Math 1215: Intermediate Algebra

Fall 2020

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Online Tutoring Hours via Zoom Mon-Thurs 10:30 am – 12:00 pm, and by appt.

MECS Division Chair: Elaine W. Clark ewclark@unm.edu

3 Credit Hours

CONTENTS

COURSE DESCRIPTION

Math 1215-507: Intermediate Algebra

Class Meetings: None – Course is remote.

This course is a study of linear and quadratics functions, and an introduction to polynomial, absolute value, rational, radical, exponential, and logarithmic functions. Development of strategies for solving single variable equations and contextual problems. (3 Credit Hours).

Student Learning Outcomes/Course Objectives

In this course, we 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.

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

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

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

C. Solve single-variable equations of the types listed above.
   1. Solve for a single variable in a proportion.
   2. Solve for a single variable in a linear equation.
   3. Solve for a specified variable in a formula.
   4. Solve quadratic equations using factoring, quadratic formula, and the square root method.
   5. Solve equations containing rational expressions.
   6. Solve equations containing radical expressions.
   7. Solve absolute value equations in one variable.
   8. Solve exponential and logarithmic equations using equating bases.

D. Interpret and communicate algebraic solutions graphically and numerically.
   1. Determine equations for lines in the three forms – slope-intercept and point-slope.
   2. Sketch the graphs of linear functions.
   3. Interpret slope in relation to variable coefficients and as a rate of change.

4. Graph linear inequalities in one variable on a number line and write corresponding interval notation.
5. Determine when linear equations represent parallel and perpendicular lines.
6. Sketch graphs of quadratic functions.

E. Demonstrate contextual problem-solving skills that include setting up and solving problems and interpreting solutions in context.
1. Determine linear equations from application problems and solve them.
2. Set up a linear proportion from an application problem and solve it.
3. Analyze solutions to application problems and give them contextual meaning.
4. 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)
5. Determine a system of linear equations from an application problem and solve it if possible.

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

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

Prerequisites and Co-requisites

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.

TECHNICAL SKILLS

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

- Use UNM Learn (help documentation located in the "How to Use Learn" link on the left course menu, and also at Online Student Documentation[1]). 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.
- 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

[1] http://online.unm.edu/help/learn/students/

- Download and install an application or plugin – required for participating in web conferencing sessions

TECHNICAL REQUIREMENTS

Computer

- A high-speed Internet connection is highly recommended.
- Supported browsers include Chrome, Firefox, or Safari. Preferred operating systems are Windows or Apple.
- 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 *greatly* affect performance. ***Be aware, 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[2])
- Please update your contact information in Loboweb: MyUNM Login[3]. 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[4]. Contact the librarians for more information.

Web Conferencing

Web conferencing will be used in this course for office hours and scheduled individual meetings 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 meeting, 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

[2] http://it.unm.edu/software/index.html
[3] http://my.unm.edu/home
[4] http://valencia.unm.edu/library/index.html

TEXTBOOK AND SUPPLEMENTAL MATERIALS

Required Textbooks:

"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.

Recommended and/or Optional:

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).

Specific Course Requirements

Pearson account. If you have used any of the Pearson My Lab products before, you can use the same account you created the first time you used it. Otherwise, you can create an account when you register in MyMathLab (MML) for this class. Register by going to mymathlab.com.

COURSEWORK AND PARTICIPATION

Instructor Response Time

I routinely check the course for postings or emails, Monday (8 am) – Friday (noon), and sometimes on the weekend. You can anticipate a 24 to 48-hour response from me, Monday – Thursday. I will try and respond to all weekend (Friday afternoon to Sunday) emails and postings by noon on Monday or earlier.

Late/Missing Work:

- Please let me know at least 24 hours in advance via UNM email if you anticipate a late submission for a homework assignment or project. Late work may be accepted in the case of an emergency or other extenuating circumstances. If you have a medical excuse for a late submission, please submit a copy of a doctor's note.
- Exams must be completed on time.
- All written work needs to be submitted online in the appropriate assignment dropbox. If you have difficulty using a tool to complete work, use the "Create a Tech Support Ticket" link in the Course Menu immediately and notify your instructor as well.

Expectations for Participation

- The time recommended for success in this course is 9-12 hrs per week
- Students are expected to learn how to navigate in Blackboard Learn
- Students are expected to communicate with one another in team projects
- Students are expected to keep abreast of course announcements

- Students are expected to use the Learn course email as opposed to a personal email address
- Students are expected to keep the instructor informed of class-related problems or problems that may prevent the student from full participation
- Students should know that the secret phrase is, "*I can do this."*
- Students are expected to address technical problems immediately
- Students are expected to observe course netiquette at all times

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. This 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.

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 which 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 that are written all in upper case; this is the visual equivalent of SHOUTING. It is considered aggressive and is considered 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.

How to complete your work for this class:

The course topics are split into 13 units. Below is how you will progress through the material:

MyMathLab Homework: Online homework is assigned nearly every week based on the 13 units in the course outline. Weekly assignments in MyMathLab must be completed not later than the indicated date in MML. Your score on each will be out of **100 points.** MML homework is worth 15% of your overall course grade.

Written Homework: Each unit will have a separate written homework and must be completed no later than the beginning of class as indicated on the outline. The purpose of the written homework is to determine if you are understanding the concepts correctly. Illegible homework will not be graded. Your score on each will be out of **100 points.** Computational Assignments are worth 20% of your overall course grade.

Projects: Projects are required! During the semester, three projects will be assigned. You can work with each other on these projects, but you must submit YOUR work. Your score on each will be out of **100 points.** The projects are worth 15% of your overall course grade.

Exams: There will be two exams during the semester. You will be given a formula sheet for the exam and you can use a calculator. You can NOT use your phone for a calculator. The average of the two exams is worth 20% of the overall course grade.

Final Exam: The final is a departmental exam that will test you over all, or nearly all, of the learning objectives for this course. You will be given a formula sheet for the final and you can use a calculator. You are allowed to take the final ***only once***. The final exam will be 20% of your overall course grade.

NOTES TO STUDENTS ABOUT PARTICIPATION IN A COURSE USING UNM LEARN:

Tracking Course Activity

UNM Learn automatically records all students' activities including your first and last access to the course, the pages you have accessed, the number of discussion messages you have read and sent, web conferencing, discussion text, and posted discussion topics. This data can be accessed by the instructor to evaluate class participation and to identify students having difficulty

Submitting Assignments

All written work is to be saved with the student's first name and last initial_unit number_assignment. It is to be submitted as an attachment through Blackboard Learn.

Example: TaylorA_Unit1_HW

When you submit an assignment via UNM Learn, you will receive an email receipt of your submission from *do-not-reply@learn.unm.edu*. Save this email as confirmation of your submission.

GRADING PROCEDURES

- Grades in specific content areas reflect mastery of student learning objectives. Grading of written homework, projects, and exams will take into account proper notation, demonstrated knowledge of problem-solving procedures, showing ALL steps/ calculations and legibility.

- My expected response time for grading your written work will generally range from 3 to 7 days. Sometimes it might be shorter than 3 days but shouldn't be longer than 7 days. Grades for work completed in MML should be immediately available upon completion of the assignment.

COURSE AVERAGES:

Attendance/Class Participation	10%

MyMathLab Homework	15%
Written Homework	20%
Projects (3)	15%
Term Exam (2)	20%
Cumulative Final Exam*	20%
Total	**100%**

***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.**

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	Any AND 69% or less

UNM POLICIES

Equal Opportunity and Non-Discrimination

To meet obligations under Title IX, UNM faculty, Teaching Assistants, and Graduate Assistants are considered "responsible employees" by the Department of Education[5] (see pg. 15). 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[6].
Read more about UNM policy regarding sexual misconduct[7].

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[8] has additional helpful information on this topic.

Accessibility and Accommodations

The American with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodations of their disabilities. If you have a disability requiring an accommodation, please contact:

[5] https://www2.ed.gov/about/offices/list/ocr/docs/qa-201404-title-ix.pdf
[6] http://oeo.unm.edu/
[7] https://policy.unm.edu/university-policies/2000/2740.html
[8] https://copyright.unm.edu/

- UNM-Valencia Student Services[9] if you are a Valencia campus student. The phone number is 505-925-8560
- UNM Accessibility Resource Center[10] in 2021 Mesa Vista Hall if you are a main campus student. The phone number is 505-277-3506.

Information about your disability is confidential and your instructor cannot refer you for accommodations. Be aware that you will need to provide documentation. If you need assistance in obtaining documentation, the offices above can assist you.

Accessibility Statements
Blackboard's Accessibility statement[11]
Microsoft's Accessibility statement[12]
Include links to accessibility statements for all other technologies included in the course.

Academic Integrity
You should be familiar with UNM's Policy on Academic Dishonesty[13] and the Student Code of Conduct[14] which outlines academic misconduct defined as plagiarism, cheating, fabrication, or facilitating any such act.

Drop Policy:
Here are the reasons I ***may*** drop you from the class:

- If you are not registered in MML and completing assignments by the end of the first week you are in the class.
- If you miss completing the start here section in Blackboard Learn by the end of the second week.

You will be dropped if you do not complete, sign and turn in the course contract found in the Start Here Module by the due date.

UNM Policies: This course falls under all UNM policies for the last day to drop courses, etc. Please see or the UNM Course Catalog for information on UNM services and policies. Please see the UNM academic calendar for course dates, the last day to drop courses without penalty, and for financial disenrollment dates.

UNM RESOURCES

- **UNM Valencia Campus Tutoring Services[15]**
- **UNM Main Campus CAPS Tutoring Services[16]**

[9] http://valencia.unm.edu/students/student-services.html
[10] https://arc.unm.edu/
[11] https://www.blackboard.com/blackboard-accessibility-commitment
[12] https://www.microsoft.com/en-us/accessibility/
[13] https://pathfinder.unm.edu/campus-policies/academic-dishonesty.html
[14] https://pathfinder.unm.edu/code-of-conduct.html
[15] http://valencia.unm.edu/campus-resources/the-learning-center/learning-center.html
[16] http://caps.unm.edu/services/online-tutoring/olc.php

- **UNM-Valencia Library**[17]
- **UNM Libraries**[18]
- **"Life" Resources available to UNM-Valencia Students**[19]
- **Student Health & Counseling (SHAC) Online Services**[20]

FOR MILITARY-CONNECTED STUDENTS

There are resources on campus designed to help you succeed. You can approach any faculty or staff for help with any issues you may encounter. Many faculty and staff have completed the GREEN ZONE training to learn about the unique challenges facing military-connected students. If you feel that you need help beyond what faculty and/or staff can give you, please reach out to the Veterans Resource Center on the main campus at 505-277-3181, or by email at vrc@unm.edu. The Veterans Coordinator at UNM-Valencia is in the Student Services Office, at 505-925-8560.

SEMESTER DEADLINES

Fall 2020 – 16-week classes (deadlines will be different for first and second 8-week classes)

- Monday, August 17: First day of class, classes available in Blackboard Learn
- Friday, August 28, by 5:00 PM: Last day to add a class or to change credit hours or grade mode in LoboWEB.
- Friday, September 4: Last day to drop without "W" grade and with 100% refund on LoboWEB
- Monday, September 7: LABOR DAY HOLIDAY
- Wednesday, October 7: FALL BREAK
- Tuesday, November 3: Election Day, no classes
- Friday, November 6: Last day to drop *without* Dean's permission on LoboWEB. Will receive a "W" grade and will be responsible for tuition for the course.
- November 26-29: THANKSGIVING BREAK
- November 30 – December 4: All classes will convert to remote instruction if not already remote
- Friday, December 4: Last day to add sections and/or change credit hours with form, last day to drop *with* Dean's permission. Will receive a "W" grade and will be responsible for tuition for the course.
- December 7-12: Finals week. All final exams are given remotely.

[17] http://valencia.unm.edu/library/index.html
[18] https://library.unm.edu/
[19] http://valencia.unm.edu/students/student-resources.html
[20] https://shac.unm.edu/

Course Schedule

Week	Dates	Sections / Topics	Assignments
1	8/17 - 8/21	*Unit 1:* Sec. 5.1, 5.2, and 5.4	
2	8/24 – 8/28	*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
	8/28	**Last day to add a course (5 pm)**	
3	8/31 – 9/4	*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**
	9/4 F 9/7 M	**Last day to drop a course without a grade (5 pm)** **Labor Day – no classes**	
4	9/7 – 9/11	*Unit 4:* Sec. 9.2 *Unit 5:* Sec. 9.3	MML Unit 3 homework due Written Unit 3 homework due
5	9/14 – 9/18	*Unit 5:* Sec. 9.4, and 9.5 ***Review***	MML Unit 4 homework due Written Unit 4 homework due
6	9/21 – 9/25	**Exam #1** *Unit 6:* Sec. 11.1, and 11.2	MML Unit 5 homework due Written Unit 5 homework due
7	9/28 – 10/2	*Unit 6:* Sec. 11.3, and 11.4 *Unit 7:* Sec. 11.6, and 9.6	MML Unit 6 homework due Written Unit 6 homework due
8	10/5 – 10/9	*Unit 7:* Sec. 10.2, and 12.1 *Unit 8:* Sec. 12.2, and 12.3	
	10/7 W	**Fall Break Day**	
9	10/12 – 10/16	*Unit 8:* Sec. 15.1, and 6.4 *Unit 9:* Sec. 12.6, and 16.2	MML Unit 7 homework due Written Unit 7 homework due **Project 2 is due**
10	10/19 – 10/23	*Unit 9:* Sec. 14.3 (*Function Notation Only*), and 16.5 ***Review***	MML Unit 8 homework due Written Unit 8 homework due
11	10/26 – 10/30	**Exam #2** *Unit 10:* Sec. 14.1, 14.2, and 14.3	MML Unit 9 homework due Written Unit 9 homework due
12	11/2 – 11/6	*Unit 10:* Sec. 14.4, and 17.2 *Unit 11:* Sec. 17.3, and 15.2	
	11/3 T 11/6 F	**Election Day – no classes** **Last day to drop without Dean's Permission (5 pm)**	
13	11/9 – 11/13	*Unit 11:* Sec. 15.3, and 15.4 *Unit 12:* Sec. 15.8, and 13.1	MML Unit 10 homework due Written Unit 10 homework due **Project 3 is due**
14	11/16 – 11/20	*Unit 12:* Sec. 13.2, and 13.3 *Unit 13:* Sec. 13.5, and 13.7	MML Unit 11homework due Written Unit 11 homework due
15	11/23 – 11/25	*Unit 13:* Sec. 14.7	MML Unit 12 homework due Written Unit 12 homework due
	11/26 – 11/27	**Thanksgiving Break**	
16	11/30 – 12/ 4	***Review***	MML Unit 13 homework due Written Unit 13 homework due

Last update: 07/15/20

	12/4 F	**Last day to drop with Dean's permission/change grade mode with form (5 pm)**
17	12/7 - 12/12	**Final Exam Week**