

## MAS 2104-03E: DISCRETE MATHEMATICS

**Department of Mathematical Sciences**  
**Fall 2021**  
**Credit Hours:** 3  
**Prerequisites:** MAC 1105 or higher

**CRN:** 20910  
**Lecture Times:** TR 12:30 PM – 1:50 PM  
**Location:** Sanson Life Sciences (SC-1) Bldg 178

### CONTACT INFORMATION

**Instructor:** Dr. Zvi Rosen  
**Office Location:** SE 224  
**Office Hours:** Tuesday 2:00 PM – 4:00 PM  
**Email:** [rosenz@fau.edu](mailto:rosenz@fau.edu)  
**Zoom Office Hours Link:** <https://fau-edu.zoom.us/my/rosenz>

### COURSE DESCRIPTION

Discrete Mathematics is the field of mathematics studying discrete structures like finite sets, graphs, and networks. These structures are particularly important in the study of computer science. Because the objects are relatively easy to define, they also afford us a great opportunity to explore mathematical proof-writing and logic.

*From the FAU Catalog:* A proof-oriented approach to and applications of propositional logic, sets, functions, relations, combinatorics, graphs and trees.

### COURSE OBJECTIVES

Upon successful completion of this course, students will be able to:

1. Explain definitions and prove basic facts from discrete mathematics.
2. Communicate mathematical arguments clearly and persuasively.
3. Write computer programs to implement basic algorithms.

### REQUIRED TEXT

In this course, you will need the textbook *Discrete Mathematics and its Applications* by Kenneth Rosen, Eighth Edition. Older editions are also perfectly acceptable. We will aim to cover Chapters 1,2,4,6 and 10 (give or take some sections).

# COURSE ASSESSMENTS, ASSIGNMENTS & GRADING POLICY

## GRADING CRITERIA

### Problem Sets (total 30%, assigned every week)

Every week in class on Tuesday, you will be asked to submit written problems, some of which you worked on in class, others which will be reserved for homework. Most of your grade on these assignments will be determined by clarity of presentation and explanation.

### Computation Projects (total 20%, five projects)

Each section of the course will include a computation project, where you will use your preferred programming language (e.g. Python, MATLAB, Sage, C++, etc.) to accomplish a specified task related to course material.

### Mastery Exams (total 50%, six opportunities over the semester)

There will be six mastery exams over the course of the semester. Each question will be aimed at demonstrating mastery of a skill on the list of "Mastery Question Types." For each question, you will receive a grade of **M**, mastered, **P**, progressing, or **X** not assessable. More details about the grading system will be given in a separate document. Your exam grade will be the percentage of Mastery Question Types that you have mastered by the end of the semester.

| Assessment           | Percentage (%) |
|----------------------|----------------|
| Problem Sets         | 30%            |
| Computation Projects | 20%            |
| Mastery Exams        | 50%            |
| <b>TOTAL:</b>        | <b>100%</b>    |

## GRADE SCALE

| Grade | Percentage (%) |
|-------|----------------|
| A     | 93 – 100%      |
| A-    | 90 – 92%       |
| B+    | 87 – 89%       |
| B     | 83 – 86%       |
| B-    | 80 – 82%       |
| C+    | 77 – 79%       |

| Grade | Percentage (%) |
|-------|----------------|
| C     | 73 – 76%       |
| C-    | 70 – 72%       |
| D+    | 67 – 69%       |
| D     | 63 – 66%       |
| D-    | 60 – 62%       |
| F     | 0 – 59%        |

## LATE ASSIGNMENTS POLICY

If you expect to be late on an assignment for an excusable reason, please notify the instructor well in advance, and he may afford an opportunity for partial credit.

## INCOMPLETE GRADE POLICY

The University policy states that a student who is passing a course but has not completed all work due to exceptional circumstances, may, with consent of the instructor, temporarily receive a grade of incomplete ("I"). The assignment of the "I" grade is at the discretion of the instructor but is allowed only if the student is passing the course.

## TENTATIVE COURSE PACING SCHEDULE

The section numbers below refer to *Discrete Mathematics and its Applications* by Kenneth Rosen (the course textbook).

| Week of      | Tuesday   | Thursday             |
|--------------|-----------|----------------------|
| August 22    | 1.1       | 1.2-1.3              |
| August 29    | 1.4-1.5   | 1.6                  |
| September 5  | 1.7-1.8   | 5.1                  |
| September 12 | 2.1-2.2   | 2.3 / ME#1           |
| September 19 | 2.4       | 2.6                  |
| September 26 | 3.1       | 4.1 / ME#2           |
| October 3    | 4.2-4.3   | 4.4                  |
| October 10   | 4.5       | 4.6 / ME#3           |
| October 17   | 6.1       | 6.2-6.3              |
| October 24   | 6.4-6.5   | ME#4                 |
| October 31   | 10.1      | 10.2                 |
| November 7   | 10.4      | <b>Veteran's Day</b> |
| November 14  | 10.5      | ME#5                 |
| November 21  | 10.7-10.8 | <b>Thanksgiving</b>  |
| November 28  | Review    | ME#6                 |

Computer Projects due: Tuesday 9/14, Tuesday 10/5, Tuesday 10/19, Tuesday 11/9, and Tuesday 11/30.

## COVID-19 STATEMENT

Due to the surge in COVID-19 cases and the delta variant, all students regardless of vaccination status are expected to wear masks while indoors in any FAU facilities, including classrooms and laboratories. Students experiencing flu-like symptoms (fever, cough, shortness of breath), or students who have come in contact with confirmed positive cases of COVID-19, should immediately contact FAU Student Health Services (561-297-3512). Symptomatic students will be asked to leave the classroom to support the safety and protection of the university community. For additional information visit <https://www.fau.edu/coronavirus/>. In classes with face-to-face components, quarantined or isolated students should notify me immediately as you will not be able to attend class. I will not be able to offer an online version of the class but will make reasonable efforts to assist students in making up the work. Vaccinated students have much lower chances of needing to quarantine and a much lower chance of missing class time.

## COURSE POLICIES

### CODE OF ACADEMIC INTEGRITY POLICY STATEMENT

Students at Florida Atlantic University should endeavor to maintain the highest ethical standards. Academic dishonesty is a serious breach of these ethical standards because it interferes with the University mission to provide a high-quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive to the university community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see [University Regulation 4.001](#).

### PLAGIARISM

[Plagiarism](#) is unacceptable in the University community. Academic work must be an original work of your own thought, research, or self-expression. When students borrow ideas, wording, or organization from another source, they must acknowledge that fact in an appropriate manner. Plagiarism is the deliberate use and appropriation of another's work without identifying the source and trying to pass off such work as one's own. Any student who fails to give full credit for ideas or materials taken from another has plagiarized. This includes all discussion board posts, journal entries, wikis, and other written and oral presentation assignments. If in doubt, cite your source.

## **ATTENDANCE POLICY**

Attendance is not a component of your grade, but class homework will be worked on during class time, so attendance is highly recommended and will likely contribute to success in the class.

## **CLASSROOM ETIQUETTE/DISRUPTIVE BEHAVIOR POLICY STATEMENT**

Disruptive behavior is defined in the FAU Student Code of Conduct as "... activities which interfere with the educational mission within classroom." Students who disrupt the educational experiences of other students and/or the instructor's course objectives in a face-to-face or online course are subject to disciplinary action. Such behavior impedes students' ability to learn or an instructor's ability to teach. Disruptive behavior may include but is not limited to non-approved use of electronic devices (including cellular telephones); cursing or shouting at others in such a way as to be disruptive; or, other violations of an instructor's expectations for classroom conduct.

For more information, please see the [FAU Office of Student Conduct](#).

## **COMMUNICATION POLICY**

### **EXPECTATIONS FOR STUDENTS**

1. You are responsible for reading all announcements posted by the instructor. Check the course announcements each time you log in.
2. You are responsible for reading all your course email and responding in a timely manner.
3. Post course-related questions to the FAQ discussion board. This allows other participants with the same question to benefit from the responses.

### **INSTRUCTOR'S PLAN FOR CLASSROOM RESPONSE TIME & FEEDBACK**

#### **Email/Video Conferencing Policy**

Except for weekends and holidays, the instructor will typically respond to email (Canvas inbox or FAU email) within 48 hours. You should ask course-related questions in the FAQ discussion board. If you have questions of a personal nature, you should email the instructor.

#### **Assignment Feedback Policy**

The instructor will provide feedback on submitted assignments within one week of the submission date. Some assignments may require a longer review period, which the instructor

will communicate to you.

### Electronic Communication Policy

In addition to the University's policy, please consider the following:

- Privacy, confidentiality, and security in all electronic communications.
- All electronic communication resources must be used for the course and in alignment with to the University mission.
- Prohibited use of false identity, false identity pseudonyms, or anonymous (sender's name or electronic identification is hidden).
- Access without consent.
- Disruption of services including introducing computer contaminants (viruses).
- Harassment of any kind.

Please see the Office of Information Technology's policies on [Cyber Security Awareness](#).

## SUPPORT SERVICES & ONLINE RESOURCES

- [Center for eLearning and Student Success](#)
- [Counseling and Psychological Service \(CAPS\)](#)
- [FAU Libraries](#)
- [Freshmen Academic Advising Services](#)
- [Math Learning Center](#)
- [Office of Information Technology Helpdesk](#)
- [Office of International Programs and Study Abroad](#)
- [Office of Undergraduate Research and Inquiry](#)
- [Student Accessibility Services](#)
- [University Center for Excellence in Writing](#)

## CAPS STATEMENT

Life as a university student can be challenging mentally, emotionally, and physically. Students who find stress negatively affecting their ability to achieve academic or personal goals may wish to consider utilizing FAU's Counseling and Psychological Services (CAPS) Center. CAPS provides FAU students a range of services to help improve and maintain well-being. For CAPS services, students need to be currently enrolled, have paid the health fee, be physically located in Florida when services are provided, have phone or videoconferencing capabilities, and have access to a safe/private location for sessions. For those outside of Florida, CAPS will assist students in getting connected to services/providers in your area for ongoing support. For more information, go to <http://www.fau.edu/counseling/> or call 561-297-3540.

## FREE MATH TUTORING

The MLC provides the following FREE tutoring for all FAU students in their math courses:

**ONLINE:** Please see <http://www.math.fau.edu/mlc/remote/index.php> for available days/times and links to online tutoring. All tutoring is drop-in (no appointments are needed) and is available via Zoom.

**IN PERSON:** Drop-in tutoring in the MLC GS211 during all hours of operation

- Monday – Thursday: 10am – 5pm
- Friday: 10am – 4pm

Small group tutoring by appointment

- Appointments can be made in TutorTrac by going to <https://tutoring.fau.edu/>. Login with your FAU ID and password and click on ‘Search for Availabilities.’ For Center, choose ‘Math Learning Center.’ Choose your section (class) and click ‘Search.’ Choose your time and then click ‘Save.’
- Each session is 50 mins in length, maximum three students.
- Students may make a MAXIMUM of TWO appointments per week for any course they are currently enrolled in (based on availability).
- Cancellation policy: You can cancel your appointment no less than two hours prior to the appointment by logging into TutorTrac (<https://tutoring.fau.edu/>) and clicking the “X” next to your appointment on your home screen. Missing an appointment without cancelling is called a no-show. If you accumulate 2 no-shows during the semester, all appointment privileges will be suspended and you will only be able to use the drop-in or online tutoring for the remainder of the semester. Please email [mlc@fau.edu](mailto:mlc@fau.edu) should you need further information or have questions.

## FACULTY RIGHTS & RESPONSIBILITIES

Florida Atlantic University respects the rights of instructors to teach and students to learn. Maintenance of these rights requires classroom conditions that do not impede their exercise.

**To ensure these rights, faculty members have the prerogative to:**

- Establish and implement academic standards.
- Establish and enforce reasonable behavior standards in each class.
- Recommend disciplinary action for students whose behavior may be judged as disruptive under the *Student Code of Conduct*.

## SELECTED UNIVERSITY & COLLEGE POLICIES

### ACCESSIBILITY POLICY STATEMENT

In compliance with the Americans with Disabilities Act (ADA), students who require special accommodations to properly execute coursework due to a disability, must register with Student Accessibility Services (SAS) located in the Boca Raton, Davie, and Jupiter campuses and follow all SAS procedures. For additional information, please consult [Student Accessibility Services](#).

#### Contact

- **Boca Raton:** (561) 297-3880  
Fax: (561) 297-2184, TTY: 711
- **Davie:** (954) 236-1222  
Fax: (954) 236-1123, TTY: 711
- **Jupiter:** (561) 799-8721  
Fax: (561) 799-8721, TTY: 711

### GRADE APPEAL PROCESS

You may request a review of the final course grade when you believe that one of the following conditions apply:

- There was a computational or recording error in the grading.
- The grading process used non-academic criteria.
- There was a gross violation of the instructor's own grading system.

[Chapter 4 of the University Regulations](#) contains information on the grade appeals process.

### RELIGIOUS ACCOMMODATION POLICY STATEMENT

In accordance with rules of the Florida Board of Education and Florida law, students have the right to reasonable accommodations from the University in order to observe religious practices and beliefs regarding admissions, registration, class attendance, and the scheduling of examinations and work assignments. For further information, please see [Academic Policies and Regulations](#).



## **UNIVERSITY APPROVED ABSENCE POLICY STATEMENT**

In accordance with rules of the Florida Atlantic University, students have the right to reasonable accommodations to participate in University approved activities, including athletic or scholastics teams, musical and theatrical performances and debate activities. It is your responsibility to notify the instructor at least one week prior to missing any course assignment.

## **DROPS/WITHDRAWALS**

You are responsible for completing the process of dropping or withdrawing from a course. Please click on the following link for more information on dropping and/or withdrawing from a course. Please consult the [FAU Registrar Office](#) for more information.

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**The instructor reserves the right to adjust this syllabus as necessary.**