent complete, polished work, not a rough draft.

Homework

The primary role of homework in this class is to reinforce but also, and more importantly, extend the topics in class or apply those topics in novel ways. Occasionally, the homework will introduce additional, optional topics that are related to the in-class topics.

All homework is classified as level 1, 2, or 3. The difficulty scales along with the level, but at the same time fewer of the higher level assignments are required for full credit. Most homework comes as a set or a level 1, 2 and 3 assignment, but some are standalone assignments. Sets of homework must be completed in order. That is, you can not do the level 2 or 3 if you do not complete the level 1.

Level 1 Homework

- 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.
- These assignments should be straightforward given the treatment of the material in class. A good rule of thumb is that a level one assignment should take no longer than one hour to complete. If you find an assignment taking longer than this, then please **seek assistance during office hours**.
- Instructors are willing to discuss any aspect of a level 1 assignment, up to and including whether an answer is correct or not. However, the student must have made an attempt on the question prior to asking for help.
- A level 1 homework will typically be due 3-5 days after the corresponding class period in which the material was covered.
- Each level 1 homework assignment is worth 10 points, but only your best ten assignments count toward your grade.
- **Submit:** Formative
- **Value:** 10 points x 10 assignments = 100 points

Level 2 Homework

- The level 2 homework goes slightly beyond the fundamentals in class and lays the groundwork for the level 3 assignment.
- These assignments should be challenging, but should take no more than two hours to complete. If you find a level 2 assignment taking longer than this, please **seek assistance during office hours**.
- Instructors are willing to discuss almost any aspect of a level 2 assignment. There are very few questions on these assignments where we will be cagey about whether a particular answer is correct, but we will always be willing to discuss errors in how you came up with your answer.
- Each level 2 homework assignment is worth 20 points, but only your best eight assignments count toward your grade.
- **Submit:** Formative
- **Value:** 20 points x 8 assignments = 160 points

Level 3 (Mastery) Homework

- 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 usually some element of mathematical argumentation.
- 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.** Mastery assignments are playing the role of exams in this class, so
- Instructors are happy to discuss mastery assignments, but answers will be less straightforward since the goal is helping to guide the student's original thoughts.
- Level 3 homework assignments are graded based on **mastery**. Here are more details about mastery grading.

- Only competent efforts will receive **any** points at all.
- While mastery assignments will be submitted on Canvas or Formative, the grade will only be entered after a **conference with an instructor**. It is the student's responsibility to schedule this conference within a week of the deadline. In the conference, the student must show complete understanding of their solution to get full marks.
- If a solution falls short of mastery but is on the right track, the student will be given partial credit and a chance to resubmit. In general, the resubmission window will be a week from the conference. Students are strongly encouraged to have some discussion of their solution prior to their first submission to ensure that they are on the right track and are able to resubmit.
- Each level 3 assignment is worth 60 points, but only your best four count toward your grade.
- At the end of the term, a single mastery assignment currently under revision will be graded for partial credit.
- **Submit:** Formative. Additional work from resubmissions may be submitted on Canvas on the assignment page.
- **Value:** 60 points x 4 assignments = 240 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:** Formative (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:** Formative (link varies per assignment.) prior to class.
- **Value:** 5 points x 20 assignments = 100 points

Classwork

Most class periods are devoted to class discussion or group activities. Students are assessed based on their participation in these activities.

- Participation in every class activity is worth 5 points. There are 20 such activities.
- It is impossible to make up a missed class activity since interaction is a crucial part of them, but 4 of these assignments are dropped to account for unavoidable absences
- **Submit:** Formative (link varies per assignment.) prior to class.
- **Value:** 5 points x 18 assignments = 90 points

Participation

Everyone begins with the maximum 10 participation points. Failure to participate in class activities will lose some of these points. Exceptional participation can gain points. The gain can be bonus that exceeds the initial 10 points. Participation assessment is entirely at the discretion of the instructor and TA.

Grading Scale

There are 1000 total points in this class, broken down as follows.

```
Participation                      10 points
Pre-Classwork Assignments         100 points (20 assignments, 5 pts each)
Classwork                          90 points (best 18, 5 pts each)
Lv1 Homework                      100 points (best 10, 10 pts each)
Lv2 Homework                      160 points (best 8, 20 pts each)
Lv3 Homework (Mastery)            240 points (best 4, 60 pts eatch)
Quizzes                           100 points (best 10 of 14, 10 pts each)
Final Project                     200 points (100 pts paper, 100 pts visual aid)
Total                            1000 points
```

A full description of these assignment categories are in the [List of Graded Work](#). Final grades are assigned on a 125 point scale:

- 1000-875 is an A
- 874-750 is a B
- 749 - 625 is a C
- 624 - 500 is a D
- Anything lower is an E

A C or higher is needed to meet degree requirements. Plus and minus grades are awarded based on the strength of the final project, Lv3 homework, class participation, and overall growth over the course of the term. Otherwise, the grading scale is strictly adhered to. Grading in this class is consistent with the UF polices at [https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/ (Links to an external site.)](https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/). You can also find UF's grade point policy at this link.