

# Math 130 Finite Mathematics

**Time and Location:** Online with recorded lesson videos and Zoom Meeting for Office Hours.

**Instructor:** Professor Yvonne (ChinMei) Chueh

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**Office Hours:** Tuesday & Thursday 1-2PM via Canvas Zoom Meeting with screen share and/or white board, by appointment.

**Help Sessions:** Weekly help sessions may be available via Canvas Zoom, TBA and by Request. If you participate and review each and every lecture recording regularly, most questions will naturally be resolved early by your understanding. By working through your Study Plan in My Lab & Mastering and exercises assigned in there, you will certainly get high scores in the online tests. In the past, students found it effective to use the built-in tutoring functions available in each exercise problem.

**Course goals:** This course is designed to help you become capable of critical thinking, master the basic principles of counting and probabilities, and apply the necessary techniques to quantitative decision makings. Descriptive statistics will be covered and tested in the last week.

**Course description:** This course meets General Education "Basic Skills (D)" requirement and prepares student for introductory statistics courses in various departments. It covers the language of sets, counting procedures, introductory probability, and introductory descriptive statistics.

**Required Text:**

1. "Finite Mathematics & Its Applications" by Goldstein, Schneider, and Siegel;  
Vis VitalSource Inclusive Access.
2. The above provides Online Access to MyLab and Mastering through the CWU Canvas system, under Bookshelf Tab: <https://Canvas.cwu.edu>

**Calculator:** A calculator with statistical functions is required in class and writing exams. TI-83 Plus or TI 84 graphing calculator or similar model is required. Calculator functions will be demonstrated in the Canvas Conference or Blackboard Collaborate. Students should schedule office hour if need further instructions on how to use TI-83, 84 calculator.

**Course outlines:**

- Introductory counting and probability
- More counting and probability including conditional probability, independence, Bayes' theorem
- Random variables and probability distributions
- Descriptive statistics

### **Worksheets:**

**There will be worksheets assigned to deepen your content subject understanding and further practice. The worksheets are located in the weekly modules on the left panel of Canvas course.**

The due date will be weekly, on Fridays. Please utilize our Zoom meetings for office hours and ask questions from the worksheets if you have any troubles. There will be videos to guide some challenge problems in the worksheets

### **Homework:**

Textbook Section Exercises (you will be redirected to the new site My Lab and Mastering via Canvas Bookshelf) will be assigned and automatically graded for you to earn homework points. This immediate feedback, tutoring, and instant scoring are the main reasons of using this learning system. The assigned exercises will form the basis of the tests and the final exam. You are encouraged to solve homework problems on a daily basis while seeking help from the Math 130 instructor, MyMathLab instant tutor function, or making appointment with me!

**Grading:** Your course grade will be determined by the following:

1. **Tests (via Online MyMathLab Quizzes):** Three 50-point online tests, total 150 points.
2. **Worksheets:** up to 120 points. No late turn in is acceptable once the worksheet solutions are posted. However, I will waive 20 points to cover contingent causes for every student or potential technology/connection/email system/Canvas system glitch that prevent your worksheets from reaching me in time.
3. **Online MymathLab Exercises:** 100 points. Doing exercises on a regular and diligent basis can largely improve your test speed and grade. Plan on doing the section problems daily.
4. **A comprehensive online final exam** worth 100 points. These questions are a collection of the past tests and exercises from the MyMathLab. You will take it through the Canvas via MyLab and Mastering link.

A perfect score on both of the above categories would result in a total of 450 points. Your course grade will be determined by the percentage  $p$  of these points you earn, according the following scale.

A	100 %	to 94.0%
A-	< 94.0 %	to 90.0%
B+	< 90.0 %	to 87.0%
B	< 87.0 %	to 84.0%
B-	< 84.0 %	to 80.0%
C+	< 80.0 %	to 77.0%
C	< 77.0 %	to 74.0%
C-	< 74.0 %	to 70.0%
D+	< 70.0 %	to 67.0%
D	< 67.0 %	to 64.0%
D-	< 64.0 %	to 61.0%
F	< 61.0 %	to 0.0%

**Note:** No makeup exams will be given without a written request providing proof of evidence. You **must** take the final exam to pass the course.

**Students with disabilities:** If you require accommodation based on a documented disability, have emergency medical information to share, or need special arrangements in case of emergency evacuations; please discuss the situation with me as soon as possible.

### **Course Expectations:**

As a student in this online course, you can expect:

- Collected assignments to be graded and returned within one week. Homework done through Canvas→ MyMathLab will receive instant feedback.
- Response to email within 24 hours (or less!) Monday to Friday. I will also respond to email on weekends, although less frequently.
- Constant accessibility by appointments via email, Canvas conferences made as necessary.

As a student in this online course, you will be expected to:

- Devote enough time to the course to succeed. Remember this is a 5-credit course taken at an accelerated pace.
- Be proactive in seeking help when needed.
- Complete all assignments to the best of your ability.
- Notify the instructor *immediately* of any circumstances impeding your success.
- Adhere to Central Washington University's Student Judicial Code, particularly the section on Proscribed Conduct and academic dishonesty.

## Course Structure:

As an online course, the content will be delivered through the Conference feature of **Canvas** platform. Your daily tasks will include the following:

- Read the appropriate section(s) of material from the text.
- Join and/or Watch the recorded lesson (annotated PowerPoint). Pause the recording to work through examples where indicated.
- After the lesson, work through the worksheet on your own but ask for help or clarification whenever in doubt!
- Assess your work on the worksheet by comparing your work to the posted solution.
- If you need extra support, watch the recording of the instructor completing the worksheet.
- Complete the assigned homework on MyMathLab.com. You can access your account via Canvas system by clicking on one of the labels located the left panel “**MyLab and Mastering**” and the student link.
- If there are homework problems that you need help on, try the tutor help or email me ([chueh@cwu.edu](mailto:chueh@cwu.edu)). I will either handle the questions individually, or I will post a recorded or written solution on Canvas, depending on how many students are having similar issues. Remember that I am here as a force of good, not evil.

## Homework:

Daily homework is an integral part of this course. You are responsible for keeping up with the assigned homework on MyMathLab.com, and seeking help as early as possible. The homework sets will open up a week before their due date, allowing you to work a little bit ahead in the course. In order to help you master the material, you have four attempts for each homework problem and up to three attempts for each test problem set.

## SCHEDULE OF TOPICS AND TEST WEEKS

Topic coverage and test schedule are presented below. In order to perform well in this class, **preliminary textbook reading** before each class and reviewing class notes throughout the entire summer is necessary. Students are advised to complete the homework assignments soon after the each topic is covered.

<u>Week</u>	<u>Textbook Sections to be covered</u>	<u>Topics</u>
1. Sept 9~11	5.1~5.3	<b>Sets and Counting</b> <ul style="list-style-type: none"><li>▪ Sets and their operations</li><li>▪ Venn Diagrams</li><li>▪ Counting Principle (Multiplication Principle)</li></ul> <b>Online Exercise 5.1, 5.2, 5.3</b>

## Worksheets 1, 2

2. Sept 14~18                      5.4~5.6

- Permutations
- Combinations
- Further Counting Techniques

[Online Exercises 5.4~5.6](#)

[Worksheets 3, 4](#)

3. Sept 21~25                      5.7~5.8

### **Binomial and Multinomial Coefficients**

[Online Exercises 5.7, 5.8](#)

[Worksheet 5](#)

**Test 1 (Covering Chapter 5)**

4. Sept 28~Oct 2                      6.1~6.3

### **More counting and Probabilities**

- Experiments
- Outcomes, Sample Space, Events
- Calculating Probabilities of Events

[Online Exercises 6.1, 6.2, 6.3](#)

[Worksheets 6, 7](#)

5. Oct 5~9                              6.4~6.5

- Conditional Probability and Independence
- Tree Diagrams

[Online Exercises 6.4, 6.5](#)

[Worksheet 8, 9](#)

6. Oct 12~16                          6.6

- Bayes Theorem

[Online Exercises 6.6](#)

[Worksheet 10](#)

**Test 2 (Covering Chapter 6.1-6.6)**

7. Oct 19~23                          7.1~7.3

### **Random variables and Probability Distributions**

- Random variables
- Dispersion of r.v.
- Binomial dist.

[Online Exercises 7.1, 7.2, 7.3](#)

[Worksheet 11, 12](#)

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|-----|-----------|--|--|
| 8.  | Oct 26~30 | 7.4~7.5                                  | <b>Mean, Variance, Standard Deviation,<br/>Normal distributions</b> <ul style="list-style-type: none"> <li>▪ Density curves</li> <li>▪ Applications</li> </ul> <a href="#">Online Exercises 7.4, 7.5</a><br><a href="#">Worksheet 13</a> |
| 9.  | Nov 2~6   | 7.6                                      | <b>Normal Distribution and Statistics</b> <ul style="list-style-type: none"> <li>▪ Graphical</li> <li>▪ Numerical</li> <li>▪ Relative standing</li> </ul> <a href="#">Online Exercises 7.6</a><br><a href="#">Worksheet 14</a>           |
| 10. | Nov 9~13  | <b>Test 3 (Covering Chapter 7.1-7.6)</b> |  |
| 11. | Nov 16~20 | <b>Online Final Exam (November 20)</b>   |  |

## Resources

- **Student mental and emotional health and support:**

Stress and other life circumstances that may be out of your control can make learning and focusing difficult. If you find stress or other mental health concerns make academics difficult, Central has resources to support you. I encourage you to reach out as soon as you notice you're struggling.

  - Student Counseling Services – crisis appointments available – 509-963-1391 – [www.cwu.edu/medical-counseling/counseling-clinic](http://www.cwu.edu/medical-counseling/counseling-clinic)
  - Mental health crisis support outside of normal business hours – 1-800-273-8255; Text HOME to 741741
  - Wellness Center – confidential sexual assault and other victim advocacy – 509-963-3213 – [www.cwu.edu/wecare](http://www.cwu.edu/wecare), [www.cwu.edu/path](http://www.cwu.edu/path)
  - Disability Services – registration for accommodation – 509-963-2214 – [www.cwu.edu/disability-services](http://www.cwu.edu/disability-services)
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- **Wearing facial coverings:** concerning protocols and guidelines.

Due to COVID-19, and under the directive and mandate of public health officials and the president of Central Washington University, students must adopt face covering protocol before entering any classroom or building at CWU until further notice. Students must also follow the social distancing placement marks in buildings and classrooms. If you do not have a face covering Central Washington University can provide one for you. If you have not yet received your CWU-supplied facial covering, please go to the SURC Information Desk. Please do so prior to the start of your first class.

The campus policy regarding face covers can be found in [CWUP 2-40-145](#). Protocol for handling student behavior regarding face coverings is available on the [COVID-19 Employee FAQs](#) under the question "Will face coverings be required? What happens if they aren't worn?"

- CWU Fall Guide: <https://www.cwu.edu/fallguide2020/> This has a link for general FAQs related to students and staff.