

# Discrete Mathematics

## MAD 2104

**When:** MWF, starting Monday, August 22  
**Where:** IS 113  
**Instructor:** Thomas Eisenbarth  
email: teisenba@fau.edu, phone: (561) 297-0809, office: SE 266

**Office hours:** MWF 12:40 pm to 1:50 pm, or by appointment

### Course description

The purpose of this course is to develop knowledge and skills in fundamental mathematical topics that are relevant to computing. The topics covered in this section will include logical argument, sets, introduction to relations, number theory, and basic principles of Cryptography.

### Course objectives

Upon successful completion of this course, the student will be able to

- Find the logical structure of a mathematical statement
- Express your ideas correctly, with entire precision, in mathematical terms.
- Explain why a statement is true or why is not valid.
- Recognize equivalence relations
- Apply Mathematical Induction to a diverse type of problems
- Use the Pigeonhole Principle and Counting Methods in order to solve numerous problems
- Compute the greatest common divisor by means of the Euclidean Algorithm
- Understand some basic principles of Cryptography

### Required Reading

*Mathematics: A Discrete Introduction*, second edition, by Edward Scheinerman, Brooks/Cole, 2006 (ISBN: 978-0-534-39898-9)

### Grading

Grading is based on quizzes, two term exams and the final exam. Exams and quizzes will be in-class. Tentative dates for the term exams are 9/28 and 10/31. The weights for the final grade are as follows:

Quizzes:	<b>20%</b>
Term Exams	<b>40% (20% per exam)</b>
Final Exam (Sunday, Dec 4, 10:30 am to 1:00 pm):	<b>40</b>

The grading scale will be no worse than the following:

Cumulative Performance	Grade
>94%	A
>90% - 94%	A-
>87% - 90%	B+
>83% - 87%	B
>80% - 83%	B-
>75% - 80%	C+
>65% - 75%	C
55% - 65%	D
<55%	F

### **Tutoring**

Tutoring is available in the Math Learning Center in GS 211. Please see the schedule at <http://www.math.fau.edu/MLC> for tutors and hours of operation.

### **Attendance Policy**

Students should attend all lectures and actively participate in class. In order to enhance and maintain a productive atmosphere for education, personal communication devices, including cellphones and laptops, must be turned off during class.

### **Disability Policy**

In compliance with the Americans with Disabilities Act (ADA), students who require special accommodation due to a disability to properly execute coursework must register with the Office for Students with Disabilities (OSD) -- in Boca Raton, SU 133 (561-297-3880); in Davie, MOD 1 (954-236-1222); in Jupiter, SR 117 (561-799-8585); or at the Treasure Coast, CO 128 (772-873-3305) - and follow all OSD procedures.

### **Honor Code Policy**

Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty is considered 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 of 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 at:

[http://www.fau.edu/regulations/chapter4/4.001\\_Code\\_of\\_Academic\\_Integrity.pdf](http://www.fau.edu/regulations/chapter4/4.001_Code_of_Academic_Integrity.pdf)

This syllabus is subject to reasonable changes at the discretion of the instructor.