VALENCIA

Spring 2021

MATH 1215: Intermediate Algebra

Instructor

Dr. Ariel Ramirez
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Office: LRC 172

Class Details

Monday/Wednesday
Class Time: 9-10:15 am
ZOOM ID: 958 6333 1647
Passcode: sec501
MyMathLab Course ID:
ramirez89283

Tutoring Hours

M-Th 9am –12 pm
Or by Appointment
ZOOM ID: 947 3281 7694

Contents

Course Description

This course studies linear and quadratics functions and an introduction to polynomial, absolute value, rational, radical, exponential, and logarithmic functions. The course develops strategies for solving single variable equations and contextual problems.
(3 Credit Hours).

Prerequisites: Appropriate placement score or a grade of C or better in Math 100 or Math 022 or ACT Math =>18 or SAT Math Section =>490 or ACCUPLACER Next-Generation Advanced Algebra and Functions =228-238, QRAS=253-300, Arithmetic=276-300 or B+ in Alg II and/or B- or B in Statistics or CRM and/or C or lower in Pre-calculus, Trigonometry, Calculus. Check with your adviser to make sure you meet the requirements.

Course Outcomes

This course will explore linear functions, systems of linear equations, linear inequalities, polynomials and factoring, rational functions, and radical functions, and we will introduce exponential and logarithmic functions. A complete list of the Student Learning Objectives for this course is given at the end of this syllabus.

Course Materials & Requirements

Textbook:

"Developmental Mathematics," 2nd edition, by Sullivan, Struve, Mazzarella.

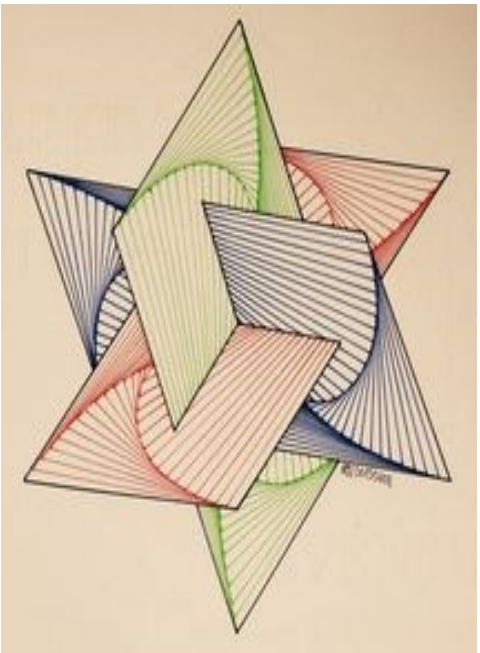
Required: Appropriate MyMathLab (MML) access code (do not purchase a generic code, in this case, the code is book specific). You may purchase the 18-week access code for a lower price, but you *cannot* upgrade to the lifetime code once you purchase the restricted one.

Optional: You may "upgrade" your access by purchasing a hardcopy of the book directly from Pearson for an additional cost (between $50 and $60 before tax). There will be copies of the book on reserve for use in the library (you will not be able to take the book from the library home).

Technical Skills:
To participate and succeed in this class, you will need to be able to perform the following basic technical tasks:

Technical Skills (continued):

- Use email – including attaching files, opening files, downloading attachments
- Copy and paste within applications including Microsoft Office
- Open a hyperlink (click on a hyperlink to access a website or online resource)
- Use Microsoft Office applications
- Create, download, update, save and upload MS Word documents
- Download, annotate, save and upload PDF files
- Access MS Teams
- Use the in-course web conferencing tool (Collaborate Web Conferencing software in UNM Learn) or use Zoom or other web conferencing tool
- Download and install an application or plugin – required for participating in web conferencing sessions
- Use UNM Learn (help documentation located in the "How to Use Learn" link on the left course menu, and also at Online Student Documentation). Also, UNM-Valencia provides a Blackboard Learn Jumpstart self-learning module to give you practice with the most commonly used tools in UNM Learn. Ask your instructor if you do not see the UNM-Valencia Blackboard Learn Jumpstart in your list of classes in UNM Learn.



Technical Requirements:

Computer

A high-speed Internet connection is highly recommended.
Supported browsers include Chrome, Edge, Firefox, Safari, and Internet Explorer.
Any computer capable of running a recently updated web browser should be sufficient to access your online course. However, bear in mind that processor speed, amount of RAM, and Internet connection speed can *significantly* affect performance. ***Some programs that use mathematics will not work well on mobile devices such as smartphones or tablets.***

Microsoft Office products are available free for all UNM students (more information on the UNM IT Software Distribution and Downloads page)
Please update your contact information in Loboweb: MyUNM. When you log into MyUNM, Enter LoboWeb. Click on the Personal Information link to make sure your contact information is up to date.
Laptops may be available for checkout for the Fall semester from the UNM-Valencia Library. Contact the librarians for more information.

Web Conferencing

I will use web conferencing via ZOOM in this course:
For the online sessions, you will need:

- A USB headset with a microphone. Headsets are widely available at stores that sell electronics, at the UNM Bookstore, or online.
- A high-speed internet connection is highly recommended for these sessions. A wireless Internet connection may be used if successfully tested for audio quality before web conferencing.
- You should also dress as you would when attending an in-person class, even if you do not turn on your video camera.

Technical Support

- For UNM Learn Technical Support: (505) 277-0857 (24/7) or use the “Create a Tech Support Ticket” link in your course.
- For UNM-Valencia IT Support: (505)925-8911
- For UNM Web Conference Technical Help: (505) 277-0857

Classroom Policies

Attendance / Participation (10%)

Attendance is 10% of your overall grade. You will start the course with full attendance points. To maintain points, ***you are expected to be on ZOOM for each class to discuss the videos and problems from the sections.*** Each student starts with 100 attendance points. Attendance is taken at the **beginning** of class. Eight attendance points are deducted for each unexcused absence; Four attendance points for tardiness. **Absences:** If you know ahead of time you will miss a class, send me an email indicating the absence date.

Online Homework (15%)

Homework is assigned nearly every week based on the 13 units in the course outline. You should complete weekly assignments in MyMathLab no later than the indicated date in MML. **Each homework assignment is worth 25 points**. **A 20% penalty may be incurred if your homework is late.**

Written Homework (20%)

Each unit will have a separate written homework and must be completed no later than as indicated on the outline or after additional instructions. The purpose of the homework is to determine if you understand the concepts correctly. I will not grade illegible homework. **Each homework assignment is worth 25 points**. **Late homework may be graded. If graded, it receives a 20% penalty.**

Projects (15%)

I will assign three projects during the semester. If available, you may have some class time to begin or work on the project, but it will be designed for you to complete at home. If you are working on this project in groups, you must demonstrate that you contributed to the group answer. I also require *individual* submissions of the project, not one group paper. Each project will be worth 25 points toward your course grade. **Late projects may be graded. If graded, it receives a 20% penalty.**

abcgallery.com - Internet's biggest art collection

"Gorge Improvisation" - Kandinsky 1914

Exams (20%)

There will be two exams during the semester. These will correspond to the final exams for Math 1215X and Math 1215Y, respectively. Each is worth 100 points. If you are ill or an unexpected event happens and you cannot make it to the exam, you have one week to make it up. I will distribute the procedure for taking the exam before each exam.

Netiquette

One of the overriding principles in online conversations is to "craft your responses effectively." It is sometimes difficult to remember that real people are reading posted messages. It is especially true of online communication where others do not have the opportunity to see body language or hear the tone of voice; therefore, misunderstandings are more likely.

Classroom Policies (continued)

Netiquette (continued)

Please, follow these guidelines in ***all*** of your online responses and discussion postings.

- Honor everyone's right to an opinion.
- Respect the right of each person to disagree with others.
- Respond honestly but thoughtfully and respectfully; use language that others will not consider foul or abusive. You may also use emoticons to convey a lighter tone.
- Respect your privacy and the privacy of others by not revealing information that you deem private and which you feel might embarrass you or others
- Be prepared to clarify statements that might be misunderstood or misinterpreted by others.

A Special Note about Anger

- Do not send messages that you have written when you are angry, even anonymous ones. In the online world, angry messages are known as "flaming" and are considered bad behavior. Venting and flaming are two different things. It is possible to vent without becoming "ugly." Stick to the facts of what is causing you frustration.
- Do not send messages written in the upper case; this is the visual equivalent of SHOUTING. It is considered aggressive and is regarded as bad behavior. If you ever feel like shouting a message, take a deep breath, and wait until you have calmed down before responding. Then, respond calmly and factually.

Student Resources: If you are struggling in this course, do not be afraid to ask for help!

- Tutoring Hours: See my tutoring hours listed at the beginning of this syllabus.
- Form online study groups: You may work together with other members of our class.
  Free Tutoring: https://valencia.unm.edu/campus-resources/the-learning-center/learning-center.html
- Send an email to https://esurvey.unm.edu/opinio/s?s=131505 to schedule an appointment.

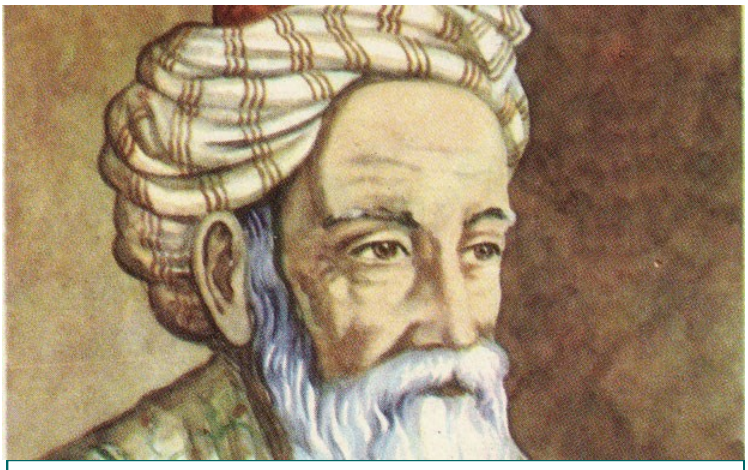
University Policies

Equal Access: Following University Policy 2310 and the Americans with Disabilities Act (ADA), academic accommodations may be made for any student who notifies the instructor of the need for accommodation. You must take the initiative to bring such needs to the instructor's attention, as I am not legally permitted to inquire. Students who may require assistance in emergency evacuations should contact the instructor to follow the most appropriate procedures. Contact Accessibility Resource Center at 277-3506 for additional information.

University Policies (continued)

Equal Access (cont.): If you need an accommodation based on how course requirement interacts with the impact of a disability, you should contact me to arrange an appointment as soon as possible. We can discuss the course format and requirements at the appointment, anticipate the need for adjustments, and explore potential accommodations. I rely on the Disability Services Office for assistance in developing strategies and verifying accommodation needs. If you have not previously contacted them, I encourage you to do so.

If you are a Valencia campus student, contact Equal Access Services at Valencia Campus at (505)925-8560 or Valencia Student Services. If you are a main campus student you can receive documentation from the main campus Accessibility Resource Center. I will not guarantee accommodation without the appropriate documentation.



Omar Khayyam 1048-1131

Khayyam was an astronomer, astrologer, physician, philosopher, and mathematician. In 1070, he published *Treatise on Demonstration of Problems of Algebra and Balancing*. In it he showed that a cubic equation can have more than one solution. He also showed how the intersections of conic sections such as parabolas and circles can be utilized to yield geometric solutions of cubic equations.

<www.famousscientists.org/omar-khayyam/>.

Copyright Issues

All materials in this course fall under copyright laws and should not be downloaded, distributed, or used by students for any purpose outside this course.

The UNM Copyright Guide has additional helpful information on this topic. https://copyright.unm.edu

Accessibility Statements

Blackboard's Accessibility statement https://www.blackboard.com/blackboard-accessibility-commitment
Microsoft's Accessibility statement https://www.microsoft.com/en-us/accessibility/

Academic Integrity

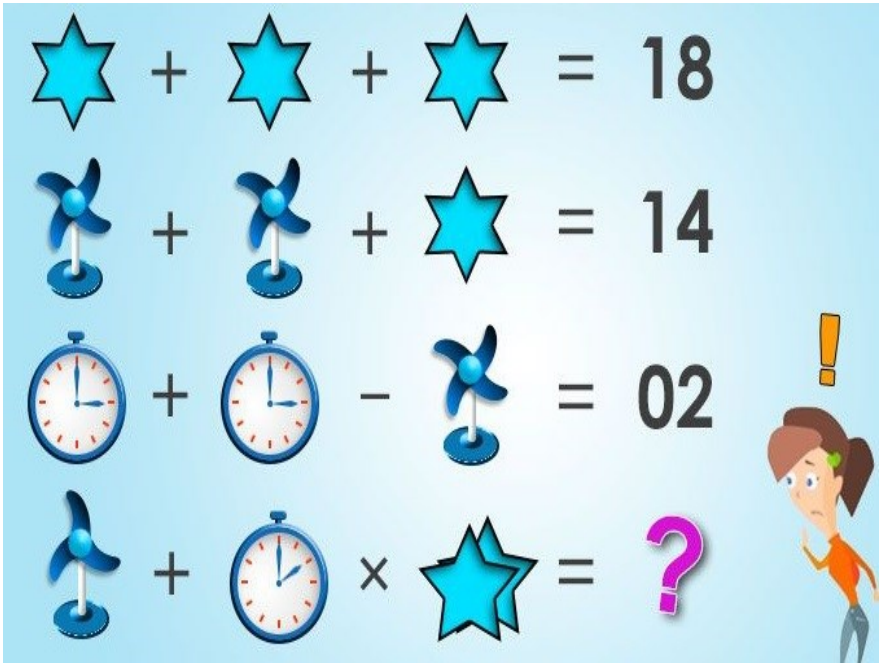
Having academic integrity is paramount to your success in any class. Plagiarism or cheating is not tolerated. Any instance of this will result in a grade of zero for that assignment. Here is the link to the UNM Academic Dishonesty Policy: https://pathfinder.unm.edu/campus-policies/academic-dishonesty.html and student code of conduct: https://pathfinder.unm.edu/code-of-conduct.html

Any student judged to have engaged in academic dishonesty in course work may receive a reduced or failing grade for the work in question and/or for the course.

Academic Dishonesty is defined as:
"Academic dishonesty" includes, but is not limited to, dishonesty in quizzes, tests, or assignments; claiming credit for work not done or done by others; hindering the academic work of other students; misrepresenting academic or professional qualifications within or without the University; and nondisclosure or misrepresentation in filling out applications or other University records.

University Policies (continued)

Title IX Statement: To meet obligations under Title IX, UNM faculty, Teaching Assistants, and Graduate Assistants are considered "responsible employees" by the Department of Education (see pg. 15 - http://www2.ed.gov/about/offices/list/ocr/docs/qa-201404-title-ix.pdf). This designation requires that any report of gender discrimination, which includes sexual harassment, sexual misconduct, and sexual violence made to a faculty member, TA, or GA, must be reported to the Title IX Coordinator at the Office of Equal Opportunity (oeo.unm.edu). For more information on the campus policy regarding sexual misconduct, see: https://policy.unm.edu/university-policies/2000/2740.html



Grading

COURSE AVERAGES:

Attendance/Class Participation	10%
MyMathLab Online Homework	15%
Written Homework	20%
Three Projects	15%
Term Exam (two, 100 points each)	20%
Cumulative Final Exam*	20%
Total	**100%**

GRADING SCALE:

Letter Grade	Final Exam score AND Course Weighted Average
A	70% or better **AND** 90% or better
B	70% or better **AND** 80% to 89%
C	70% or better **AND** 70% to 79%
CR	70% or better **AND** 70% or better
NC	Less than 70% **AND** Any course grade

***You must score at least a 70% on the final exam *and* have a course average of 70% or better to earn a passing grade in the course.**

Math 1215: Intermediate Algebra (Spring 2021) (*Course outline is subject to change)*

Week	Dates	Sections / Topics	Assignments
1	1/18 - 1/22	*Unit 1:* Sec. 5.1, 5.2, and 5.4	
2	1/25 – 1/29	*Unit 1:* Sec. 6.1 *Unit 2:* Sec. 6.2, 8.1, and 8.2	MML Unit 1 homework due Written Unit 1 homework due
	1/29	**Last day to add a course (5 pm)**	
3	2/1 – 2/5	*Unit 3:* Sec. 8.3, and 8.4 *Unit 4:* Sec. 8.8, and 9.1	MML Unit 2 homework due Written Unit 2 homework due **Project 1 is due**
	2/5 F	**Last day to drop a course without a grade (5 pm)**	
4	2/8 – 2/12	*Unit 4:* Sec. 9.2 *Unit 5:* Sec. 9.3, 9.4, & 9.5	MML Unit 3 homework due Written Unit 3 homework due
5	2/15 – 2/19	***Review*** **Exam #1**	MML Unit 4 homework due Written Unit 4 homework due
6	2/22 – 2/26	*Unit 6:* Sec. 11.1, 11.2, 11.3, & 11.4	MML Unit 5 homework due Written Unit 5 homework due
7	3/1 – 3/5	*Unit 7:* Sec. 11.6, 9.6, 10.2, & 12.1	MML Unit 6 homework due Written Unit 6 homework due
8	3/8 – 3/12	*Unit 8:* Sec. 12.2, 12.3, 15.1, & 6.4	MML Unit 7 homework due Written Unit 7 homework due **Project 2 is due**
	3/15 – 3/19	**Spring Break**	
9	3/22 – 3/26	*Unit 9:* Sec. 12.6, 16.2, Sec. 14.3 (*Function Notation Only*), and 16.5	MML Unit 8 homework due Written Unit 8 homework due
10	3/29 – 4/2	***Review*** **Exam #2**	MML Unit 9 homework due Written Unit 9 homework due
11	4/5 – 4/9	*Unit 10:* Sec. 14.1, 14.2, 14.3, & 17.2	
12	4/12 – 4/16	*Unit 11:* Sec. 17.3, 15.2, 15.3, and 15.4	MML Unit 10 homework due Written Unit 10 homework due **Project 3 is due**
	4/16 F	**Last day to drop without Dean's Permission (5 pm)**	
13	4/19 – 4/23	*Unit 12:* Sec. 15.8, 13.1, 13.2, and 13.3	MML Unit 11homework due Written Unit 11 homework due
14	4/26 – 4/30	*Unit 13:* Sec. 13.5, 13.7, & 14.7	MML Unit 12 homework due Written Unit 12 homework due
15	5/3 – 5/7	***Review***	MML Unit 13 homework due Written Unit 13 homework due
	5/7 F	**Last day to drop with Dean's permission/change grade mode with form (5 pm)**	
16	5/10 - 5/14	**Final Exam May 12th 9—11 am**	

Course Student Learning Outcomes

Upon successful completion of the course, students will be able to:

A. Demonstrate appropriate use of basic function language and notation.
- Communicate or present mathematical concepts using correct mathematical notation and terminology.
- Correctly use function notation and vocabulary related to functions.
- Determine function values for given domain values and determine domain values for given function values.
- Determine domains for specific functions.

B. Convert between equivalent forms of algebraic expressions.
- Simplify expressions using properties of exponents.
- Add, subtract, and multiply polynomials.
- Rewrite line equations in different forms (slope-intercept, point-slope, standard)
- Factor some types of polynomials.
- Simplify radical expressions.
- Simplify rational expressions.
- Rewrite exponential functions in logarithmic form and vice versa.

C. Solve single-variable equations.
- Solve for a single variable in a proportion.
- Solve for a single variable in a linear equation.
- Solve for a specified variable in a formula.
- Solve quadratic equations using factoring, quadratic formula, and the square root method.
- Solve equations containing rational expressions.
- Solve equations containing radical expressions.
- Solve absolute value equations in one variable.
- Solve exponential and logarithmic equations using equating bases.

D. Interpret and communicate algebraic solutions graphically and numerically.
- Determine equations for lines in the three forms – slope-intercept and point-slope.
- Sketch the graphs of linear functions.
- Interpret slope in relation to variable coefficients and as a rate of change.
- Graph linear inequalities in one variable on a number line and write corresponding interval notation.
- Determine when linear equations represent parallel and perpendicular lines.
- Sketch graphs of quadratic functions.

E. Demonstrate contextual problem-solving skills that include setting up and solving problems and interpreting solutions in context.
- Determine linear equations from application problems and solve.
- Set up a linear proportion from an application problem and solve.
- Analyze solutions to application problems and give them contextual meaning.
- Determine the three types of outcomes from a system of linear equations in the context of what the graphs look like (terminology about consistent/inconsistent or dependent/independent not emphasized)
- Determine a system of linear equations from an application problem and solve if possible.

F. Apply appropriate problem-solving methods from among algebraic, graphical, and numerical.
- Perform unit conversions.
- Solve linear inequalities in one variable.
- Simplify expressions written in scientific notation.
- Simplify multiplication and division problems using scientific notation.
- Apply solution methods learned to application problems.
- Solve systems of two linear equations graphically and algebraically.
- Perform operations with radical expressions.
- Perform operations with rational expressions.
- Solve absolute value inequalities in one variable.

Completing Math 1215 meets the prerequisites for Math 1130, Math 1350, Math 1220, and some science classes.