

# Mathematics for Computer Science

## Math 212

<b>Instructor:</b>	Erik Krohn
<b>E-mail:</b>	krohne@uwosh.edu
<b>Text Message Only:</b>	920-644-3745
<b>Class Time:</b>	Monday, Wednesday, Friday: 3:00pm - 4:00pm
<b>Classroom:</b>	Halsey 270
<b>Office Location:</b>	Halsey 216
<b>Office Hours:</b>	Monday & Friday: 2:00pm - 3:00pm Tuesday: 1:00pm - 4:00pm
<b>Prerequisites:</b>	(Math 171 or Math 206) and CS221 with a grade of C or better
<b>Course Website:</b>	<a href="http://www.uwosh.edu/d21">http://www.uwosh.edu/d21</a>
<b>Required Textbook:</b>	Discrete Mathematics and Its Applications by Kenneth Rosen ISBN 978-0-07-338309-5

### Course Information

This course is a prerequisite for several upper-level computer science courses because it is about discrete mathematical structures that are essential to computer scientists. More generally, students in this course will develop their analytic and algorithmic thinking skills through practice with mathematical logic, proof techniques, algorithm analysis and combinatorial analysis.

### Course Website

You should check d2l on a regular basis - it will contain lecture notes, handouts, assignments, announcements, and grades. I'll do my best to let you know when something new and important comes up, but it is your responsibility to check the web site frequently for information that you might not get otherwise.

### Mini Assignments

You will have daily mini assignments. Mini assignments are generally short and should take less than an hour to complete. You will be assigned a mini assignment every class period to ensure you are staying current with the material. Mini assignments must be completed in  $\text{\LaTeX}$  and the resulting pdf uploaded to the dropbox before the due date. Your top 10 mini assignments will count towards your final grade. Not all mini assignments will be graded. I anticipate grading about 12 mini assignments. No late mini assignments will be accepted.

### Assignments

All assignments must be written in  $\text{\LaTeX}$  and the resulting pdf must be submitted electronically via d2l. It is your responsibility to ensure your submission was submitted correctly. Each assignment must be submitted by 11:00pm on the night of the due date. You are allowed 1 late assignment that may be submitted up to 3 days late without penalty. Subsequent late submissions are penalized at 15% per day.

## Exams

Exam material will come from the lecture notes, mini assignments, book and assignments. There will be more information about each exam as it approaches. The *tentative* exam dates are listed below. All exams will be taken during the regular class period. These may change, so as the date approaches make sure you've got the most recent information.

- **Exam One** - Wednesday, March 5th, 2014
- **Exam Two** - Wednesday, April 16th, 2014
- **Exam Three** - Wednesday, May 14th, 2014

If you are unable to take a scheduled exam, it may be possible to take a make-up exam provided that you do both of the following, which are then subject to my approval:

1. Make arrangements prior to the scheduled exam. For last minute emergencies, telephone me at 424-7080 or leave a message at the computer science office, 424-2068 or send me a text message. No after-the-fact notifications will be accepted.
2. Have a written medical excuse signed by the attending physician OR have a note of justification from the Dean of Students Office.

If allowed, only one make-up exam will be given. It will be a comprehensive exam given at an arranged time during the last week of the semester.

## Grading

Course grades will be based on assignments, mini assignments and exams. Your final grade will be computed with the following percentages:

- 45% - assignments
- 10% - mini assignments
- 45% - exams

If you believe anything was graded incorrectly or unfairly and would like to have it regraded, you must let me know about it within *one week* of having the item graded. I will regrade the entire assignment or exam and you may gain or lose points.

Grading will be on a plus/minus system. Grading may be done on a curve depending on the overall performance of the class. If no curve is used, your grade will be computed based on the following:

Percentage	Grade	Percentage	Grade
$\geq 92$	A	72 - 78	C
90 - 92	A-	70 - 72	C-
88 - 90	B+	68 - 70	D+
82 - 88	B	62 - 68	D
80 - 82	B-	60 - 62	D-
78 - 80	C+	< 60	F

## Topic Coverage

- Propositional logic
- First-order predicate calculus
- A variety of proof techniques
- Mathematical induction
- Sets, functions, sequences
- Recurrence relations
- Algorithm analysis and computational complexity
- Basics of counting
- Introduction to discrete probability

## Academic Dishonesty

Academic dishonesty of any kind will not be tolerated. All assignments, mini assignments and exams are to be completed individually unless otherwise specified. While discussion of ideas and problems with fellow students is encouraged, all work must be done individually. If you use a book, website or any reference to help you solve a problem, you must cite the reference in your assignment.

Any suspected academic dishonesty will be dealt with on a case-by-case basis. Any clarification of what does or does not constitute academic dishonesty must take place **before** you turn in questionable work. For clarification on what constitutes academic dishonesty, contact me or consult the printed policy in the UWO Student Discipline Code, Chapter UWS 14.