

University of New Mexico- Valencia Campus
Department of Mathematics, Engineering, & Science & (MES)
Math 120- Sec. 504- (CRN# 43200)
Intermediate Algebra
Spring 2017

Instructor: Mychael Smith

Phone Number: 505-925-8644

Email: mymsmith@unm.edu

Class Schedule: Tuesdays & Thursdays 12:00-1:15 pm @ A-129.

Office Room: A-107.

Office Hours:

Monday: 12:00-1:00 pm (Math Center)
1:00-2:00 pm

Tuesday: 10:45-11:45 am, 1:30-2:30 pm

Wednesday: 12:00-1:00 pm (STEM Center)

Thursday: 10:45-11:45 am, 1:30-2:30 pm

Text: *Intermediate Algebra, Functions & Authentic Applications, 4th Edition, Lehman*, packaged with *My Lab & Mastering*. **You May Buy The Access Code Only.** Website: www.pearsonmylabandmastering.com

Course ID: smith12045

Calculator: TI 83 plus recommended, but not required and not allowed on exams.

UNM LEARN course URL: <https://learn.unm.edu>. Check this location frequently for messages and announcements. Also, find the syllabus of the course there and print a hard copy for yourself.

COURSE DESCRIPTION:

Math 120 covers linear equations and inequalities, polynomials, factoring, exponents, radicals, fractional expressions and equations, quadratic equations, perimeters, areas of simple geometric shapes, and logarithms. There is an emphasis on problem solving skills. Math 120 is acceptable as credit toward graduation in some programs but not acceptable to satisfy the UNM Core Curriculum or New Mexico Lower-Division General Education Common Core Curriculum requirement in Mathematics. Grade option: A, B, C, CR/NC.

Prerequisites/placement: Successful completion of MATH 100 (C or CR) or minimum pre-algebra COMPASS score of 57 or algebra COMPASS score of 34, or math ACT ≥ 19 , or math SAT ≥ 450 .

COURSE OBJECTIVES:

In this course, we will explore linear functions, systems of linear equations, inequalities, polynomials and factoring, rational functions, and radical functions, and we will introduce exponential and logarithmic functions. Often in a mathematics course the emphasis in lecture is on acquisition of skills. In this course we will focus mainly on constructing meaning. What this means in terms of your responsibilities and what will happen during class time is explained below.

Student Learning Outcomes in regard to skills acquisition:

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

1. Sketch the graphs of linear, quadratic, and exponential functions.
2. Solve systems of two linear equations.
3. Solve quadratic equations using factoring, quadratic formula, and the square root method.

4. Solve equations containing rational expressions.
5. Perform operations on polynomials and factor certain types of polynomials.
6. Solve polynomial equations by factoring.
7. Correctly use function notation and vocabulary related to functions.
8. Find the value of a function for a given domain value.

Student Learning Outcomes in regard to conceptual understanding:

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

1. Interpret slope in relation to variable coefficients and as a rate of change.
2. Apply solution methods learned to “real-world” problems.
3. Analyze solutions and give them contextual meaning.
4. Actively and effectively work in groups to solve problems and increase understanding of concepts, drawing on the skills and knowledge of all group members.

REQUIRED MATERIALS:

- **Textbook:** (optional) Intermediate Algebra: Functions and Authentic Applications, *4th edition*, by Jay Lehmann.
- **Pearson (MyMathLab) Student Access Code:** This code will provide you access to all of the online materials for the course including the quizzes that will be required for the course. If you purchased a new book at the bookstore, it should have come with a MML kit that includes your access code. If you did not purchase a new book, then you can purchase a code directly from the website, www.pearsonmylabandmastering.com. **You must register for MML by the end of the 1st week of classes or risk being dropped from the course.**
- **Notebook, pencil, highlighter, notecards, calculator.**
- **Calculator:** A scientific calculator will be desired. Students may use a calculator for quizzes and exams. No graphing calculators and/or phones will be allowed on any exams or quizzes, unless otherwise announced. **Students cannot use their phone as a calculator during a quiz or exam AND students cannot share a calculator.**

Grading Scale (Note: + and – of grades are possible but only if of benefit to the student)

A	90 – 100%	CR	Credit 72 – 100%
B	80 – 89%	NC	No Credit < 72%
C	70–79%		
D	60–69%		
F	< 59%		

Attendance and Class Participation	10%
Weekly Tutor Paper	15%
MML Homework	15%
Unit Exams	30%
Cumulative Final Exam*	30%

*** You must receive at least a 70% on the final and have a 72% overall course average to pass the course. This is not negotiable.**

Important Dates:

01/16(Monday) Martin Luther King, JR. Day (NO Classes)

01/27 (Friday) Last day to add courses or change sections

02/03(Friday) Last Day to Drop without a grade, Last Day to Drop with a Refund

02/10(Friday) Last day to change grading options

March 12-19 Spring Break – No Classes

04/ 14 (Friday) Last day to withdraw without the Dean's approval

05/ 05 (Friday) Last day to withdraw with the Dean's approval

Final Exams: Thursday, May, 11 from 12:00-2:00PM in A-129. A 3" by 5" notecard for formulas and a scientific calculator will be allowed.

ATTENDANCE POLICY: The student bears full responsibility for the material and procedural information covered in class. If a student misses 2 classes in the first two weeks or 3 consecutive class periods or 5 total, the student may be dropped from the class. Each absence will result in a 5% reduction in the Attendance & Participation grade.

THE COURSE: Homework, Tutor Paper, Journal and Unit Exam: We will cover nearly the entire book. Please note that the book and MML are not perfectly aligned.

- **Homework (15%):** Homework assignments are done and graded on MyMathLab. You should expect to spend 6-9 hours in addition to the lectures each week to study for this course and complete the homework assignments. The due date of each homework assignment is specified on MyMathLab. Please check there for homework after each class, note the due dates and allow ample time for completion. This class moves quickly. At least one new topic will be covered and a new homework assignment will be assigned every class. NOTICE: Written homework assignments might be given/assigned in class. However, these will not be collected, unless notified by the instructor.
- **Math Center Tutor Paper (15%):** Each week, starting with the first week of class, there will be a Green Tutor Paper at the STEM Center. These papers are worth 15% of the grade. They will be available from The Math Center's opening time every Tuesday until closing time Thursday of next week. These papers will help you practice and reinforce what have been covered in class, and sometimes it will also give you a preview of what is coming up in the following week.
- **Unit Exams (30%):** There will be at least three unit exams. You must have at least 80% on the MML homework related to the test material in order to take the unit exam. A 3x5 notecard and a calculator will be allowed for the unit exam.
- **Retakes:** I will allow only one make up unit exam if you missed an exam for a valid reason. Retakes (Make-ups) must be taken within a week of the actual exam. NOTICE: A calculator will be allowed for the retake. A 3x5 notecard will **not** be allowed on the retake. Make-up exams will be more challenging.

UNM EMAIL/BLACK BOARD LEARN ACCESS: Beginning Fall 2015 semester, all UNM-Valencia students will need a UNM Net ID which can be created by going to: <http://it.unm.edu/accounts/>. UNM Net ID will give you access to the computer labs on campus, blackboard learn and UNM Email.

SUPPORT SERVICES: The Valencia Campus Library provides a quiet atmosphere for study and is an excellent resource for supplementary materials. Audiotapes and videotapes are available for student use through the library. The Learning Center (which includes The Math Center, 925-8907) also offers tutoring at no cost to the student. Students who miss tutoring appointments may be denied future appointments.

EXPECTATIONS: Students are expected to conduct themselves in a polite, courteous, professional and collegial manner. Cell phones must be set on silent. Please step into the hall if you need to take a call during class. Cell phones must be turned off during exams.

UNM'S POLICY ON HONESTY IN ACADEMIC MATTERS: Each student is expected to maintain the highest standards of honesty and integrity in academic and professional matters. The University reserves the right to take disciplinary action, including dismissal, against any student who is found responsible for academic dishonesty. Any student who has been 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 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; and misrepresenting academic or professional qualifications within or outside the University.

DISABILITY STATEMENT: If you have a documented disability, please provide me with a copy of your letter from Equal Access Services as soon as possible to ensure that accommodations are provided in a timely manner.

Title IX Statement: In an effort 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>

COMPUTER LAB RESPONSIBILITY: Please be advised that use of computer labs on UNM properties is governed by “Policy 2500: Acceptable Computer Use” which can be found at <http://policy.unm.edu/university-policies/2000/2500.html>. Food and drink are also prohibited in any computer lab on campus. Anyone violating these policies is subject to possible suspension and loss of computer lab privileges.

My Lab Grading Rubric: Each computational assignment is worth 10 Homework points.

If you score:	You will receive:
85% or better	10/10
75% to 84%	9/10

65 to 74%	8/10
55 to 64%	7/10
45 to 54%	6/10
35 to 44%	5/10
25 to 34%	4/10
20 to 24%	3/10
Attempts homework but scores less than 20%	2/10

Math 120 Tentative Schedule (Spring 2017)

Week	Date	Topics/Sections	Suggested Book Homework (Optional- Odd numbers only unless otherwise stated)
1	01/16	1.2. Graphing a Linear Equation 1.3. Slope of a Line 1.4. Meaning of Slope	p. 14-16 # 5, 25, 39, 41, 55, 59, 63, 69, 77, 79, 81, 83, 87, 98, 101 P. 23-25 # 1, 11, 15, 21, 27, 29, 31, 35, 41, 45, 59, 61, 70 P. 30-33 # 3, 9, 15, 19, 35, 41, 43, 45, 51, 57, 65, 77, 79
2	01/23	1.5. Finding a Linear Equation 1.6. Functions 2.1. Using Lines to Model Data	P. 39-41 # 1, 9, 23, 33, 35, 37, 47, 61, 69, 73, 75, 79, 85 P. 48-50 # 1, 3, 11, 13, 17, 21, 29, 31, 39, 43, 47, 53, 55 P. 63-66 # 1, 3, 9, 11, 15
3	01/30	2.2. Equations of Linear Models 2.3. Function notation/ Predictions 2.4. Slope is a Rate of Change	P. 71-75 # 1, 7, 9, 11, 13, 19, 25, 28 P. 84-89 # 1, 9, 23, 29, 41, 43, 45, 47, 53, 61, 73, 77, 81, 85, 93, 99 P. 96-99 # 5, 7, 11, 17, 19, 25, 27, 29, 39, 41
4	02/06	3.1. Solving Systems by graphing 3.2. Solving Systems by substitution and Elimination 3.3. Using Systems to Model Data	P. 110-114 # 1, 11, 13, 17, 27, 33, 37, 39, 43, 47, 55, 57 P. 123-125 # 3, 21, 29, 41, 45, 55, 73, 75, 77, 83, 85, 89, 99 P. 129-132 # 1, 5, 15, 17, 21
5	02/13	3.4. Value, Interest, & Mixture problems	P. 141-143 # 1, 9, 15, 23, 31, 37, 41

		3.5. Linear Inequalities in one variable Review Exam 1	P. 153-155 # 1, 5, 15, 27, 35, 41, 45, 47, 51, 53, 59, 63, 65
6	02/20	Exam 1 over Chapters 1, 2, and 3 4.1. Properties of Exponents 4.2. Rational Exponents	P. 173-176 # 5, 7, 23, 29, 37, 41, 43, 49, 69, 71, 91, 99, 107, 109, 117 P. 182-184 # 1, 13, 23, 29, 35, 39, 45, 49, 55, 63, 65, 71, 76
7	02/27	4.3. Graphing Exponential Functions 5.1. Inverse Functions 5.2. Logarithmic Functions	P. 190-193 # 5, 11, 15, 21, 25, 29, 37, 39, 43, 47, 59, 69, 73 P. 226-229 # 3, 5, 7, 15, 24, 29, 43, 45, 47, 49, 61, 67, 69, 85 P. 234-235 # 1, 7, 17, 29, 39, 43, 49, 55, 57, 61, 63, 71, 79, 83
8	03/06	5.3. Properties of Logarithms 6.1. Adding and subtracting Polynomial Functions 6.2. Multiplying polynomial functions	P. 241-243 # 1, 9, 25, 27, 41, 51, 65, 69, 75, 83, 87, 97, 101 P. 282-284 # 3, 11, 21, 25, 33, 41, 45, 53, 59, 69, 77, 79, 83 P. 293-295 # 3, 7, 11, 21, 27, 33, 39, 45, 53, 63, 69, 79, 83, 95, 97, 106
9	03/13	Spring Break March 12-19	No School
10	03/20	6.3. Factoring Trinomials 6.4. Factoring Polynomials 6.5. Factoring Special binomials 6.6. Solving polynomial Equations by factoring	P. 303-304 # 1, 5, 13, 25, 37, 41, 51, 57, 61, 65, 67, 74 P. 310-311 # 1, 11, 13, 17, 23, 41, 49, 55, 67, 69, 73, 77, 78 P. 316-317 # 1, 13, 19, 21, 33, 37, 41, 43, 47, 53, 55, 83, 87, 90 P. 326-330 # 3, 19, 25, 29, 35, 41, 45, 63, 75, 77, 81, 85, 89, 97, 111
11	03/27	Review for Exam 2 Exam 2 over chapters 4, 5, and 6	
12	04/03	7.1. Graphing Quadratic Functions in Vertex form 7.2. Graphing Quadratic Functions in Standard form 7.3. The Square Root Property	P. 343-346 # 1, 11, 15, 29, 31, 33, 37, 39, 41, 43, 47, 49, 67, 69 P. 355-359 # 1, 3, 11, 17, 19, 25, 33, 41, 47, 49, 55, 73 P. 368-371 # 9, 15, 23, 27, 37, 45, 49, 55, 59, 65, 69, 77, 81, 89, 91 P. 385-388 # 1, 13, 19, 23, 29, 45,

		7.5 Quadratic Formula	49, 57, 65, 69, 73, 79, 85, 91
13	04/10	8.1. Simplifying Rational Expressions 8.2. Multiplying/Dividing Rational Expressions	P. 430-433 # 3, 13, 23, 25, 27, 31, 41, 57, 59, 65, 69, 75, 79 P. 437-439 # 3-72 (multiples of 3)
14	04/17	8.3. Adding/Subtracting Rational Expressions 8.4. Complex Rational Expressions 8.5. Rational Equations 9.1. Simplifying Radical Expressions	P. 448-450 # 3-72 (multiples of 3) P. 456-458 # 3-60 (multiples of 3) P. 465-467 # 1-59 P. 508-509 # 3-84 (multiples of 3)
15	04/24	9.2. Basic Operations on Radical Expressions 9.3. Rationalizing Denominators 9.4. Combining square root functions 9.5. Radical Equations	P. 516 # 1-71 P. 523-525 # 3-78 (multiples of 3) P. 529-530 # 1-59 P. 538 # 1-43
16	05/01	Test 3 over chapters 7, 8, and 9. Final Exam Review (An additional Final Exam Review session will be given out of class, if needed)	
17	05/08	In-Class Final Exam Thursday, May 11, 12:00-2:00PM in A-129	A 3" by 5" notecard for formulas and a scientific calculator will be allowed.