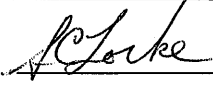

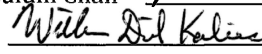


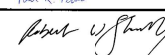
 FLORIDA ATLANTIC UNIVERSITY	COURSE CHANGE REQUEST Graduate Programs		UGPC Approval _____ UFS Approval _____ SCNS Submittal _____ Confirmed _____ Banner Posted _____ Catalog _____
	Department Mathematical Sciences College Charles E. Schmidt College of Science		
Current Course Prefix and Number MAD 6108		Current Course Title Discrete Mathematics for Teachers	
<i>Syllabus must be attached for ANY changes to current course details. See <u>Guidelines</u>. Please consult and list departments that may be affected by the changes; attach documentation.</i>			
Change title to: Introductory Discrete Mathematics Change prefix From: To: Change course number From: To: Change credits* From: To: Change grading From: To: *Review <u>Provost Memorandum</u>		Change description to: Topics include sets, logic, graph theory, algorithms, counting, recurrence equations, and generating functions. Advanced topics may be chosen from partially ordered sets, Boolean algebras, automata, and game theory. This course is not intended for Ph.D. students. Change prerequisites/minimum grades to: Change corequisites to: Change registration controls to: Please list existing and new pre/corequisites, specify AND or OR and include minimum passing grade.	
Effective Date (TERM & YEAR) Fall 2022		Terminate course List final active term	
Faculty Contact/Email/Phone Lee Klingler/ klingler@fau.edu /7-3340			
Approved by Department Chair  College Curriculum Chair  College Dean  UGPC Chair  UGC Chair  Graduate College Dean  UFS President _____ Provost _____		Date 2/3/2022 02/07/2022 02/07/22 Mar 3, 2022 Mar 3, 2022 Mar 3, 2022 _____ _____	

Email this form and syllabus to UGPC@fau.edu one week before the UGPC meeting.

MAD 6108 INTRODUCTORY DISCRETE MATHEMATICS

Department of Mathematical Sciences

Term TBA

3 Credit Hours

Instructor: Dr. Katarzyna Winkowska-Nowak

Office Location: Boca Raton, SE43, Room 358

Office Hours: TBA

Phone Number: 561-297-1032

Email: kwinkows@fau.edu

COURSE DESCRIPTION

Topics include sets, logic, graph theory, algorithms, counting, recurrence equations, and generating functions. Advanced topics may be chosen from partially ordered sets, Boolean algebras, automata, and game theory. This course is not intended for Ph.D. students.

Prerequisites: Enrolled in M.S.T. program or permission of instructor

COURSE OBJECTIVES

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

1. Explain mathematical concepts related to discrete mathematics using GeoGebra. (CO:1)
2. Apply discrete mathematics concepts to other disciplines. (CO: 2)
3. Solve mathematical equations related to discrete mathematics. (CO:3)

CO = Course Objective

COURSE DELIVERY MODE

This is a fully online course accessible only through FAU's learning management system, Canvas. You must log into Canvas with your FAU ID and Password to access the materials and assignments in this course. If you do not know your FAU ID or Password, [contact OIT for help](#).

The course is organized into modules with due dates. Unless otherwise specified, each module begins on Monday at 12:00am, EST, and ends on Sunday at 11:59pm, EST. The course begins with the Start Here module, which will familiarize you with the organization and navigation of the course. You will open a new learning module to access the assigned reading materials, videos, presentations, and other relevant materials for each subsequent module.

TIME COMMITMENT PER CREDIT HOUR

This course has 3 credit hours. For traditionally delivered courses, not less than one (1) hour of classroom or direct faculty instruction each week for fifteen (15) weeks per Fall or Spring semester, and a minimum of two (2) hours of out-of-class student work for each credit hour. Equivalent time and effort are required for Summer Semesters, which usually have a shortened timeframe. Fully Online courses, hybrid, shortened, intensive format courses, and other non-traditional modes of delivery will demonstrate equivalent time and effort.

REQUIRED TEXTS & MATERIALS

In this course, you will need the following texts and/or materials:

- N/A All materials will be provided in the course.
- GeoGebra account

Other texts and/or materials:

- N/A

MINIMUM TECHNOLOGY & COMPUTER REQUIREMENTS

HARDWARE & SOFTWARE REQUIREMENTS

Hardware

- Dependable computer
- Computer speakers
- Headset with microphone

- Webcam

Software

- [Microsoft 365 Suite](#)
- Reliable web browser (recommended [Chrome](#) or [Firefox](#))
- Canvas mobile app: Download instructions for [iOS device](#) or [Android device](#)
- [Adobe Reader](#)
- [Adobe Flash Player](#)
- [GeoGebra](#)
- Scanning device (app or software)

Internet Connection

- Recommended: Broadband Internet connection with a speed of 4 Mbps or higher.
- To function properly, Canvas requires a high-speed Internet connection (cable modem, DSL, satellite broadband, T1, etc.). The minimum Internet connection speed to access Canvas is a consistent 1.5 Mbps (megabits per second) or higher.
- [Check your Internet speed here.](#)

Other Technologies

This course uses GeoGebra. Please review the following regarding the use of GeoGebra as a requirement of this course.

[Terms of Service](#) | [Accessibility](#)

COMPUTER REQUIREMENTS

Basic Computer Specifications for Canvas

- Operating system: Windows 10 or macOS Sierra (or higher).
- [Specifications](#)

Peripherals

- A backup option should be available to minimize the loss of work. This can be an external hard drive, a USB drive, cloud storage, or your folder on the FAU servers.

Software

- Once logged in to Canvas make sure your Internet browser is compatible.
- Other software may be required for specific learning modules. If so, the necessary links to download and install will be provided within the applicable module.

- GeoGebra
- Presentation Software (i.e. PowerPoint)
- Recording tool to present content
- App or software that will scan or convert images or physical documents to PDF

MINIMUM TECHNICAL SKILLS REQUIREMENTS

The general and course-specific technical skills you must have to succeed in the course include but are not limited to:

- Accessing Internet.
- Scanning a physical paper to PDF
- Convert image to PDF
- Using GeoGebra.
- Using Canvas (including taking tests, attaching documents, etc.).
- Using email with attachments.
- Creating and submitting files in commonly used word processing program formats such as Microsoft Office Tools.
- Copying and pasting functions.
- Downloading and installing software.
- Using presentation, graphics, and other programs.
- Posting and commenting in an online discussion.
- Searching the FAU library and websites.

TECHNICAL SUPPORT

In the online environment, technical issues are always possible (e.g., lost connection, hardware or software failure). Many of these can be resolved relatively quickly, but if you wait until the last minute before due dates, the chances of these glitches affecting your success are greatly increased. Please plan appropriately. If a problem occurs, it is essential you take immediate action to document the issue so your instructor can verify and take appropriate action to resolve the problem. Most issues in Canvas can be resolved by clicking on the “Help” tab located on the menu bar.

When a problem occurs, click “Help” to:

- Report a Problem
- Live Chat with Canvas Support
- Search Canvas Guides

Additional Technical Support

1. Contact the eLearning Success Advisor for assistance: 561-297-3590

2. If you can, make a Print Screen of the monitor when the problem occurs. Save the Print Screen as a .jpg file. If you are unfamiliar with creating a Print Screen file, see [Print Screen instructions](#).
3. Complete a [Help Desk ticket](#). Make sure you complete the form entirely and give a full description of your problem so the Help Desk staff will have the pertinent information in order to assist you properly. This includes:
 - a. Select “Canvas (Student)” for the Ticket Type.
 - b. Input the Course ID.
 - c. In the Summary/Additional Details section, include your operating system, Internet browser, and Internet service provider (ISP).
 - d. Attach the Print Screen file, if available.
4. Send a message within Canvas to your instructor to notify him/her of the problem. Include all pertinent information of the incident (2b-d above).
5. If you do not have access to Canvas, send an email to your instructor with all pertinent information of the incident (2b-d above).
6. If you do not have access to a computer, call your instructor with all pertinent information of the incident. If he/she is not available, make sure you leave a detailed message.
7. If you do not hear back from the Help Desk or your instructor within a timely manner (48 hours), it is your responsibility to follow up with the appropriate person until you obtain a resolution.

COURSE ASSESSMENTS, ASSIGNMENTS & GRADING POLICY

GRADING CRITERIA

Introductions and Syllabus Quiz (0%)

You will post an introduction in the student introductions discussion board and take a syllabus quiz. You can take the syllabus quiz as many times as necessary to achieve 100%.

Discussion Boards (10%)

Throughout the course you will be asked to complete and show your work for the selected odd homework problems at the end of the Book of Proofs textbook. You will be asked to scan and upload your work shown. Please be sure you have an app or access to scan your documents and upload them as a PDF. You will only be allowed to submit your work via PDF. You will be graded on a complete/incomplete basis. You have the opportunity to check your work with the answers at the end of the book as well as discuss challenges in the module’s FAQ page.

Project: GeoGebra Book (25%)

In this course you will be asked to participate in active learning through the development of your own GeoGebra book based on a topic chosen from a provided list. In this GeoGebra book, you will select a topic, develop a lesson plan, create a draft of your presentation, provide and receive peer feedback, and present your final presentation to the class. You have the opportunity to add video and audio to your presentation in order to convey your content. You may use the screencast, audio, and video tools provided within PowerPoint as well as a personal microphone and camera. You may also select from another video or screen recording tool such as BigVu, Tablet, YouTube, WebEx, Canvas Media Recorder, or Screencast-o-matic. You are responsible for identifying a tool and creating the presentation.

- GeoGebra built-in tools in Discrete Mathematics
- Creating own tools in GeoGebra for Discrete Mathematics
- Proofs in Calculus
- Variety of Topics from uses of GeoGebra in Discrete Mathematics (at least 3)

Journal: GeoGebra Book (60%)

In this course you will create a separate GeoGebra book that will include illustrations, interactive exercises, or explorations within GeoGebra based on a given topic for each module. You will include a short description of the concept and what it does, how to use the example in your discipline, and the applet itself within the GeoGebra page.

Final Reflection Examinations (5%)

For the final reflection you will be asked to reflect on how you can apply the information learned in this course to your discipline. This reflection should be substantive enough to explain what was learned in the course as well as providing a practical application to your discipline. You may be asked to share your experience throughout the course on how this course has impacted your learning overall.

The instructor will calculate your grade based on the following weighted distribution:

Assessment	Weight (%)
9 Textbook Homework– 100 points each	10%
Journal: GeoGebra Book – <ul style="list-style-type: none"> • Create Individual GeoGebra Book (50 points) • 9 Individual GeoGebra Journal Book (100 points) 	60%
Project – <ul style="list-style-type: none"> • Create GeoGebra Project Book (100 points) • Create Team Charter (100 points) • Identify Topic (Chosen from List) (100 points) 	25%

<ul style="list-style-type: none"> ● Create Chapter 1 of GeoGebra Project Book (100 points) ● Develop Outline (using GeoGebra Book) (100 points) ● Complete Development of content (100 points) ● Create Draft of Presentation Materials /Complete the activity yourself and develop detailed instructions (100 points) ● Peer Review Quiz (5 points) ● Submit for Peer Review (100 points) ● Complete a Peer Review (100 points) ● Peer Review Edits (100 points) ● Record/Add Media to your presentation (100 points) ● Final Presentation /Final Activity (100 points) ● Presentation Discussion (100 points) 	
Final Reflection Examination – 100 points	5%
TOTAL:	100%

GRADE SCALE

Grade	Weight (%)
A	100 % – 94.0 %
A-	< 94.0% – 90.0 %
B+	< 90.0% – 87.0 %
B	< 87.0 % – 84.0 %
B-	< 84.0 % – 80.0 %
C+	< 80.0 % – 77.0 %
C	< 77.0 % – 74.0%
C-	< 74.0 % – 70.0%
D+	< 70.0 % – 67.0%
D	< 67.0 % – 64.0%
D-	< 64.0 % – 61.0%
F	< 61.0 % – 0.0%

LATE ASSIGNMENTS POLICY

Please note that students cannot be penalized for absences due to participation in University-approved activities, including athletic or scholastics teams, musical and theatrical performances, and debate activities. Instructors must allow these students to make up missed work without any reduction in the student's final course grade. Reasonable accommodation must also be made for students participating in a religious observance.

MAKE-UP POLICY FOR TESTS

Contact Instructor at the beginning of the term.

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.

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.

ONLINE ATTENDANCE POLICY

Since the course is online, you should access the course **at least three times per week** to ensure you do not miss pertinent postings, messages, or announcements. It is imperative that you meet course deadlines and stay active in discussion boards, group projects, etc. If you are experiencing major illness, absences due to University duties, or other large-scale issues, contact the instructor immediately to formulate a resolution.

SPECIAL COURSE REQUIREMENTS

You must be able to use and access GeoGebra.

NETIQUETTE

Due to the casual communication common in the online environment, students are sometimes tempted to relax their grammar, spelling, and/or professionalism. Please remember that you are adult students and professionals—your communication should be appropriate. For more in-depth information, please see the [FAU statement on netiquette](#).

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

Announcements

You are responsible for reading all announcements posted by the instructor. Check the course announcements each time you log in.

Email/Video Conferencing

You are responsible for reading all your course email and responding in a timely manner.

Course-Related Questions

Post course-related questions to the FAQ discussion board. This allows other participants with the same question to benefit from the responses. Also, make sure you review this forum prior to posting a question. Someone may have already asked and answered the question in previous posts.

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.

Course-Related Questions Policy

Except weekends and holidays, the instructor will generally answer questions within 48 hours.

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

-
- HYPERLINK "http://www.fau.edu/class" [Center for eLearning and Student Success](#)
-
- [Counseling and Psychological Services](#)
- [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](#)

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.

* * *

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