MAT 243, Discrete Math Structures Summer 2023 Section 44645

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Time and Location: None – Online Video Lectures

Text *Discrete Mathematics with Applications*, ***5e,*** Susanna S. Epp (optional). WebAssign is required for the online homework and all tests. WebAssign provides an e-book. A hard copy of this textbook is not required.

Course Description: Logic, sets, functions, elementary number theory and combinatorics, recursive algorithms, and mathematical reasoning, including induction. Emphasizes connections to computer science.

Office Hours: Wednesday, 8:00 AM – 10:00 AM (Zoom https://asu.zoom.us/j/8162794176) and by appointment.

Prerequisite: MAT 210 or its equivalent.

Lecture Materials:

Course lectures and other materials are posted at the Modules Section at the Canvas shell. Watching online videos, completing homework assignments during the designated data ranges, taking two semester exams and one comprehensive final exam. All exams are taken in WebAssign.

Homework, Semester, Final Exams: Online homework will be submitted at WebAssign. WebAssign contains questions pertaining to each topic and due dates. Late assignments will not be accepted. Students should complete assignments a few days before the due dates.

Students will take two tests (each one hour), one final exam. All tests will be administered through WebAssign. The exams will be available for a period of 48 hours during which you can access it at any time. However, once you access it, you will have one hour (two hours for final) to complete it provided you access the test before 10:59 pm (9:59PM for final) on the day it is due.

Students are responsible for any computer/software issues with their own computers, which can not be used as an excuse for not having homework/exams done before deadlines. It is always a good practice to start early and don't wait the last minute to do the assignments/exams.

Honorlock will proctor your exams this semester. Honorlock is an online proctoring service that allows you to take your exam from the comfort of your home. You do not need to create an account or schedule an appointment in advance. Honorlock is available 24/7, and all that is required is a computer, a working webcam/microphone, your ID, and a stable internet connection. To get started, you will need Google Chrome and download the Honorlock Chrome Extension. When you are ready to complete your assessment, log into Canvas, go to your course, and click "Honorlock" at the left panel. Clicking "Launch Proctoring" will begin the Honorlock authentication process, where you will take a picture of yourself, show your ID, and complete a scan of your room. Honorlock will be recording your exam session through your webcam, microphone, and recording your screen. Honorlock also has an integrity algorithm that can detect search-engine use, so please do not attempt to search for answers, even if it's on a secondary device. Honorlock support is available 24/7/365. If you encounter any issues, you may contact them through live chat on the support page or within the exam itself. Some guides you should review are Honorlock MSRs, Student FAQ, Honorlock Knowledge Base, and How to Use Honorlock.

Arizona Standard Time: Assignment and exam due dates follow Arizona Standard time. Note that Arizona does not observe daylight savings time.

Computer Requirements: This is a fully online course; therefore, it requires a computer with internet access and the following technologies:

- Web browsers (Chrome, Mozilla Firefox, or Safari)
- Adobe Acrobat Reader (free)
- Webcam, microphone, headset/earbuds, and speaker (these are necessary for video lectures)
- Reliable broadband internet connection (DSL or cable) to stream videos.

- A smartphone, iPad, Chromebook, etc. will not be sufficient for completing your work in ASU Online courses. While you will be able to access course content with mobile devices, you must use a computer for all assignments, quizzes, and exams.

Student Success: Students understand that an online course demands the exact same dedication as would be expended for a in person course. Students will set aside regular time to attend to their studies in an online course, and play by the exact same rules and expectations. Online is not "easier" - students should not abuse the online environment simply because there is no one watching them. To do be successful, you should

- check the Canvas course page daily,
- read announcements,
- read and respond to course email messages as needed,
- complete assignments by the due dates specified,
- communicate regularly with your instructor and peers,
- create a study and/or assignment schedule to stay on track, and
- access ASU Online Student Resources.

Grading: Your final grade for this course will be based on the percentage you complete in each category.

Homework	**50%**
2 tests	**25%**
Comprehensive final exam	**25%**

A+	***A***	***A-***	***B+***	***B***	***B-***	***C+***	***C***	***D***	***E***
97-100	93- 96.9	*90-92.9*	*87-89.9*	*83-86.9*	*80-82.9*	*77-79.9*	*70-76.9*	*60-69.9*	*< 60*

Communication with the Instructor:

All instructor correspondence will be sent to your ASU email account and you are expected to use your ASU email for all course related correspondence. ASU email is an official means of communication among students, faculty, and staff. Students are expected to read and act upon email in a timely fashion. Students bear the responsibility of missed messages and should check their ASU-assigned email regularly.

Students will not send aggressive, provocative, abusive, vulgar or profane emails to their instructor or to fellow students in any forum related to this course, for any reason or circumstance. Students understand that violating this rule may have consequences from immediate withdrawal from the course to more severe sanctions at the university to an including removal from my course of study.

Learning Outcomes:

- Demonstrate the ability to evaluate propositional logic statements
- Demonstrate the ability to evaluate predicate logic statements
- Demonstrate the ability to determine if an argument is or is not valid.
- Demonstrate the ability to write and evaluate proofs for elementary number theory.
- Understand the principles of mathematical induction and sequences
- Understand the basic principles of sets and operations in sets.
- Understand properties of a function and find inverse function.
- Prove basic properties of relations and applications.
- Apply counting principles to determine probabilities.