Math 209, Section 1 - Spring 2022 Syllabus

Professor:	Dr. Andy Felt	Office:	Sci. D355
Office Hours:	M, T, W, Th 2:00 – 2:50 p.m.	Phone:	none
(zoom available)	or by arrangement	email:	`afelt@uwsp.edu`

Class Meetings: M, T, W, R, 11:00–11:50, Sci. A207.

Text: *Discrete Mathematics and Its Applications*, 7th ed., by Rosen, ISBN 978-0-07-338309-3, available from UWSP Text Rental.

Course Canvas Page: https://uws.instructure.com/courses/478749

Calculators and Computers: A calculator will not be necessary in this course, but you may find one useful once or twice.

Prerequisites: Math 95

Fundamental Skills to be Learned:

- Recognizing real life situations where mathematical models apply.
- Translating the real life situations into mathematical models.
- Solving the mathematical model.
- Interpreting the solution in the context of the real life situation.

Grading:

Homework Assignments	23%
Class Participation	2%
3 Exams	50%
Final Exam (Comprehensive)	25%

This many points gets you	⇒	at least this grade
92%	⇒	A,
90%	⇒	A−,
88%	⇒	B+,
82%	⇒	B, etc.

Homework: Assignments should have the following format:

- Name, section, assignment, date on first page
- Uploaded to Canvas as a single pdf document

The grade for each assignment will include 20% based on accuracy and quality of written communication. Examples on this topic are given in Assignment 0. *No late homework is accepted for any reason.* Usually, there will be a class day between the day homework is assigned and the day it is due. Assignments are due at the beginning of class on the day they are due. The lowest three will be dropped.

Exams: Exams will test your ability to solve problems and understand concepts from lecture and the books. Exams must be ONLY your own work. Calculators, notes, and other materials may not be used on exams.

Help: Everybody needs help at some point. The key is to *get help right away* when you need it. Here are some ways to get help:

- ask a question in class;
- ask me during office hours;
- ask me in an email;
- the STEM Tutoring Room (CBB 190) provides free drop-in help for students in this course;

- the Tutoring and Learning Center has two kinds of help available; see `https://www.uwsp.edu/tlc/Pages/dropInTutoring.aspx` and `https://www.uwsp.edu/tlc/Pages/Mathandscischedules.aspx` for more information.

Disability Accommodations: Reasonable accommodations are available for students who have a documented disability. Please notify the instructor during the first week of class of any accommodations needed for the course. All accommodations must be approved through Disability Services, located at 609 Learning Resources Center or `https://www.uwsp.edu/datc/Pages/default.aspx`.

General Course Policies:

- Cell phones, computers, and other technology should be turned off during class and exam times, except when explicitly told so by the instructor.
- Everyone becomes ill sometimes. When illness or other emergencies require absence from class, I expect you to contact me immediately, preferably by email. I expect you to try to keep up with what is being taught by getting notes from a friend and doing the homework.
- **Academic Dishonesty:** You may discuss homework assignments with each other, and you may seek help from the instructor and tutor. However, we want you to become an independent problem solver. Therefore, you must limit the amount of outside help you receive. You must not copy any part of another person's work, and you must not share any part of your work with others. If there is *any* doubt about the amount of help given or received, you should consult with the instructor before submitting the assignment. Please see `https://www.uwsp.edu/dos/Pages/Student-Conduct.aspx` to read about your rights and responsibilities as a student, and Chapter 14 (at that page) to read about Wisconsin's academic misconduct code.
- The course materials and recordings are the property of the instructor, and may not be copied or recorded without the instructor's permission. Students may not copy or share course materials, answers, or recordings outside of class, including posting on internet sites or selling to commercial entities. Students are also prohibited from providing or selling their personal notes to anyone else or being paid for taking notes by any person or commercial firm without the instructor's express written permission. Unauthorized use of these copyrighted lecture materials and recordings constitutes copyright infringement.

Tentative Calendar

Week of	Approximate Coverage
Jan 24	Pseudocode Algorithms
Jan 31	Greedy algorithms Sorting Complexity of algorithms
Feb 7	Growth of complexity Stacks and queues Recursive algorithms
Feb 14	Binary search trees Huffman coding Tree traversal
Feb 21	Spanning trees Minimum spanning trees Exam 1
Feb 28	Sets Set operations Cartesian product and power sets
Mar 7	Propositional logic Propositional equivalences Functions
Mar 14	Priority queues (Heaps) Graphs and graph models Euler cycles and paths
Mar 28	Carrier of post problems Hamilton cycles, TSP Exam 2
Apr 4	Shortest path problems Application: geodesic dome
Apr 11	Maximum flow problems Hashing Combinatorics
Apr 18	Relations
Apr 25	n-ary relations voting systems Automata
May 2	Finite-state machines Exam 3
May 9	Boolean functions Logic gates
Finals	Monday, 16 May Final Exam 12:30–14:30