Professor:	Dr. Chris Black
Office:	Des Moines Center, HEC #268
Office Hours:	Mondays 9:30 - 10:45 and by arrangement
Office Phone:	x3850
Email :	blackc@cwu.edu

Text:	Course materials will be distributed by the Professor via Canvas.

Email:

To contact me outside of class time, please email blackc@cwu.edu. Be sure to include a relevant subject line in your email. *I do not answer email on Saturdays*, but will otherwise respond promptly. *Assignments will not be accepted by email*, unless under extreme circumstances with prior approval.

Goals for course:

Upon completion of Math 232, students will be able to:

- ... use and apply the principle of mathematical induction;
- ... use and apply different counting techniques to solve problems;
- ... use and apply recurrence relation principles;
- ... use and apply deductive logic as a form of reasoning;
- ... use and apply models having roots in graph theory, combinatorics, and sequences;
- ... gain sufficient mathematical maturity to be able to successfully undertake the mathematics courses in the remainder of the Middle Level Mathematics Teaching program.

Course Philosophy:

In this inquiry-based course, you'll experience learning new mathematics while analyzing the process of learning mathematical content. We will work collaboratively, building on our existing foundation of the mathematical process standards: problem solving, reasoning, communication, making connections, and representation. Students will often work in groups at the board, or present their solutions to the class to further develop these mathematical processes.

Course Topics:

- ▷ Problem Solving
- ▷ Graph Theory
- ▷ Sets and Counting
- ▷ Logic
- ▷ Proof
- ▷ Sequences & Recursion

Cell Phone & Internet Policy:

Silence your cell phone during class. If your phone rings during class time, you will be required to bring please-forgive-me cookies to the next class session. You will not accept a call or send or receive text messages during class. Likewise, refrain from accessing the internet during class time; there is no productive reason to do so.

HOMEWORK:

Much of your work for this course will not be collected and graded. You will be generally be assigned 3 problems (sometimes – but rarely – more) from each section of material; two of these problems will be presented by students chosen at random, and the third will be collected and graded. Consult the the *Homework Guidelines* for details. You may work in groups to discuss the homework problems, however the final versions should be written individually. **It is considered plagiarism to find solutions to problems assigned as homework in other texts or on the internet.** You are invited to come see me for hints on homework problems.

HOMEWORK REWRITES:

One goal of this course is mastery of mathematical communication. However, it is not to be expected that this mastery will occur with only one attempt. Thus, graded work can be re-worked and re-submitted up to two times. If no numerical grade was assigned, then the problem **must** be rewritten; if the work received a numerical grade, then you can decide whether or not to rewrite it to improve your score. The score on a rewrite replaces the original score for a problem. When I return homework papers, I will mark them with the return date. You have one week from that date in which you can analyze your errors, re-write your solution and return it to me.

PRESENTATIONS:

Each day, a few students will be chosen at random to present solutions to selected homework problems, and the written work will be collected and graded. Non-presenting students are responsible for critiquing presented work, with a collaborative eye on improvement. Problems presented can be re-presented and re-submitted if necessary.

EXAMS & FINAL EXAM:

Exams will be given as take-home exams, during which the only allowed sources are the professor and the course materials. For each take-home exam, one day of class will be used for individual consultations with the professor. Use of the internet, any other written source, or any person other than the professor is considered plagiarism and will result in a score of 0 on the exam. The final exam will take place on **Tuesday, 12/10/19** during our normal class time.

PARTICIPATION:

One of the goals of this course is to increase your comfort with communication in mathematical language. Your future career in the classroom demands that you can communicate using correct mathematical language and symbols, clearly and succinctly, both orally and in writing. The best way to develop these communication skills is to actively participate in classroom activities, presentations, discussion and critiques. This course will be conducted seminar-style; I will act as a moderator while the students lead the discussion through questions and presentation of problem solutions to one another. I will answer questions and steer the discussion, however the momentum for the course will be created by the students themselves.

ATTENDANCE/CITIZENSHIP:

Discussion, interaction, and group problem solving will all be important aspects of this course, which necessitate your attendance. Citizenship addresses your behavior and comportment with class members and the professor. We each need to be respectful of other students, other cultures, and differing ideas within our learning community. In particular, in a class where you are expected to critique each other's work, we need to keep our comments constructive. Consult *Expectations for Student Conduct* on the last page of this document for more details.

GRADING:

Homework:	Scale to 200 points
Take-Home Exams (2):	200 points total
Final Exam:	150 points
Participation/Attendance/Citizenship:	30 points

ACADEMIC HONESTY:

Consult university policies (CWUP 5-90-040(22), CWUR 2-90-040(22), and WAC 106-125-020) for student conduct, cheating, plagiarism, and other academic expectations. CWU's policies and recommendations for academic misconduct will be followed, leading to disciplinary action up to and including failing the course. See `https://apps.leg.wa.gov/WAC/default.aspx?cite=106-125` and `https://www.cwu.edu/resources-reports/cwur-2-90-040-academic-and-general-regulations#Grade%20Appeals`

DISABILITY SERVICES:

Central Washington University is committed to creating a learning environment that meets the needs of its diverse student body. Students with disabilities should contact Disability Services to discuss a range of options to removing barriers, including accommodations: Hogue Hall 126, 509.963.2214, DS@cwu.edu.

ACCOMMODATION FOR RELIGIOUS OBSERVANCES:

In compliance with RCW 28B.137.010, Central Washington University makes every effort to deal reasonably and fairly with students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. Students must present written notice to their instructor within the first two weeks of class listing the specific dates on which accommodations are required. Contact the Dean of Student Success at (509) 963-1515 for further information or questions.

STATEMENT ON DIVERSITY:

CWU expects every member of the university community to contribute to an inclusive and respectful culture for all in its classrooms, work environments, and at campus events. As a student in this course, you are expected to treat your professors, fellow students, and other people affiliated with your work at CWU with respect, regardless of their sex, race and color, religion and creed, national origin, sexual orientation, gender identify and gender expression, disability and use of assistive devices or a service animal, and veteran or military status.

EXPECTATIONS FOR STUDENT CONDUCT:

Students in this class are expected to interact professionally with other students and the professor. Instances of disruptive conduct, obstructive conduct, or harassment will be referred to the Dean of Student Success. The definitions below are from the Washington Administrative Code (WAC), which is enshrined in state law.

Per WAC 106-125-020, the term "disruptive" or "obstructive" conduct means conduct, not protected by law, that interferes with, impedes, or otherwise unreasonably hinders the normal teaching, learning, research, administrative, or other functions, procedures, services, programs, or activities of the university. The term includes disorderly conduct, breach of the peace, violation of local or university noise policies, lewd or obscene conduct, obstruction of pedestrian or vehicular traffic, tampering with student election processes, or interfering with the orderly conduct of university investigations or disciplinary proceedings, including interfering with or retaliating against any witness, party, or other participant.

The term "harassment" means unwelcome and offensive conduct, including verbal, nonverbal, or physical conduct, that is directed at a person because of such person's protected status and that is sufficiently serious as to deny or limit the ability of a student to participate in or benefit from the university's educational program, or that creates an intimidating, hostile, or offensive environment for any campus community member(s). Protected status includes a person's actual or perceived race, color, national origin, gender, disability, or other status protected by law.