MATH 273 - Graph Theory - Fall '22

Lecturer: Puck Rombach (*puck.rombach@uvm.edu*)
Texts: Graph Theory, by Reinhard Diestel (diestel-graph-theory.com)

Overview
The course will cover foundational topics in graph theory, such as trees, paths, cycles, Hall's theorem, connectivity, vertex/edge covering, Menger's theorem, Tutte's theorem, bipartite graphs, König's theorem, Hamiltonicity, coloring, Turán and Ramsey numbers, flows, Ford-Fulkerson algorithm, planarity, Kuratowski's theorem,...

Reading is required in advance of each class, and a large part of the class time will be devoted to discussion and active learning. The focus of this class will be on proof writing, and some optional programming in SageMath.

Homework
The class notes contain exercises, some of which we will work on collaboratively in class. Each week, you will write up a set of exercises of your choice (worth at least 5 points total), which are handed in at the start of the following week and graded. Each Homework is graded as 0, 1/2 or 1 credit.

Presenting
You may earn one more credit by giving a short ($\sim$ 15 min) presentation, either in class or as a prerecorded video. If you are interested, I will help you choose an appropriate topic and time.

Attendance
Attendance is important for you to be succesful in this course. Please attend all lectures if possible and let me know when you will be absent.

Office Hours and Appointments
There will be regularly scheduled office hours, but I am available for drop-ins or appointments outside of office hours as well, depending on my schedule. I want you to do well in this class and checking in with me early can make a big difference. This is a small class so I hope to chat regularly with all of you.

Flexibility and accommodations
If you cannot make an occasional deadline due to health or personal reasons, just ask and I'll give you an extension, no questions asked. If you encounter continuing barriers, please let me know as soon as possible, so that we can determine if there is a design adjustment that can be made or if an accommodation might be needed. I am always happy to consider creative solutions as long as they do not compromise the intent of the assessment or learning activity.

Grading
Grades are determined as follows. Each of the 15 Homework sets is worth 1 credit if completed satisfactorily, plus an optional credit for presenting. At the end of the semester, 10 credits are worth an A and 7 credits a B.