

Instructor : Aaron Montgomery
Office : Samuelson 221E
Offline Office Hours : M @ 9, TTh @ 11
Email : montgoaa@cwu.edu **Phone** : 963-1906
Text : **Mathematics for Computer Science**
: by Lehman, Leighton, Meyer (2015)

Course Outcomes

Math 330 is a course in the mathematics behind computer science concepts and applications. Mastery of college algebra is required for success in this course. This course is meant to familiarize you with mathematics foundational to computer science such as the logic rules you learned in Math 260, and math that is used to analyze algorithms, such as recurrence relations and counting arguments, and math in computer science applications, such as applications of graph theory. Understanding why things work, and being able to explain your logic is as or more important than getting the correct answer. Abstract thinking, logic and (un)common sense are required for success.

A complete list of learning objectives for each content module is provided on Canvas.

Class Structure

Attendance at Tuesday and Thursday class meetings is optional. The primary reason for holding in-person class meetings is to provide a time for you to ask questions and to attempt exams in a proctored environment. To prepare for the exams, you are expected to:

- Read the textbook (**Math for Computer Science**);
- Watch the videos by Dr. Linhart;
- Work through the workbook (**Workbook**);
- Complete the homework (**WeBWorK**);
- Ask questions at class meetings or office hours.

Graded Coursework

Math 330 is taught using criterion based grading. This means that your grade will *not* be based on a weighted average of assignments, but based on how many of the criterion you meet. All but one of these criteria are in the form of exams which you can take in person on Tuesday and Thursday class meetings. The final criteria is homework completion.

Exams are rated on a three level scale: +, ~, -. The + and ~ ratings are passing ratings. Very rarely, a ~/- rating will be assigned; a ~/- will count as a passing rating for grades below A-, but will not count toward the course grades of A- or A. After your exam is rated, you will have an opportunity to go over the exam during class meetings or office hours, but exams will be kept on file with the instructor. You have an opportunity to reattempt exams (see below).

To Pass (C or higher): a student must pass all 8 Core Exams (C1R, C2R, R2R, R3R, I2R, Num1R, Num2R, Num3R) and receive at least 70% on Homework Assignments. For students who fail to achieve a C, every missing requirement will result in reducing their grade by one step (for example, a student who failed two core exams and only received 45% on Homework would have their grade reduced by 3 steps to a D).

To Receive a Higher Grade: In addition to the Core Exams, there are another 8 exams (C3, R1, R4, I1, GTM, GTC, Net1, Net2). The table below indicates the requirements to achieve one of these grades.

Course Grade	Additional Exams	Minimum +, ~, ~/-	Minimum +, ~	Minimum +	Homework Percentage
C	-	8	0	0	70%
C+	-	9	0	0	70%
B-	-	10	2	2	75%
B	C3 or R1	10	4	4	75%
B+	C3 or R1	11	6	6	75%
A-	C3 or R1	12	12	7	80%
A	C3 and R1	12	12	8	85%

Taking Exams

You must have received at least 75% on the homework assignment associated with an exam before you may attempt an exam. **I will check your homework scores 1 hour before class meetings and prepare exams for the class meeting at that time.** If you complete your homework after this time, I may not have an exam available for you during class.

For any exam on which you did not receive a rating of +, you will be given opportunities to attempt alternate versions of the exam (subject to the restrictions listed below). Attempting an alternative version will never lower your grade (so if your first attempt received a \sim , but you received a $-$ on a later attempt, you will still be awarded the rating of \sim).

On any given standard, you can take at most 1 exam per day. On any given day, you can take at most 3 exams (for example, you could take exams Num1R, Num2R, Num3R all in a single day). In addition, each exam has a maximum number of attempts as listed in the table below (for example, you can attempt exam C1R up to 8 total times, however, attempts 5–8 will not be rated higher than \sim).

Exam	Maximum Attempts	for + Rating
C1R, C2R	8	4
Other Core	5	3
C3, R1	4	3
All Others	3	3

Checking your Grade on Canvas

Canvas is not programmed to handle rank-based grading. This means that you will need to interpret the results on Canvas (just looking at a percentage column will not provide you with useful information). If you are unclear of what your current grade is, you can email me and I will interpret your Canvas scores. However, here is how I am going to record scores in Canvas. The four columns determine your grade are:

Passes: This records the number of exams on which you have scored a +, a ~, or a ~/-.

Non-Marginal Passes: This records the number of exams on which you have scored a + or a ~. This only affects the grades of A or A-.

Full Passes: This records the number of exams on which you have scored a +. This only affects the grades of B- or higher.

The remaining columns keep track of scores on individual assignments.

C1R, C2R, etc: Each standard has a score between 00 and 49. The ones digit is the number of attempts you have made on the exam and the tens digit is your highest rating so far:

Range	Highest Rating
00-09	None
10-19	-
20-29	~/-
30-39	~
40-49	+

C1R-1, C1R-2, etc: For assignments on **WeBWorK**, Canvas is not automatically updated as you complete work in **WeBWorK**, but I will try to keep it up to date weekly.

Canvas Summaries: Canvas will (helpfully) average your scores in the “Standards Summary”, “Homework”, “Individual Standards” as well as the course “Total”. Only the Homework score is meaningful here. I will see if I can get Canvas to stop doing this.

Pacing

Most standards will consist of just a single homework assignment; the exceptions are: C1R (3 assignments) and Num3R (2 assignments). So there will be 19 homework assignments total. This quarter there are 18 class meetings

(ignoring the first meeting and finals week). This quarter, there are 11 weeks in the quarter (ignoring the first meeting but including finals week).

To Pass (*C* or higher): if you only receive 75% on each homework assignment that you complete, the pace for a *C* would be one assignment every class meeting. If you are receiving 100% on each homework assignment that you complete, you would only need to complete between 13 and 14 assignments. You would also be expected to be passing 2 standards every 3 weeks.

To Receive a Higher Grade: if you only receive 85% on each homework assignment that you complete, the pace for an *A* would be one assignment every class meeting. If you are receiving 100% on each homework assignment that you complete, you would only need to complete between 16 and 17 assignments. You would also be expected to be passing 1 roughly 1 standard every week.

Masks

Due to COVID-19, students in this classroom are required to wear masks that cover both the nose and the mouth. If you attend class without an appropriate mask you will be asked to leave and obtain a mask before returning. If you refuse to wear a mask or leave, class will be dismissed and a Report of Behaviors of Concern will be submitted to the Dean of Students.

If you do not have a face mask, Central Washington University can provide one for you. If you have not yet received your CWU-supplied mask, please go the SURC Information Desk. Some departments/programs may also provide disposable masks. Please obtain a suitable mask prior to the start of your first class. Information on appropriate masks can be found at this web site: <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/about-face-coverings.html>. Standard face shields, single-layer neck gaiters, single layer masks, masks with one-way vent valves, and handkerchiefs are not considered appropriate masks for this course.

Accommodations

Central Washington University is committed to creating a learning environment that meets the needs of its diverse student body. Students with disabilities should contact Disability Services to discuss a range of options to removing barriers, including accommodations. Disability Services is located in Hogue 126. Call (509) 963-2214 or email ds@cwu.edu for more information.

In compliance with RCW 28B.137.010, Central Washington University makes every effort to deal reasonably and fairly with students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. Students must present written notice to their instructor within the first two weeks of class listing the specific dates on which accommodations are required. Contact the Dean of Student Success at (509) 963-1515 for further information or questions.