

## **MAT 142: College Mathematics** **Fall 2024 Course Syllabus**

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<b>Office Hours:</b> In person: UCENT 349 (Within UCENT Suite 300) – Monday 1:30pm – 2:30pm, Wednesday 1:30pm – 2:30pm. All other times (in person or via Zoom) by appointment.	

### **Course Schedule**

Week #	Dates	Assignments	Tuesday	Thursday
1	August 18 – 24			Introduction & Lesson 1.1
2	August 25 – 31	Mon 8/26 – Initial Knowledge Check Mon 8/26 – Intro Module Assignments Wed 8/28 – 1.1: Basic Set Concepts Wed 8/28 – 1.2: Set Operations Fri 8/30 – Sets Practice 1	Lesson 1.2 Lab	Lesson 1.3 Sets & Counting PS 1
3	September 1 – 7 <i>Labor Day – Monday 9/2</i>	Mon 9/2 – 1.3: Venn Diagrams Wed 9/4 – 1.4: Fund Counting Principle Fri 9/6 – Sets Practice 2	Lesson 1.4 Sets & Counting PS 2	Lesson 1.5 Sets & Counting PS 3
4	September 8 – 14	Mon 9/9 – 1.5: Permutations and Combinations Mon 9/9 – Sets Practice 3 Thur 9/12 – Unit 1 Exam	Sets & Counting PS 4	<b>Unit 1 Exam</b> Sets and Counting
5	September 15 – 21	Wed 9/18 – 2.1: Basic Probability Wed 9/18 – 2.2: Probability Rules Fri 9/20 – Probability Practice 1	Lessons 2.1-2.2 Lab	Lesson 2.3 Probability PS 1
6	September 22 – 28	Mon 9/23 – 2.3: Conditional Probability Wed 9/25 – 2.4: Expected Value Fri 9/27 – Probability Practice 2	Lesson 2.4 Probability PS 2	Probability PS 3
7	September 29 – October 5	<b>Tues 10/1 – Unit 2 Exam</b> Fri 10/4 – 3.1: Data Org and Visualization	<b>Unit 2 Exam</b> <b>Probability</b>	Lessons 3.1-3.2 Lab
8	October 6 – 12	Mon 10/7 – 3.2: Measures of Central Tend Wed 10/9 – Statistics Practice 1 Wed 10/9 – 3.3: Measures of Dispersion	Lesson 3.3 Statistics PS 1	Lesson 3.4 Statistics PS 2
9	October 13 – 19 <i>Fall Break – 10/14-10/15</i>	Wed 10/16 – Statistics Practice 2 Wed 10/16 – 3.4: Normal Distribution Fri 10/18 – Statistics Practice 3	<b>No Class</b> <b>Fall Break</b>	Statistics PS 3
10	October 20 – 26	<b>Tues 10/22 – Unit 3 Exam</b>	<b>Unit 3 Exam</b> <b>Statistics</b>	Lesson 4.1 Lab
11	October 27 – November 2	Mon 10/28 – 4.1: Simple Interest Wed 10/30 – 4.2: Compound Interest Fri 11/1 – Finance Practice 1	Lesson 4.2 Finance PS 1	Lesson 4.3 Finance PS 2
12	November 3 – 9	Mon 11/4 – 4.3: Annuities Mon 11/4 – Finance Practice 2 Wed 11/6 – 4.4: Amortized Loans Fri 11/8 – Finance Practice 3	Lesson 4.4 Finance PS 3	Finance PS 4
13	November 10 – 16 <i>Veterans Day – Mon 11/11</i>	<b>Tues 11/12 – Unit 4 Exam</b> Fri 11/15 – 5.1: Dimensional Analysis	<b>Unit 4 Exam</b> <b>Finance</b>	Lessons 5.1-5.2 Lab
14	November 17 – 23	Mon 11/18 – 5.2: Perimeter and Area Wed 11/20 – Geometry Practice 1 Wed 11/20 – 5.3: Volume and Surface Area Fri 11/22 – Geometry Practice 2	Lesson 5.3 Geometry PS 1	Lesson 5.4 Geometry PS 2
15	November 24 – 30 <i>Thanksgiving Break – 11/28-29</i>	Mon 11/25 – 5.4: Triangles	Lesson 5.5 Geometry PS 3 Geometry PS 4	<b>No Class</b> <b>Thanksgiving Break</b>
16	December 1 – December 7	Mon 12/2 – 5.5: Right Triangle Trig Mon 12/2 – Geometry Practice 3 Thur 12/5 – Unit 5 Exam		<b>Unit 5 Exam</b> <b>Geometry</b>

## Key Semester Dates

<i>Add Deadline:</i>	<i>Drop Deadline:</i>	<i>Course Withdrawal Deadline:</i>
Wednesday, August 28, 2024	Wednesday, September 4, 2024	Wednesday, November 6, 2024

### **Syllabus Disclaimer:**

Instructors view the course syllabus as an educational contract between the instructor and the students. I reserve the right to make changes to the syllabus as deemed necessary by unforeseen events. If there are any syllabus changes, students will be notified in a timely manner by an announcement made in class or posted on Canvas. By remaining registered in the course through drop/add period, you agree to all terms and policies set forth in the syllabus.

### **Cellular Phone Policy:**

I assume the responsibility of ensuring each of you is in a position to be successful in this class. Part of that responsibility is to ensure that all of us, collectively, are focused on the task at hand. Therefore, while watching the video lectures and participating during class time, you should avoid distractions. I request that your cell phone is silenced and put away as its usage during class is disruptive and distracting to the learning environment, both individually and as a group.

## Course Details

### **Course Description:**

Welcome to MAT 142! The purpose of this course is to relate college-level mathematics to real-life problems. We will emphasize problem-solving techniques, specifically by means of discussing concepts including set theory, probability, statistics, finance, and geometry. Students will apply basic college-level mathematics to real-life problems. This course carries General Studies Gold "MATH" credit or Maroon "MA" credit.

### **Prerequisites:**

This course is open to students whose major does not require MAT 117 or MAT 170.

### **General Studies Gold Mathematics Learning Objectives:**

This course fulfills the ASU Mathematics General Studies requirement. Students completing a Mathematics course will be able to:

1. Demonstrate an understanding of mathematical relationships from multiple perspectives, such as functions from graphical, numerical, and analytic points of view.
2. Apply mathematical skills in the solution of real-life problems.

### **Course Learning Outcomes:**

1. Interpret mathematical and quantitative information and draw logical inferences from representations such as formulas, equations, graphs and tables.
2. Develop mathematical reasoning and an ability to apply quantitative methods to real-life situations.
3. Engage in substantial problem solving related to counting techniques, probability, statistics, geometry and basic financial formulas.
4. Communicate and interpret results.

### **Course Learning Objectives:**

At the completion of this course, students will be able to:

1. Apply knowledge about set theory (sets, set notation, and set operations) to solve problems.
2. Apply basic counting techniques and probability theory to solve probability-based problems.
3. Apply a variety of statistical measures to solve problems.
4. Solve a variety of financial-based problems involving simple and compound interest, annuities, and amortized loans.
5. Apply geometric concepts (dimensional analysis, perimeter, area, surface area, volume, similarity, proportions, and trigonometric functions) to solve geometry-based problems.

## Course Materials

### Textbook:

Everyone is required to purchase a coursepack containing the video lecture notes for the semester. This coursepack is only available at the ASU Bookstore on the Downtown campus.

*MAT 142 Coursepack; LAD Custom Publishing*

### Calculator:

You do not need to purchase a handheld calculator for this course. There is a calculator available in the online homework system (ALEKS). You can also use the Desmos online calculator for assignments and exams: <https://www.desmos.com/scientific>. Handheld calculators are not permitted on exams. **Cellular phone calculators are not permitted in class or during an exam.**

## Course Structure

### ALEKS Learning Assignments: [20% of your grade]

Each lesson contains a required ALEKS learning assignment. In ALEKS, these are called *Modules*. You are required to bring your notes to class every day, and if you come to office hours. For your homework problems, it is highly recommended that you work the problems on paper, and save these exercises as part of your notes. They come in handy when reviewing for an exam or for obtaining help if you have difficulty with the material. Some learning assignments contain a prep component; this is considered part of the lesson. The deadlines for each of the ALEKS learning assignments are listed in the schedule on the first page of this syllabus. No late assignments may be submitted after the deadline.

### ALEKS Practice Assignments: [10% of your grade]

There is a required ALEKS practice assignment due after every few lessons. In ALEKS, these are called *Homework Assignments*. Successfully completing these practice assignments involve using skills acquired in the preceding ALEKS learning assignments within the same unit. The deadlines for each of the ALEKS practice assignments are listed in the schedule on the first page of this syllabus. No late assignments may be submitted after the deadline.

### Problem Solving Sessions: [20% of your grade]

On most days, we will divide into groups for problem solving. During our problem solving sessions, you will receive a problem set based on content you have recently learned in the course. Groups will be assigned at the beginning of the semester and shuffled after each major exam. If you miss class or are more than 10 minutes late, you will not receive a problem set or credit for that class. This means that you will receive a score of 0 for the problem set you should have completed that day. There are no make-up problem sets for missed class sessions, but your lowest two problem solving scores will be dropped at the end of the semester.

### Exams: [50% of your grade]

You will take five unit exams during the semester on the dates listed below. Each exam will involve a mix of mechanical skills and conceptual reasoning. You only get a single attempt at each unit exam. No exam scores will be dropped and you will not be permitted to take the exam if you arrive more than 10 minutes late to class. *All exams must be taken during class time on the day indicated in the syllabus. It is not possible to access an exam without a password that will be provided by the instructor on the day of the exam.*

The best possible preparation for them is regular attendance, completion of assigned homework, and completing the exam review.

### Exam Warnings:

Any student who accesses a phone or any internet-capable device (other than the exam computer) during an exam for any reason automatically receives a score of zero on the exam. All such devices must be turned off, put away, and made inaccessible during the exam.

Exam	Date
Unit 1 Exam – Sets and Counting	Thursday, September 12, 2024
Unit 2 Exam – Probability	Tuesday, October 1, 2024
Unit 3 Exam – Statistics	Tuesday, October 22, 2024
Unit 4 Exam – Finance	Tuesday, November 12, 2024
Unit 1 Exam – Sets and Counting	Thursday, December 5, 2024

**Lab Sessions:**

Each student is expected to class daily. On some days, you will work on computers during class time to navigate through the course content, including working on learning assignments, practice assignments, and /or exam reviews. This is a time when you will be able to ask questions of the instructor and IAs, as well as to work with other students. *Everyone is required to bring and wear earbuds or headphones while watching lecture videos in the computer lab.*

**Video Lectures:**

Each lesson is accompanied by one or more video lectures. These video lectures can be found on Canvas and can be used as an additional resource to supplement each lesson. They provide additional examples for each lesson we will cover in the course. If you are unable to attend class, it is recommended to watch the video lectures covering the topics that you missed. A .pdf file containing an outline of the video lectures can be found on Canvas under each unit overview.

## Student Resources & Course Expectations

**Student Success Center:**

Your primary resource for tutoring is the Student Success Center. Tutoring is available in person and online. Tutoring hours and additional information can be found on their webpage at: <http://tutoring.asu.edu>.

**Attendance:**

Attendance and participation in class activities is an essential part of the learning process, and students are expected to attend class regularly. Moreover, part of being prepared for class involves bringing all course materials to class, including your coursepack. Some absences are, however, unavoidable. Excused absences for classes will be given without penalty to the grade in the case of (1) a university-sanctioned event [ACD 304-02]; (2) religious holidays [ACD 304-04]; (3) work performed in the line-of-duty [SSM 201-18]; and (4) illness, quarantine or self-isolation related to illness as documented by a health professional.

Arrangements for any ASU sanctioned activity, ASU student athlete obligations, religious observances, or active duty military should be communicated to the instructor by email at least one week before the expected absence.

Absences for illness, quarantine or self-isolation related to illness should be documented by a health professional and communicated to the instructor as soon as possible by email. All arrangements must be requested within 24 hours. Excused absences do not relieve students from responsibility for any part of the coursework required during the period of absence. You will be provided with appropriate accommodations after you have notified the instructor.

**Late Arrival Policy:**

Arriving late to class is a distraction to your peers. Please make every effort to arrive to class on time. After the first week of classes, students who habitually arrive late throughout the semester (more than 2 times) will lose five points from their problem solving grade for every late arrival.

**Make-Up Policy:**

Make-up exams are only given in the following cases

- a university-sanctioned event [ACD 304-02]
- religious holidays [ACD 304-04]
- work performed in the line-of-duty [SSM 201-18]
- illness, quarantine or self-isolation related to illness **as documented by a health professional.**
- documented emergency

To request a make-up exam, visit this website: <https://forms.gle/YSUyJufiNmxhtkE6> (A clickable link can be found on Canvas under the Canvas Exam Resources Module.) Arrangements for any make-ups must be requested within 24 hours of the original exam date and taken as soon as possible, up to within one week of the original exam date. *Once you contact the instructor for a make-up request, you are required to check and respond to your e-mail daily until the make-up exam is taken.* There are no make-ups for homework.

## Grading Policy

Grade	Grading Scale
A+	97% or above
A	90% – 96.99%
A–	89.5% – 89.99%
B+	87% – 89.49%
B	80% – 86.99%
B–	79.5% – 79.99%
C+	77% – 79.49%
C	70% – 76.99%
D	60% – 69.99%
E	< 60%

Point Distribution	Percentage
5 Unit Exams	50%
Problem Sets	20%
ALEKS Learning Assignments (Objectives)	20%
ALEKS Practice Assignments (Homework)	10%

## Course Information

- Staying on schedule is a critical component of student success in this course. Plan to stay ahead of schedule and take advantage of all the resources available to you listed in the syllabus and posted on the course site to ensure you don't fall behind.
- Since each student is expected to show respect for every student registered in the course, classroom disturbances are not tolerated. These include, but are not limited to: talking during lecture, arriving late, leaving early, cellular phone usage, and using racist, sexist, homophobic, or other negative language as outlined in ASU's Student Code of Conduct. Recurring disturbances caused by an individual will result in an administrative withdrawal from the course.
- The highest standards of academic integrity are expected of all students at all times. Violations of academic integrity include, but are not limited to, cheating, fabrication, tampering, plagiarism, or facilitating such activities. Any student who accesses a phone or mobile internet device for any reason during an exam will automatically receive, at minimum, a score of 0 for that exam. If you engage in academic dishonesty as determined through a collaborative inquiry process with your instructor and an academic integrity officer, consequences include: completion of an Academic Integrity Course, reduced/failing grades on an assignment/course, suspension, and/or expulsion. See the Student Academic Integrity Policy for details.  
<https://provost.asu.edu/sites/default/files/academic-integrity-policy.pdf>
- Students who feel they may need accessibility accommodation(s) in class must meet with the instructor to provide documentation from Student Accessibility and Inclusive Learning Services (SAILS) [formerly the Disability Resource Center (DRC)] verifying the need for an accommodation and to discuss the type of accommodation that is appropriate. The online SAILS contract will not be approved until the student meets with me. It is the student's responsibility to initiate contact with SAILS and should contact SAILS as early as possible, ideally before the beginning of the semester, to ensure appropriate accommodations can be provided. Students registered with SAILS must notify the instructor at least one week prior to any exam.
- No individual extra credit assignments will be offered.
- During the semester I encourage my students to discuss concerns about their grade with me and strategies to improve upon their approach to the course. However, it is inappropriate to discuss the impact of a grade on academic standing, degree program, or scholarship requirements. This is also a violation of ASU's Academic Integrity Policy. All instructors have an obligation to ensure all grades are earned equally and fairly for all students independent of major, degree program, or scholarship requirements.
- This course is offered by the College of Integrative Sciences and Arts. If you have questions or concerns, please send your inquiry to your instructor directly or to [cisa@asu.edu](mailto:cisa@asu.edu). For more information about the school, visit our website: <https://cisa.asu.edu>
- Welcome to the course! I encourage you to participate in class, visit the Student Success Center, come to my office hours, or make an appointment with me to discuss any material that is unclear to you. I wish you well in the course and all of your other academic pursuits this semester.

## Additional Information

- Arizona State University is deeply committed to positioning itself as one of the great new universities by seeking to build excellence, enhance access and have an impact on our community, state, nation and the world. To do that requires our faculty and staff to reflect the intellectual, ethnic and cultural diversity of our nation and world so that our students learn from the broadest perspectives. At ASU, we recognize that in addition to race and gender being markers of diversity of higher education, additional categories include socioeconomic background, religion, sexual orientation, gender identity, age, disability, veteran status, nationality, and intellectual perspective.
- ASU policy prohibits harassment on the basis of race, sex, gender identity, age, religion, national origin, disability, sexual orientation, Vietnam era veteran status, and other protected veteran status.
- All students should contact an advisor to discuss requirements for their degree program, scholarship, or other benefits before making any changes to their academic schedule. This includes, but is not limited to: international students ([students.asu.edu/international/support/academic](https://students.asu.edu/international/support/academic)), veterans (<https://veterans.asu.edu>), SAILS students ([asu.edu/studentaffairs/ed/drc](https://asu.edu/studentaffairs/ed/drc)), and students with financial aid ([students.asu.edu/financialaid](https://students.asu.edu/financialaid)).
- ASU Counseling Services provides counseling and crisis services for students who are experiencing a mental health concern, such as strained relationships, increased anxiety, substance use, feeling down, difficulty concentrating, or lack of motivation. Any student may call or walk-in to any ASU counseling center for a same day or future appointment to discuss any personal concern. Their website is: <https://eoss.asu.edu/counseling> and their 24/7 dedicated crisis line is available at 480-921-1006.
- Both Title IX federal law and university policy make clear that sexual violence and harassment based on sex is prohibited. If you or someone you know has been harassed on the basis of sex or sexually assaulted, you can find information and resources at <https://sexualviolenceprevention.asu.edu/faqs>. As a mandated reporter, I am obligated to report any information I become aware of regarding alleged acts of sexual discrimination, including sexual violence and dating violence. ASU Counseling Services is available if you wish discuss any concerns confidentially and privately.
- Please note that some course content may be deemed offensive by some students, although it is not my intention to offend anyone. If you find that any course content is offensive, please contact me.
- In accordance with [ACD 304-06 Commercial Note Taking Services](#), written permission must be secured from the instructor in order to sell the instructor's oral communication in the form of notes.
- For assistance on using Zoom resources, visit the UTO site: <https://uto.asu.edu/zoom-resources>

### **Tips for Navigating ALEKS:**

Each week, one or two ALEKS learning assignments and a corresponding practice assignment are expected to be completed. For each lesson, you are to complete the following:

- Take notes during class and watch the video lecture if necessary before beginning the ALEKS learning assignment. Your notes will serve as a reference as you complete the rest of the lesson.
  - Complete the ALEKS learning assignment. (i.e., 1.1: Basic Set Concepts)
  - Complete the corresponding ALEKS practice assignment. (i.e., Sets Practice 1)
  - You can also click on *View Assignment List* on the left side of ALEKS to see all upcoming assignments.
- ? How can you check to see if you have completed everything for the week? In ALEKS, click on the ≡ menu in the top left corner. Click on *Gradebook*. The assignments that are due should have scores of 100% listed in the Grade column.