Math 240 Syllabus, Summer 2020
Introduction to Discrete Mathematics, Lecture 1

Course Information
Introduction to Discrete Mathematics: Math 240, Lecture 1 (3 Credits) Summer 2020

Instructor: Dr. Sharad Chandarana (chandara@wisc.edu), B127 Van Vleck Hall
Office hours: M, Tu, W, Th 10:20am-11:00am
Location and Schedule M, Tu, W, Th 1:00pm-2:15pm in 22 Ingraham

Description

Prerequisite(s) MATH 217, 221, or 275.

Course Designations
Breadth Natural Science
Level Intermediate, L&S Credit - Counts as Liberal Arts and Science credit in L&S
Instruction Mode Classroom Instruction

Department MATHEMATICS
College Letters and Science

How the Credit Hours are Met
This class meets four days of the week (75 minutes for lectures M, Tu, W, Th) over the Summer semester (6-15-2020 through 8-9-2020) and carries the expectation that students will work on course learning activities (reading, writing, problem sets, studying, etc) for at least 2 hours outside of classroom for every class hour.

GRADING

Exam Dates

Exam 1: Thursday, July 2
Exam 2: Thursday, July 23
Exam 3: Thursday, August 6

Grading
Exam 1: 30%
Exam 2: 30%
Exam 3: 30%
Homework: 10%
Course Learning Outcomes
We expect that a student can do all of these after taking this course:

- **Foundations**
  Understand the basic principles and applications of propositional logic and write simple mathematical proofs.

- **Basic Structures**
  Develop an understanding of the basic mathematical structures such as sets and basic operations on sets; cardinality of sets; functions and their growth; sequences and matrices.

- **Number Theory**
  Understand the basics of divisibility and modular arithmetic; find binary, octal and hexadecimal expansions of integers; develop a basic understanding of prime numbers, solving congruences and applications of congruences.

- **Induction**
  Understand various forms of mathematical induction, and prove mathematical results using them.

- **Counting**
  Understand various counting principles; permutations and combinations; binomial identities; advanced counting techniques; solutions of recurrence relations.

ACADEMIC POLICIES

ACADEMIC INTEGRITY
By enrolling in this course, each student assumes the responsibilities of an active participant in UW-Madison’s community of scholars in which everyone’s academic work and behavior are held to the highest academic integrity standards. Academic misconduct compromises the integrity of the university. Cheating, fabrication, plagiarism, unauthorized collaboration, and helping others commit these acts are examples of academic misconduct, which can result in disciplinary action. This includes but is not limited to failure on the assignment/course, disciplinary probation, or suspension. Substantial or repeated cases of misconduct will be forwarded to the Office of Student Conduct & Community Standards for additional review. For more information, refer to [https://conduct.students.wisc.edu/academic-integrity/](https://conduct.students.wisc.edu/academic-integrity/)

ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES
McBurney Disability Resource Center syllabus statement: “The University of Wisconsin-Madison supports the right of all enrolled students to a full and equal educational opportunity. The Americans with Disabilities Act (ADA), Wisconsin State Statute (36.12), and UW-Madison policy (Faculty Document 1071) require that students with disabilities be reasonably accommodated in instruction and campus life. Reasonable accommodations for students with disabilities is a shared faculty and student responsibility. Students are expected to inform faculty [me] of their need for instructional accommodations by the end of the third week of the semester, or as soon as possible after a disability has been incurred or recognized. Faculty [I], will work either directly with the student [you] or in coordination with the McBurney Center to identify and provide reasonable instructional accommodations. Disability information, including instructional accommodations as part of a student’s educational record, is confidential and protected under FERPA.” [http://mcburney.wisc.edu/facstaffother/faculty/syllabus.php](http://mcburney.wisc.edu/facstaffother/faculty/syllabus.php)

DIVERSITY & INCLUSION
Institutional statement on diversity: “Diversity is a source of strength, creativity, and innovation for UW-Madison. We value the contributions of each person and respect the profound ways their identity, culture, background, experience, status, abilities, and opinion enrich the university community. We commit ourselves to the pursuit of excellence in teaching, research, outreach, and diversity as inextricably linked goals.

The University of Wisconsin-Madison fulfills its public mission by creating a welcoming and inclusive community for people from every background – people who as students, faculty, and staff serve Wisconsin and the world.” [https://diversity.wisc.edu/](https://diversity.wisc.edu/)