# MATH 332

## **Discrete Models**

MoWeFr at 2:00PM - 2:50PM in Bouillon Hall 210 and Th at 2:00PM - 2:50PM in Black Hall 226-01 PC Lab

#### Instructor

Michael A. Lundin
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#### **Office Hours**

M-F 12:10-12:50; TTh 11:00-11:50; T 2:00-2:50; or by appointment.
I use e-mail to avoid playing "phone tag." Please talk to me if you need special accommodations due to a disability.

# **Course Philosophy**

In this course, we will learn problemsolving in the context of analyzing discrete mathematical models.

### **Student Outcomes**

NOTE: This is a student-centered course; you will be required to contribute during class. You must demonstrate connections among STEM content areas via multiple representations.

#### **Calculators**

You must have a programmable calculator and learn how to program it during this course. This means you must also download the manual for your calculator. TI-83 or TI-84 are recommended. Other calculators are acceptable, but YOU are responsible for learning how to operate them.

#### Text

Rather than a text for this course, readings on content can be found on our Math 332 Web Site.

#### **Course Content**

Week1: Foundations of Modeling

Week2: Sequences and Limits, Root Finders, Programming

Week 3: Discrete Dynamical Systems

Week 4: Discrete Dynamical Systems

#### Exam 1

Week 5: Applied Dynamical Systems

Week 6: Differential vs Difference equations

Week 7: Numerical Integration on Calculators and Excel

Week 8: Solving
ODEs on Calculator
and Excel

#### Fxam 2

Week 9: Geometric Series and Base Conversions

Week 10: Routes, Paths, and Euler Circuits

Final Exam: Time to be determined.

## **Course Requirements**

# Quizzes (15% of Grade)

Brief Quizzes will be given approximately once per week on material similar to the homework.

# Homework (15% of Grade)

Homework will be assigned almost every class day and you may be asked to present solutions. Homework should be completed neatly and kept in a notebook in order, with the class day marked in the upper right hand corner of the first page of each assignment.

- 2 pts for complete, neat work that supports solutions;
- 1 pt if substantial content is missing or work is not neatly presented, or which does not support solutions;
- 0 pts for substantial missing work or work not submitted.

# Exams (70% of Grade)

There will be a mid-term exam and a final exam, each worth 35% of your final grade.

## **Attendance, Missed Tests and Assignments**

Class attendance is EXPECTED and is a reasonable predictor of grades in this course. Also, I expect tests to be taken on schedule and assignments to be completed the class day after they are assigned.

Final Point Distribution	Final Grad
93-100%	Α
90-92%	A-
88-90%	B+
83-87%	В
80-82%	B-
78-79%	C+
73-77%	С
70-72%	C-
68-69%	D+
63-67%	D
60-62%	D-
Below 60%	F

Assignments, quizzes, and tests may be made up only if the student and instructor agree on a time before a missed deadline.