

MATH 220/ 199: Merit Calculus I

General Information

Instructor:	Mary Angelica Tursi
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Meeting room and time:	173 Altgeld, 11-12:50, TR
Office:	B4 Coble Hall
MATH 220 webpage:	https://faculty.math.illinois.edu/~murphyrf/teaching/M220-S2020
Office Hours:	Thursday 5-6 (general tutoring), Merit hour TBD

The Merit Philosophy

Merit discussions provide a great opportunity for you to attain a high level of understanding of the course material and to learn to think critically about math in general. The Merit section is not a review session or tutoring session. We will incorporate aspects of lecture material into the questions that we consider, but this is not meant to be a repeat of lecture nor is it intended to take the place of time you should be studying outside of class. During this time (where you will be receiving Math 199 credit), you will learn to think critically about complex problems and work with others in small groups to solve them. **You will learn new ways to tackle problems, feel more comfortable about sharing your ideas, make new friends, and realize what you do and don't understand in a comfortable, supportive environment.** You are encouraged to share your opinions in class, but please be aware and respectful that others may have different positions. You don't have to agree, but must learn to attack ideas, not people. The biggest benefit of Merit will be gained by students who come to class already familiar with the material and prepared to discuss it, hear new ideas from peers, and apply their understanding to novel situations.

Format

At the beginning of each session, students will get into to their groups. Every week, students are expected to turn in a summary of the notes from the previous week's lectures. These notes should be at least a page front and back in length, but no more than two full pages. If there is something in lecture that confused you, you can also put **well-crafted, specific** questions in your summaries. The idea behind this assignment is to enable students to think on the main points of each lecture, in addition to giving a brief review of the material for the worksheets. One student will write down two main points on their summary, or one main point and one question. I strongly recommend that you work together in your groups on these summaries.

After a brief discussion on the main ideas, students will begin their worksheets. These problems are geared towards a more in depth understanding of the mathematics, as well as some interesting applications to fields of study that are of interest to students. If I deem it necessary, I may give a group-quiz at the beginning of a merit session. At 9:50 or so, students

will take a break until 10:00. They will get back into groups to work on their worksheets. If there is a 220 quiz that day, students will start class with the quiz and afterwards work together in groups as usual. After a break, we will work on the merit worksheets until the class is over.

While this will be the usual schedule, keep in mind that I might change up things slightly to introduce a topic with an activity for the day.

You are to **work cooperatively** with other students in solving worksheet problems by both contributing to discussion and listening to each other. Do not leave other students in your group behind! If you have mastered the problem, and another student in your group is struggling, then strengthen your knowledge by taking an opportunity to assist the other student. One does not truly know the material unless he or she is able to teach it clearly to others after all, so you will also benefit from the exchange. If you are struggling from the material, speak up and ask for help from your fellow group members, but refrain simply from copying the answers.

Grades

Grading Scale: The anticipated grading scale for this course is below. At my discretion, this scale may be adjusted, but only in your favor.

A	92-100	A-	90-91		
B+	88-89	B	82-87	B-	80-81
C+	78-79	C	72-77	C-	70-71
D+	68-69	D	62-67	D-	60-61
F	0-60				

Please note that you must receive a B or higher in Math 199 (AND a C or higher in Math 220) to continue in the Merit program.

220 Grade: See Mr. Murphy's syllabus. I will also be taking attendance.

199 Grade: The merit grade for Math 199 is a separate grade from that of 220. For each merit discussion you will get up to 10 points, based on attendance and participation in the merit discussion session. Preparation for class is measured mainly in the group summaries and group quizzes, which are also 10 points each. The lowest group quiz grade and the lowest worksheet grade will be dropped. The point break down is as follows:

- **Attendance:** 0 to 5 points are awarded on attendance. Students are docked one point for each five minutes that they are late. Note that while you can gain up to 5 points for attendance, tardiness can result in a loss of more than 5 points. It is important that students arrive on time since our work will be group based, and it is unfair to other students if they are already in the middle of their worksheets and you just started.
- **Preparation:** 20% of your grade will be based on your written summaries. Students are expected to attend lectures and take notes, study their material, bring their notes to sessions to assist them with their worksheets, and be able to communicate what they have learned to others. Students can also bring a textbook to help them with their

work. If you take notes on your laptop or tablet and want to use them, please let me know beforehand, and use said laptop or tablet **only** for the notes to assist you on your worksheet.

- **Participation** 0 to 5 points will be awarded based on participation and collaboration in discussion sessions. Students should be active in discussion sessions for their worksheets. Active participation involves both communicating with and listening to students, presenting on the board during summary presentations or quiz reviews, asking well-crafted questions of your TA if the group finds itself stuck, and answering questions to the best of one's ability.

WS Folder: At the end of the semester, students will turn in a folder containing the work done in their discussion sessions (quizzes and worksheets). This will count towards 5% of their merit grade. While there will not be a similar grade for the 220 class, the idea is for students to keep these materials in an organized manner for the duration of the class. Worksheets in general are fair game for exam materials, and having said worksheets at hand for study will be most helpful when the final exam approaches.

Extra Credit

Students can earn up to 1 point a week for attending either office or tutoring hours for an extended period of time (at least 15 minutes). To get credit, the student must come with material at hand such as homework or questions from the discussion sessions.

Here is a handy chart of Merit expectations.

You will...	You won't...
work in groups.	work alone.
prepare for discussion by reviewing your lecture notes and working on the homework.	use discussion as a chance to catch up on lecture material or homework.
get to know each other and work together outside of discussion.	be rude, hurtful, racist, sexist, intolerant, or generally uncivilized.
listen to other students and contribute to discussion.	seldom contribute and remain quiet during the entire session.
let me know if there's a problem with lectures, homework, or exams.	stew in seething resentment towards Professor Murphy.
let me know if there's a problem with the worksheets, discussions, or quizzes.	stew in seething resentment towards me.
make sure your group brings a book to class and bring your class notes.	use computers or cell phones during class for anything other than to access notes.
I will...	I won't...
help you sift through your logic if you feel stuck.	directly answer worksheet questions.
write challenging worksheets that will improve your understanding of the lecture material.	write worksheets intended to trick you.
help you with homework and answer direct questions during office hours and appointments.	talk about homework during discussion.
arrange appointments if you cannot make it to my regular office hours.	be available all the time. (I am in graduate school!)
I can...	I can't...
talk with Professor Murphy and make reasonable guesses about exam content while writing mock exams.	read Professor Murphy's mind.
be your advocate if I agree that your quizzes or exams have been incorrectly or unreasonably graded.	change your grade if Professor Murphy doesn't agree with me.
determine your Math 199 grade.	determine your Math 220 grade.