MATH 112: Algebra, Lecture 001 (3 Credits), Spring 2020

Course Information

Description. This course studies the properties of elementary functions, such as polynomial, absolute value, radical, rational, exponential, and logarithmic functions. Topics include equations, inequalities, functions, and their graphs. Students will formulate, analyze, solve, and interpret mathematical and real-world problems. Intended to provide the algebra skills required for calculus.

Prerequisites: MATH 96 or placement into MATH 112. MATH 118 does not fulfill the requisite.

Level: Elementary

L & S Credit Type: C

Gen Ed: Quant. Reasoning A

Instruction Mode: Face-to-face

This class meets for three, 50-minute class periods each week over the spring semester and carries the expectation that students will work on course learning activities (e.g. reading, problem sets, and studying) for about two hours outside of classroom for every class period. The syllabus includes additional information about meeting times and expectations for student work.

Meeting Time and Location. M: 8:50 – 9:40AM in Ingraham, Room 22 & TuTh: 8:50 – 9:40AM in White, Room 3250

Course Website. canvas.wisc.edu

Instructional Team

Instructor: Tung Nguyen
Teaching Assistant: Bryan Oakley
Student Assistants: Eric Akpan & Lina Liu

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Email: boakley@math.wisc.edu

Algebra Lab Hours. Instructors, teaching assistants, and student assistants are available during MTh: 4:00 – 7:00PM & TuW: 2:00 – 5:00PM in Helen C. White Library, Room 3262. These lab hours are meant to be drop-in help sessions for algebra students in MATH 112 (and MATH 96). You are encouraged to come anytime you want to ask questions, work on homework assignments, collaborate with other students, or review for exams. You may also make an appointment to meet with your teaching assistant or instructor.

Textbook


This course will require WebAssign from Cengage. WebAssign contains the eBook, various study tools, and homework assignments. You may access the WebAssign at www.cengagebrain.com/course/3613466. You must purchase one of the two options: WebAssign Instant Access for Stewart/Redlin/Watson’s College Algebra, Single-Term, 7th Edition or Cengage Unlimited. If you have other courses using Cengage materials this semester, then Cengage Unlimited may be more appropriate. You can also purchase a printed loose-leaf textbook copy in addition one of the above purchase options. Please use your university email address when setting up your Cengage account. For WebAssign support, please visit cengage.force.com/s/.
LEARNING OUTCOMES

By the conclusion of this course, students are expected to be able to:

- Solve a variety of equations and inequalities using algebraic techniques;
- Interpret the properties of various functions, including their domains and ranges;
- Graph, transform, combine, compose, and solve for the inverse of different functions;
- Interpret and graph various polynomial, rational, exponential, and logarithmic functions;
- Solve linear and nonlinear systems of equations;
- Model and analyze real-world problems using various functions and their properties; and
- Support solutions by applying mathematical concepts and reason to justifications.

GRADING AND HOMEWORK

In this course, you will be evaluated based on five components described below with their corresponding percentages.

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<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Homework</td>
<td>15%</td>
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<tr>
<td>Participation</td>
<td>10%</td>
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<tr>
<td>Exams</td>
<td>45%</td>
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<tr>
<td>Quizzes</td>
<td>10%</td>
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<tr>
<td>Final Exam</td>
<td>20%</td>
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Exams. There will be three exams during the semester, occurring on Wednesday, February 19, Wednesday, April 1, and Wednesday, April 22. You will have 90 minutes to complete each exam without the aid of a calculator, textbook, or notes. All three exams will be administered beginning at 5:30 PM in rooms announced later in class. The final exam will be a two-hour cumulative exam on Tuesday, May 5 starting at 5:05 PM at a location determined by the Office of the Registrar later. The final exam is to be completed without the aid of a calculator, textbook, or notes.

Please contact your teaching assistant if you have a university-related conflict with these scheduled exam times at least two weeks in advance. Also, students with McBurney Center accommodations should schedule to take the exams at Testing and Evaluation Services during exam time at least three days in advance. Makeup exams are allowed only under two circumstances: conflicts with another university-related event or a last-minute medical or family emergency with verification. Otherwise, it will be your responsibility to rearrange your schedule in order for you to attend exams. In the highly unusual circumstance that you cannot attend the exam or the makeup exam, you will need to discuss this situation directly with your teaching assistant or instructor.

Quizzes. There will be three 25 minute quizzes, administered on Thursday, February 6, Thursday, March 5, and Thursday, April 16 at the beginning of class time. You must complete the quizzes without the aid of a calculator, textbook, or notes. There are no makeup times for quizzes. The lowest quiz score will be dropped from your overall score.

Homework. Weekly homework assignments can be accessed through the Canvas website. They are assigned on WebAssign (purchased previously using the previous instructions under this syllabus’ textbook section). The due dates for the assignments are located on Canvas, but generally, they are due on Tuesday nights at 11:59 PM. The lowest assignment score will be dropped from your overall homework score.

Participation. This course depends on students’ active participation in class discussions and group works. You are expected to engage your fellow classmates in relevant discussions, work on the assigned problems, ask questions, share your approach to problems on the small boards, and keep on task by contributing ideas. These actions will increase your participation score. Actions that will decrease your participation score are being absent more than two times, being tardy or leaving
class early, being distracted while attending class (e.g. using your cell phone is unacceptable), and disrespecting fellow classmates.

There will be weekly knowledge checks based on the pre-lecture videos on Canvas which account for a portion of your participation score. You will have two attempts on each knowledge check. They are usually due **Monday** morning at 8:30AM. The lowest knowledge check score will be dropped.

**Attendance.** Since participation is an important feature of this course, your attendance is important and required. If you are absent more than two times, your participation score will decrease based on your attendance record.

If you experience long-term absence due to a serious illness with verification or accommodations from the McBurney Center, then your participation score may be restructured by your instructor. However, this exception requires verification and discussion with your instructor before the last day of classes, and it will just remove your participation score entirely from your overall score.

**Grading Scale.** The following scores correspond to guaranteed grades in this course. The scores for grades may be lowered at the end of the semester by the instructor and teaching assistants.

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A \geq 92\% > AB \geq 88\% > B \geq 82\% > BC \geq 78\% > C \geq 70\% > D \geq 60\% > F
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**Academic Policies**

**Academic Integrity.** By enrolling in this course, you assume the responsibilities of an active participant in the University of Wisconsin-Madison’s community of scholars in which everyone’s academic work and behavior are held to the highest academic integrity standards. Academic misconduct compromises the integrity of the university. Cheating, fabrication, plagiarism, unauthorized collaboration, and helping others commit these acts are examples of academic misconduct, which can result in disciplinary action. This includes but is not limited to failure on the assignment or course, disciplinary probation, or suspension. Substantial or repeated cases of misconduct will be forwarded to the Office of Student Conduct and Community Standards for additional review.

**Accommodations for Disabilities.** The University of Wisconsin-Madison supports the right of all enrolled students to a full and equal educational opportunity. The Americans with Disabilities Act (ADA), Wisconsin State Statute (36.12), and University of Wisconsin-Madison policy (Faculty Document 1071) require that students with disabilities be reasonably accommodated in instruction and campus life. Reasonable accommodations for students with disabilities is a shared faculty and student responsibility. Students are expected to inform your instructor of their need for instructional accommodations by the end of the third week of the semester, or as soon as possible after a disability has been incurred or recognized. We will work either directly with you or in coordination with the McBurney Center to identify and provide reasonable instructional accommodations. Disability information, including instructional accommodations as part of a student’s educational record, is confidential and protected under Family Educational Rights and Privacy Act (FERPA).

**Diversity and Inclusion.** Diversity is a source of strength, creativity, and innovation for University of Wisconsin-Madison. We value the contributions of each person and respect the profound ways their identity, culture, background, experience, status, abilities, and opinion enrich the university community. We commit ourselves to the pursuit of excellence in teaching, research, outreach, and diversity as inextricably linked goals.

The University of Wisconsin-Madison fulfills its public mission by creating a welcoming and inclusive community for people from every background—people who as students, faculty, and staff serve Wisconsin and the world.