

# Math 110 Syllabus, Spring 2018

## MW 6:00 - 7:15 pm, Room N129

**Instructor:** Arman Banimahd  
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**Office Hours:** Mondays and Wednesdays at 5:30pm, Tuesdays and Thursdays at 1:00pm, and by appointment

- 1. Course Catalog Description:** Definition of function; linear and non-linear functions and graphs including logarithmic and exponential functions; systems of linear equations; theory of polynomial equations and optional topics such as mathematical induction, matrix solution of linear systems, and Cramer's rule. Prereq.: A grade of C or better in MAT 105 or appropriate placement test score.

In this course we will study the function concept. In so doing we hope to:

- Reinforce algebraic manipulative skills.
- Develop function concepts in terms of graphs, tables, and formulas for polynomial, exponential, logarithmic, and rational functions.
- Identify transformations of basic function types from their graphs and their formulas.
- Study polynomial functions, their zeros, and factorization.
- Solve polynomial, logarithmic, exponential and radical equations as well as systems of equations using Gaussian Elimination.
- Study arithmetic and geometric (Linear and Exponential) sequences and series.
- Enhance skills in mathematical formulation of problems. (Word Problems!)
- A detailed schedule of topic coverage is provided on the back of the syllabus.

- 2. Text/Materials Needed for Class:** Starting on the first day of class you must have...

- ✓ **Text:** *College Algebra*, by Stalder and Martin [e-Text](#). This is a free e-text that I'd suggest downloading to flash drive or laptop...
- ✓ You must have your ALEKS account set by using the links provided in the homework sheet for the first day of classes. You will purchase an 18-week ALEKS license: Go to [www.aleks.com](http://www.aleks.com) and, when prompted, enter the following code: **4YEDV-6L6PR**.
- ✓ Writing utensils
- ✓ A Scientific Calculator.
- ✓ All of the material will be posted on my webpage, [banimahd.weebly.com/resources.html](http://banimahd.weebly.com/resources.html). You are responsible to check the webpage for assignments regularly.

- 3. Calculator Policy:** A calculator will be needed on some in-class written exams and quizzes. If permitted, a scientific calculator is allowed (e.g., TI-30XIIS, TI-30XS, TI-36X Pro). No graphing calculator (e.g., TI-84), cell phone, or other electronic device will be allowed. On ALEKS assessments, a calculator button will show up if permitted.

4. **Important Dates** (dates for Exams I-IV are based on the tentative schedule):

Day, Date	Event
Monday, January 22	First day of classes
Friday, February 2	Last day to drop a class without receiving a "W" grade
Wednesday, February 21	Exam 1
Wednesday, April 4	Exam 2
March 19 - 23	Spring Break
Wednesday, May 2	Exam 3
Friday, April 6	Drop/Audit Deadline
Friday, May 11	Last day of classes
Thursday, May 17	Final Exam 3:30 - 5:30 pm

5. **Workload:** Workload estimation is based on the average student.

Item	Hours Spent
Class time (3 credits)	~3 hrs/wk (~45 hours)
Out-of-class time: <ul style="list-style-type: none"> <li>✓ Doing homework taking notes/writing summaries on lectures/reading and Doing problems from worksheets</li> <li>✓ Filling ALEKS Pie/meeting Intermediate Objectives</li> </ul>	~6 - 12 hrs/wk (~90-174 hours)
Make-up exams (when needed to satisfy 80% or higher mastery goal)	~6 hrs
<b>Total for the Semester</b>	<b>~141- 225 hrs</b>

- Your grade in Mat 110 will be determined by three factors: % on each of the 4 exams (written/oral ALEKS and non-ALEKS exams), % on ALEKS Intermediate Objectives, and % on class participation/homework, attendance quizzes, and Quizzes.
- The total % breakdown for your grade is as follows:

Mat 110 grade	%	Variable
Quizzes ( 7 quizzes total, one dropped)	12	A
Exam 1	9	B
Exam 2	12	C
Exam 3	15	D
Final Exam (Paper/Pencil)	25	E
Class Participation/Attendance Quizzes	7	F
Homework/Worksheets	10	G
ALEKS Intermediate Objectives (IO)	10	H

**Grading Scale:** Standard grading scale is used where scoring above 93% is an A, 90-92% is an A-, 87-89% is a B+, and so on. To compute your grade, the following formula will be used

$$\text{Total \%} = 0.12A + 0.09B + 0.12C + 0.15D + 0.25E + 0.07F + 0.10G + 0.10H$$

**Example:** If a student earns 75% on the final exam, 80% on the rest of the components the student will earn a grade of a C+.

➤ **Quizzes**

Seven paper pencil and some ALEKS quizzes will be given throughout the semester. Lowest quiz score will be dropped. To earn eligibility, you must

- Complete all relevant intermediate objectives at 85% or higher
- Complete the relevant quiz review

➤ **Exams:**

All assessments/exams are cumulative. Eligibility is earned. To earn exam eligibility, you must

- Complete the relevant homework/worksheet
- Complete the relevant exam review

➤ **Make-up Exam Policy:**

If you miss an exam due to extenuating circumstances, then a makeup exam will be considered only if:

- You have emailed the instructor by class time of the exam day
- You have completed the relevant practice exam

\*There will be no make-up quizzes, lowest quiz score is dropped.

➤ **ALEKS Intermediate Objectives**

Your ALEKS pie is broken into 10 Intermediate Objectives. You must complete these objectives by the deadlines to earn full credit.

➤ **Class Participation/Attendance Quizzes**

In-class participation involves engaging in classroom activities such as group work and problem-solving presentations. Attendance quizzes are brief in-class quizzes designed to check understanding of textbook/video lessons, workbook exercises, classroom content or ALEKS topics. These quizzes may be oral and administered one-on-one or in a group. The student/group will use appropriate mathematical terminology to explain their work. No student is forced to demonstrate their mastery orally in front of the whole class.

➤ **Extra Credit %:** From time to time, your instructor may choose to give you opportunities to earn extra credit.

- **Important:** In all work, especially for the quizzes, attendance quiz problems and exams, your handwriting should be legible, and the steps should be easy to follow. I recommend using a #2 pencil and an eraser. The general format should conform to the sample problems done in class, or as shown in the textbook or ALEKS. Following such guidelines will help your mathematical writing and thinking abilities.
6. **Special Needs:** If you are a student with a disability, please come and talk to me so we can accommodate them as well as possible.

## 7. Classroom Etiquette or ground rules

Most students do not need this section. However, there have been some exceptions over the years that have disrupted class and students' understanding of the material. So please follow these guidelines:

- All cellular phones, beepers, and electronic devices that could disrupt class should be in sleep mode or off while class is in session. If one is accidentally turned on or must be kept on for emergencies, then please leave the classroom to respond or turn it off immediately. **No electronic device (like cellphones, tablets, MP3-players, ...) should be handled during class.** If you are caught using any of these devices during class (e.g., texting), you may lose access to the device until the end of the class.
  - Do not talk to a classmate during class while I am trying to explain something to the class. This is mainly for non-math talk, but even math talk should not occur while I am talking. Other students who have paid to learn in the course may be distracted by your conversation, and at times I also can become distracted. I am also concerned that you yourself might be missing some important information at the board. At any point if you do not understand the material or have questions, don't hesitate to ask questions. Raise your hand and I can address your question.
  - I know the material is sometimes difficult and some students have trouble following what I'm doing at the board at times. Please let me know when this occurs so that I can address it. Please do not get vocally upset about it during class time. Pouting or venting is usually a healthy reaction to stress, but it is not appropriate in class and can be disruptive to other students' learning.
  - If possible, please recycle all plastic bottles, aluminum cans, and paper. I respectfully ask that you do not throw these items in the classroom garbage.
8. **UW-Colleges Assessment:** A UW Colleges-wide assessment program has been put into place to enhance the quality and effectiveness of the curriculum, programs, and services of the institution. The following areas of proficiency will be assessed because they are of primary importance in the education of our students: Analytical Skills, Quantitative Skills, Communication Skills, and the Aesthetic Engagement. The Mathematics Department has also identified a number of areas where common mistakes are made throughout the mathematical curriculum. Results from problems in these areas will collectively be used to assess the Colleges-wide proficiency "Quantitative Skills: Solve quantitative and mathematical problems". For more information, please visit the website: <http://www.uwc.edu/academics/assessment/>

## Semester Calendar for Math 110 Course Spring 2018

The video/text assignments and ALEKS work are to be done before the start of each class. For each Intermediate objective your percentage mastery will be recorded at midnight of the due date.

It is recommended that you follow the following steps in studying for this course:

1. Watch video lectures and/or reach the textbook for the section prior to class
2. Attempt homework/worksheet problems from the section prior to class
3. Work on completing the homework/worksheet problems after class
4. Work on ALEKS to meet the objectives by due date

	Sunday	Monday	Tue	Wednesday	Thur
January	21.	22. 1.1 Introduction to and domain and range of functions	23.	24. 1.1 Introduction to and domain and range of functions	25.
	28. ALEKS Obj. 1 due	29. 1.2 Inverse and other functions...	30.	31. 1.2 Inverse and other functions... <b>Quiz 1</b>	
					1.
February	4.	5. 1.2 Inverse and other functions...	6.	7. 1.3a Log and Exponential functions	8.
	11.	12. 1.3b,c and Sequences and other Functions	13.	14. 1.4a,b Arithmetic and composition of functions, <b>Quiz 2</b>	15.
	18. ALEKS Obj. 2 due	19. 1.4b Arithmetic and composition of functions, <b>(Must have Exam 1 Review Packet completed)</b>	20.	21. <b>EXAM 1</b>	22.
	25.	26. 2.1 Transformations	27.	28. 2.2a Conic Sections	
					1.
March	4. ALEKS Obj. 3 due	5. 2.2b Conic Sections	6.	7. 2.2c Conic Sections, <b>Quiz 3</b>	8.
	11.	12. 2.3 Graphing Polynomial Functions	13.	14. 2.3 Graphing Polynomial Functions	15.
	18. ALEKS Obj. 4 due	<b>19 - 23. SPRING BREAK</b>			
	25.	26. 2.4 Graphing Rational Functions	27.	28. 2.4 Graphing Rational Functions, <b>Quiz 4</b>	29.
April	1. ALEKS Obj. 5 due	2. 3.1 Complex Numbers, <b>(Must have Exam 2 Review Packet completed)</b>	3.	4. <b>EXAM 2</b>	5.
	8. ALEKS Obj. 6 due	9. 3.2 Polynomial Equations	10.	11. 3.2 Polynomial Equations	12.
	15. ALEKS Obj. 7 due	16. 3.3 Exponential and Logarithmic Equations	17.	18. 3.3 Exponential and Logarithmic Equations, <b>Quiz 5</b>	19.
	22. ALEKS Obj. 8 due	23. 3.4 Systems of Equations	24.	25. 3.5 System of Equations, Gauss Jordan Elimination, <b>Quiz 6</b>	26.
	29. ALEKS Obj. 9 due	30. 3.5 System of Equations, Gauss Jordan Elimination, <b>(Must have Exam 3 Review Packet completed)</b>			
			1.	2. <b>EXAM 3</b>	3.
May	6. ALEKS Obj. 10 due	7. Review for Final Exam	8.	9. Review for Final Exam, <b>Quiz 7</b>	10.
	13.	14.	15.	16.	17. <b>FINAL EXAM</b> 3:30 - 5:30 pm

Example of two weeks to help you understand the homework and expectations:

For the purpose of this example, we will only look at week 4 and week 5.

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CLASS TIME

**February 12:** 1.3b,c and Sequences and other Functions

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HOMEWORK

- A. Work on the homework packet on the topics covered in PREVIOUS CLASS (**February 12**).
  - B. Work on ALEKS to meet the objective (**Objective 2**).
  - C. Read the section(s) of the textbook, or watch the video lecture(s) (*links on the textbook section page*) for the NEXT CLASS (**February 14**).
  - D. Attempt some of the questions of the homework packet on the topics of sections being covered NEXT CLASS (**February 14**).
  - E. Complete Quiz/Exam Review packets (*if there are any*) (**Quiz 2 Review Packet**).
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CLASS TIME

**February 14:** 1.4a,b Arithmetic and composition of functions, Quiz 2

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HOMEWORK

- A. Work on the homework packet on the topics covered in PREVIOUS CLASS (**February 14**).
  - B. Work on ALEKS to meet the objective (**Objective 2**).
  - C. Read the section(s) of the textbook, or watch the video lecture(s) (*links on the textbook section page*) for the NEXT CLASS (**February 19**).
  - D. Attempt some of the questions of the homework packet on the topics of sections being covered NEXT CLASS (**February 19**).
  - E. Complete Quiz/Exam Review packets (*if there are any*) (**Exam 1 Review Packet**).
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CLASS TIME

**February 19:** 1.4b Arithmetic and composition of functions, ...

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HOMEWORK

- A. Work on the homework packet on the topics covered in PREVIOUS CLASS (**February 19**).
  - B. Work on ALEKS to meet the objective (**Objective 3**).
  - C. Read the section(s) of the textbook, or watch the video lecture(s) (*links on the textbook section page*) for the NEXT CLASS (**None for next class, instead prepare for Exam 1**).
  - D. Attempt some of the questions of the homework packet on the topics of sections being covered NEXT CLASS (**None for next class, instead complete the homework packet 1, staple the pages and turn in to be graded**).
  - E. Complete Quiz/Exam Review packets (*if there are any*) (**Continue on completing Exam 1 Review Packet**).
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CLASS TIME

**February 21:** Put all your belongings away, and be ready for the exam

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HOMEWORK

- A. Work on the homework packet on the topics covered in PREVIOUS CLASS (**February 19**).
  - B. Work on ALEKS to meet the objective (**Objective 3**).
  - C. Read the section(s) of the textbook, or watch the video lecture(s) (*links on the textbook section page*) for the NEXT CLASS (**February 26**).
  - D. Attempt some of the questions of the homework packet on the topics of sections being covered NEXT CLASS (**February 26**).
  - E. Complete Quiz/Exam Review packets (*if there are any*) (**None**).
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CLASS TIME

**February 26:** 2.1 Transformations

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