

**Metropolitan State University**  
**College of Arts and Sciences**  
**MATH 215-05 Discrete Mathematics**

**Term:** Fall 2015  
**Meeting:** Thursday 9—12:20 pm  
**Instructor:** Dr. Pangyen Ben Weng, Associate Professor of Mathematics  
**Email:** Pangyen.Weng@metrostate.edu  
**Phone:** 651-793-1496

**Course Description:** This course covers a variety of that are of importance in the applications of mathematics, particularly in computer science, and are not covered in Calculus. Topics include: logic, sets, proofs by induction, number theory (dealing mostly with divisibility of natural numbers), combinatorics (counting), probability, relations and directed graphs.

**Prerequisite:** C- or better in College Algebra or Precalculus, or placement at equivalent levels.

**Calculators:** Scientific or graphing calculators are used for instruction and in exams.

**Textbook:** Discrete Mathematics, zyBooks™ interactive e-text. Go to zyBooks.com and sign up with course code **MetroStateMATH215WengFall2015**.

**Flipped-classroom Procedure:** For each lesson, students will go through the following steps:

1. Before class meeting: read the sections on zyBook and do the interactive activities
2. During class meeting: work in groups on advanced problems on worksheets.
3. After class meeting: practice solving the suggested problems and prepare for the quiz.

**Suggested Problems:** Mathematics is not a spectator's sport. Solving problems independently and as much as possible is the only way to strengthen your math understanding and skills. Problem-solving is the most important part of your learning, and you need to make it a goal to be able to solve all the suggested problems. Some of the suggested problems will be discussed during group work.

**Attendance:** Students sign in at 9 am and sign out at 12:20 pm. Students who are absent for more than 3 classes will automatically receive an F. Students who miss more than 1 class during 8/27 and 9/17 cannot make up for Exam I, and those who miss more than 1 class during 10/8 and 10/29 cannot make up for Exam II.

**zyBook Assignments:** You are required to finish reading the content and practicing the interactive learning activities before each class. Your progress will be counted towards your grade. The deadline of each assignment is 11:59pm on the day before class.

**Quiz:** Quizzes are 15 to 20 minutes long and consist of problems in the suggested to you for the lesson. **No make-up is allowed.**

**Exams:** There are three 3-hour exams. You are allowed to use a calculator and a sheet of notes, but no books or other electronic devices. The passing score of each exam is 70. Students who are absent from an exam will receive a score of 0. Students who fail Exams I or II **MUST** make up within 10 days of the original exam and will receive up to 70 points. Students must have a passing Exam I to be eligible for Exam II, and a passing Exam II for Exam III.

**Course Requirements and Grading Policy:** Students must score at least **50% in Exam III and 90% in zyBook activities** to be considered for a passing grade. Grades are determined by zyBook activities (15%), quizzes (5%), Exam I (30%), Exam II (30%), and Exam III (20%). Letter grades are given based on the following scale.

Score	[0,60)	[60,70)	[70,73)	[73,76)	[76,80)	[80,83)	[83,86)	[86,90)	[90,93)	[93,100]
Grade	F	D	C-	C	C+	B-	C	B+	A-	A

**Testing Center:** Phone: 651-793-1460; email: testing.center@metrostate.edu

**Policy on Academic Integrity:** The Metropolitan State University Student Handbook states *“In simple terms, plagiarism is using another person's words or ideas and presenting them as your own, without acknowledging the original source. This is a serious academic offense. Academic sanctions can include receiving a failing grade for an assignment or an entire course.”*

Assignments and exams are to be completed independently unless specified otherwise. Copying and/or utilizing another person's work in order to complete your assignments or exams constitutes plagiarism. In situations where I suspect academic dishonesty, I reserve the right to either reassess your understanding of the material or assign a grade of 0 points. Repeated offenses will result in a grade of F for the entire course. For additional information on the university's policies regarding plagiarism, please refer to the student handbook found at <http://www.metrostate.edu/msweb/pathway/gateway/handbook/handbook.html>.

**Classroom Diversity:** The instructor strives to provide a welcoming learning environment to students of diverse backgrounds with diverse learning needs. Students who have questions or concerns about the course policy or how the course is conducted are encouraged to discuss them with the instructor.

**Students with Disabilities:** Special accommodations can often be made for those with learning disabilities. Students who have or may have documented learning disabilities are recommended to contact the instructor as well as the Disability Services Office at (651) 793-1540 or (651) 772-7687.

**Email Communication:** In accordance with University's policy, this class will use your university email address (STAR-ID@metrostate.edu) to communicate with you about all course-related matters.

**Tentative Schedule:**

8/27	Chapter 1	Sets and Functions	1.1—1.5
9/3	Chapter 1	Sets and Functions	1.6—1.10
9/10	Chapter 2	Counting and Probability	2.1—2.8
9/17	Chapter 2	Counting and Probability	2.9—2.12
9/24	<b>No class</b>		
10/1	<b>Exam I</b>		
10/8	Chapter 3	Logic and Proofs	3.1—3.9
10/15	Chapter 3	Logic and Proofs	3.10—3.13
10/22	Chapter 4	Induction and Recursion	4.1—4.5
10/29	Chapter 4	Induction and Recursion	4.6—4.9
11/5	<b>Exam II</b>		
11/12	Chapter 5	Properties of Integers	5.1—5.5
11/19	Chapter 6	Relations and Directed Graphs	6.1—6.4
11/26	<b>Thanksgiving holiday</b>		
12/3	Chapter 6	Relations and Directed Graphs	6.5—6.7
12/10	Exam III		