WAYLAND BAPTIST UNIVERSITY
PLAINVIEW CAMPUS
KENNETH L. MATTOX SCHOOL OF MATHEMATICS & SCIENCES

Wayland Mission Statement:
Wayland Baptist University exists to educate students in an academically challenging, learning-focused, and distinctively Christian environment for professional success, and service to God and humankind.

Course Title and Number:
MATH 2309-VC01: Discrete Structures

Term:
Fall 2025

Name of Instructor:
Dr. Chris Thornhill

Office Phone and E-mail Address:
291-1131
thornhillc@wbu.edu

Office Hours, Building, and Location:
(Moody Science Building) Room 122

Class Meeting Time and Location:
Online (Asynchronous)

Course Description:
Sets, functions, basic counting and combinatorics, relations, number systems, logic including Boolean algebra, proof techniques, basic probability.

Prerequisites:
MATH 1304 (College Algebra) or equivalent

Required Materials:
Discrete Mathematics: An Open Introduction, Oscar Levin 3rd edition
(http://discrete.openmathbooks.org/dmoi3.html) – Open Source and Freely Available

Supplies:
Scientific or graphing calculator, pencil, paper, and a camera for scanning images of handwritten homework (instructions will be included in course)

…but sanctify Christ as Lord in your hearts, always being ready to make a defense to everyone who asks you to give an account for the hope that is in you, yet with gentleness and reverence…

1 Peter 3:15(NASB)

Course Outline/Outcome Competencies:
Students should be able to discuss and solve problems in the following areas:

1. The student will demonstrate an understanding of sets and functions.
2. The student understands basic counting techniques, including combinations and permutations.
3. The student can use various numbering systems, including binary and hexadecimal systems.
4. The student can apply basic proof techniques, including direct and indirect proofs.
5. The student exhibits a basic understanding of probability.
6. The student understands relations and their properties.
7. The student demonstrates an understanding of Boolean functions.

Attendance:
All students are expected to attend all class sessions and are responsible for knowing the material covered. Any student missing more than 25% of the class will automatically fail the class. For this online course, attendance is measured by completed homework assignments, quizzes, and exams.

Statement on Plagiarism and Academic Dishonesty:

Link to Statement on Academic Integrity

Disability Statement:
In compliance with the Americans with Disabilities Act of 1990 (ADA), it is the policy of Wayland Baptist University that no otherwise qualified person with a disability be excluded from participation in, be denied the benefits of, or be subject to discrimination under any educational program or activity in the university. The Disability Services Coordinator and Academic Coach serves as the coordinator of students with disabilities and must be contacted concerning accommodation requests (office (806) 291-1057. Documentation of a disability must accompany any request for accommodations.

Course Requirements and Grading Criteria:

Homework:
There will be homework assignments for each section covered. Some of the assignments will be completed in Blackboard, but most of them will be handwritten, scanned via camera app, and mailed to the professor for grading. Each section's assignment counts as one grade. You may work together, but do not copy. No late homework will be accepted. If there are mitigating circumstances, contact your instructor and you MAY receive an extension. The two lowest homework assignments will be dropped.

Weekly Quizzes:
At the end of each week of the course, you will be required to complete an online quiz covering the sections from that week. The quizzes will be completed in Blackboard. The quiz will cover the lecture videos (when included) and the reading assignments.

Exams:
During the course, there will be two major exams: a Midterm and a Final. Each test will cover approximately half the course. Both of the exams are proctored. They will be handwritten exams to be scanned and submitted to your professor. You can complete this at one of our campuses at Wayland, with a third-party proctor approved by WBUOnline, or if neither option is possible for you, please contact your instructor for accommodations.

Lecture Videos and Notes:

You will be required to watch the videos (when provided) for this course. The videos are provided through VidGrid inside of Blackboard. There are embedded questions that will confirm that you watched the videos. Watching the videos is included as part of your participation grade.

Grading:

40% Exams
30% Homework
20% Quizzes
10% Participation (Videos, Concept Check Questions, Discussion Board)

A: 90 – 100 **B:** 80 – 89 **C:** 70 – 79 **D:** 60 – 69 **F:** Below 60

Students shall have protection through orderly procedures against prejudices or capricious academic evaluation. A student who believes that he or she has not been held to realistic academic standards, just evaluation procedures, or appropriate grading, may appeal the final grade given in the course by using the student grade appeal process described in the Academic Catalog. Appeals may not be made for advanced placement examinations or course bypass examinations. Appeals are limited to the final course grade, which may be upheld, raised, or lowered at any stage of the appeal process. Any recommendation to lower a course grade must be submitted through the vice president of academic affairs to the Faculty Assembly Grade Appeals Committee for review and approval. The Faculty Assembly Grade Appeals Committee may instruct that the course grade be upheld, raised, or lowered to a more proper evaluation.

Week	Dates	Material	Assignment	Quiz Due
1	8/11 – 8/17	**Chapter 0 Introduction and Preliminaries**		**Week 1 Quiz**
		Mathematical Statements	HW 0.2	
		Sets	HW 0.3	
2	8/18 – 8/24	**Additional Topics**		**Week 2 Quiz**
		Relations	HW A.1	
		Chapter 0 (cont'd)		
		Functions	HW 0.4	
		Additional Topics		
		Numbering Systems	HW A.2	
3	8/25 – 8/31	**Chapter 1 Counting**		**Week 3 Quiz**
		Additive and Multiplicative Principles	HW 1.1	
		Binomial Coefficients	HW 1.2	
		Combinations and Permutations	HW 1.3	
4	9/1 – 9/7	**Chapter 1 (cont'd)**		**Week 4 Quiz**
		Combinatorial Proofs	HW 1.4	
		Stars and Bars	HW 1.5	
		Advanced Counting Using PIE	HW 1.6	
5	9/8 – 9/14	**MIDTERM EXAM (COVERS WEEK 1-4)**		
		Chapter 2 Sequences		**Week 5 Quiz**
		Describing Sequences	HW 2.1	
		Arithmetic and Geometric Sequences	HW 2.2	
		Solving Recurrence Relations	HW 2.4	

Week	Dates	Material	Assignment	Quiz Due
6	9/15 – 9/21	**Chapter 2 (cont'd)**		**Week 6 Quiz**
		Induction	HW 2.5	
		Chapter 3 Symbolic Logic and Proofs		
		Propositional Logic	HW 3.1	
7	9/22 – 9/28	**Additional Topics**		**Week 7 Quiz**
		Probability	HW A.3	
8	9/29 – 10/4	**FINAL EXAM (COVERS WEEK 5-7)**		

Academic Honesty:
Disciplinary action for academic misconduct is the responsibility of the faculty member assigned to this course. The faculty member is charged with assessing the gravity of any case of academic dishonesty, and with giving sanctions to any student involved.

Course Communication Policy:
Wayland email is the official method of communication between instructors and students taking courses through Wayland Baptist University. Students are required to establish and activate their Wayland email account. Instructors reserve the right to deny email from other sources.

Important Dates:

Last day to drop without record	August 19
Last day to withdraw with "W"	September 13
Last day to withdraw with a "WP/WF"	September 27
Last Day of Class	October 5

This syllabus is only a plan. The teacher may modify the plan during the course. The requirements and grading criteria may be changed during the course if necessary. Proper notice of any changes will be given to the class.

rev. 8/24