

THE DEPARTMENT OF MATHEMATICAL SCIENCES

## MATH 326: Discrete Analysis for Computer Engineers

### *Fall 2025 Course Syllabus*

**NJIT Academic Integrity Code:** Academic Integrity is the cornerstone of higher education and is central to the ideals of this course and the university. Cheating is strictly prohibited and devalues the degree that you are working on. As a member of the NJIT community, it is your responsibility to protect your educational investment by knowing and following the academic code of integrity policy that is found at: NJIT Academic Integrity Code.

Please note that it is my professional obligation and responsibility to report any academic misconduct to the Dean of Students Office. Any student found in violation of the code by cheating, plagiarizing or using any online software inappropriately will result in disciplinary action. This may include a failing grade of F, and/or suspension or dismissal from the university. If you have any questions about the code of Academic Integrity, please contact the Dean of Students Office at dos@njit.edu

### COURSE INFORMATION

**Course Description:** An introduction to mathematical logic, Boolean algebra, and Karnaugh maps. Other topics include functions, equivalence relations and partially ordered sets, counting, graph theory and finite state machines. The emphasis is on computation but proofs will be addressed. Students cannot receive credit for both **MATH 226** and **MATH 326**.

**Number of Credits:** 3

**Prerequisites:** **MATH 112** with a grade of C or better or **MATH 133** with a grade of C or better.

**Course-Section and Instructors:**

Course-Section	Instructor
Math 326-001	Professor P. Ward

**Office Hours for All Math Instructors:** **Fall 2025 Office Hours and Emails**

**Required Textbook:**

Title	zyBook Discrete Math
Notes	1. Sign in or create an account at <a href="https://learn.zybooks.com">learn.zybooks.com</a> 2. Enter zyBook code: NJITMATH326WardFall2025 3. (A subscription is \$64.)

**University-wide Withdrawal Date:** The last day to withdraw with a W is **Monday, November 10, 2025**. It will

be strictly enforced.

## POLICIES

**DMS Course Policies:** All DMS students must familiarize themselves with, and adhere to, the **Department of Mathematical Sciences Course Policies**, in addition to official **university-wide policies**. DMS takes these policies very seriously and enforces them strictly.

**Grading Policy:** The final grade in this course will be determined as follows:

Homework, Quizzes, and Class Performance	30%
Exam I	20%
Exam II	20%
Final Exam	30%

Your final letter grade will be based on the following tentative curve.

A	90 - 100	C	69 - 74
B+	85 - 89	D	60 - 68
B	79 - 84	F	0 - 59
C+	75 - 78		

**Attendance Policy:** Attendance at all classes will be recorded and is **mandatory**. Please make sure you read and fully understand the **Math Department's Attendance Policy**. This policy will be strictly enforced.

A grade of zero will be assigned for class participation every time you are absent from class. Absences from class will inhibit your ability to fully participate in class discussions and problem solving sessions and, therefore, affect your grade. Tardiness to class is very disruptive to the instructor and students and will not be tolerated. Each student should have contact information of several fellow students to get homework assignments and class notes when absent. You are responsible for everything that happens in class whether you are present or not.

**Religious Observance:** NJIT is committed to supporting students observing religious holidays. Students must notify their instructors in writing of any conflicts between course requirements and religious observances, ideally by the end of the second week of classes and no later than two weeks before the anticipated absence.

**Homework:** Homework problems will be assigned in class or online.

**Exams:** There will be two midterm exams held in class during the semester and one comprehensive final exam. Exams are held on the following days:

Midterm Exam I	Week 6
Midterm Exam II	Week 10
Final Exam Period	December 14 - December 20, 2025

The final exam will test your knowledge of all the course material taught in the entire course. Make sure

you read and fully understand the **Math Department's Examination Policy**. This policy will be strictly enforced.

**Makeup Exam Policy:** There will be **NO MAKE-UP QUIZZES OR EXAMS** during the semester. In the event an exam is not taken under rare circumstances where the student has a legitimate reason for missing the exam, the student should contact the Dean of Students office and present written verifiable proof of the reason for missing the exam, e.g., a doctor's note, police report, court notice, etc. clearly stating the date AND time of the mitigating problem. The student must also notify the Math Department Office/Instructor that the exam will be missed.

**Generative AI:** This course expects students to work without artificial intelligence (AI) assistance in order to better develop their skills in this content area. AI usage is not permitted throughout this course except when specifically allowed by the assignment instructions. In those circumstances, the extent of use of AI must be clearly stated. Violation of the policy will result in a grade of zero on any impacted assignment(s) and will be reported to the dean of students for supplemental discipline.

**Cellular Phones:** All cellular phones and other electronic devices must be switched off during all class times.

## ADDITIONAL RESOURCES

**Math Tutoring Center:** Located in the Central King Building, Lower Level, Rm. G11 (See: **Fall 2025 Hours**)

**Further Assistance:** For further questions, students should contact their instructor. All instructors have regular office hours during the week. These office hours are listed on the Math Department's webpage for **Instructor Office Hours and Emails**.

**Accommodation of Disabilities:** The Office of Accessibility Resources and Services (OARS) offers long term and temporary accommodations for undergraduate, graduate and visiting students at NJIT.

If you need an accommodation due to a disability, please contact the Office of Accessibility Resources and Services at [oars@njit.edu](mailto:oars@njit.edu), or visit Kupfrian Hall 201 to discuss your specific needs. A Letter of Accommodation Eligibility from the office authorizing student accommodations is required.

For further information regarding self identification, the submission of medical documentation and additional support services provided please visit the Office of Accessibility Resources and Services (OARS) website at:

<https://www.njit.edu/accessibility/>

**Important Dates** (See: **Fall 2025 Academic Calendar, Registrar**)

Date	Day	Event
September 1, 2025	Monday	Labor Day
September 2, 2025	Tuesday	First Day of Classes
September 8, 2025	Monday	Last Day to Add/Drop Classes
November 10, 2025	Monday	Last Day to Withdraw
November 25, 2025	Tuesday	Thursday Classes Meet
November 26, 2025	Wednesday	Friday Classes Meet

November 27 to November 30, 2025	Thursday to Sunday	Thanksgiving Recess - Closed
December 11, 2025	Thursday	Last Day of Classes
December 12, 2025	Friday	Reading Day 1
December 13, 2025	Saturday	Saturday Classes Meet
December 14 to December 20, 2025	Sunday to Saturday	Final Exam Period

## Course Outline

Week	Chapters	Topic
1	1	Logic
2	1, 2	Logic, Sets
3	2	Sets
4	3	Proofs
5		<b>EXAM I (Tentatively Date: 10/3)</b>
6	4	Induction and Recursion
7	5	Functions
8	6	Boolean Algebra
9	7	Binary Relations
10		<b>EXAM II ( Tentative Date: 11/7)</b>
11	7	Orders
12	7, 8	Orders, Graphs
13	8	Graphs
14	8	Graphs
15	<b>REVIEW</b>	<b>REVIEW</b>

*Updated by Professor P. Ward - 2025  
Department of Mathematical Sciences Course Syllabus, Fall 2025*