Math 215: Mathematics for Elementary and Middle School Teachers III
Fall 2017 Section 501 CRN 60731
Syllabus

Instructor: Elaine W. Clark **Office:** Academic Bldg. Room 142C

Office Hours:

Face-to-Face at Valencia Campus: 142C: Monday/Wednesday 9:30 to 10:30AM; Tuesday/Thursday 2:30 to 4:30 PM. Math Center: Monday 2:00 to 3:00 PM; Tuesday 1:30 to 2:30 PM

Other hours by appointment

Phone: 925-8618 (my office), 925-8600 (Academic office)
email: ewclark@unm.edu or send a message in Blackboard Learn. I will check email Monday through Friday afternoon unless I am out of town. Expect a response within 24 hours to email messages sent Sunday afternoon through Thursday evening. If you send me a message on Friday afternoon through Sunday I will may not see it until Monday.

Course Description: Algebra from the viewpoint of the elementary curriculum with emphasis on proportional and linear relationships. Also included: topics from probability and statistics with connections to other topics in the elementary curriculum. Problem solving is emphasized throughout.

Prerequisite: C or better in Math 111.

Textbook/Materials: Beckman, Sybilla, *Mathematics for Elementary Teachers*, 4th edition, scientific calculator, graph paper, and ruler

Student Learning Outcomes:

Course Goal #1: Communication

Addresses UNM core area 2/ HED area II: Mathematics (Other College-Level Mathematics)

SLO 1: Students will be able to communicate mathematical ideas and concepts in oral form

SLO 2: Students will be able to communicate mathematical ideas and concepts in written form

SLO 3: Students will use mathematically correct terminology and notation

SLO 4: Students will be able to collect, organize, interpret, and present information relevant to the mathematics teaching field

Course Goal #2: Understand Ratios and Proportion

Addresses UNM core area 2/ HED area II: Mathematics (Other College-Level Mathematics)

SLO 1: Students will be able to identify relationships that are proportional

SLO 2: Students will be able to represent ratios in multiple ways such as pictures or diagrams, equations, and graphs

SLO 3: Students will be able to understand percent as a specific kind of ratio

SLO 4: Students will use ratio and proportionality to solve a variety of applied problems, e.g. percent, discount, and interest problems

Course Goal #3: Understand Algebraic Concepts of the K-8 Curriculum

Addresses UNM core area 2/ HED area II: Mathematics (Other College-Level Mathematics)

SLO 1: Students will be able to represent problem situations with algebraic expressions and equations

SLO 2: Students will understand and interpret slope as a rate-of-change

SLO 3: Students will be able to translate among verbal, tabular, graphical, and algebraic representations of linear functions and describe how slope and intercepts appear in different representations

SLO 4: Students will be able to use systems of equations to solve applied problems

Course Goal #4: Represent and Interpret Data

Addresses UNM core area 2/ HED area II: Mathematics (Other College-Level Mathematics)

SLO 1: Students will be able to represent data in different ways such as tables and bar graphs or histograms, line graphs, circle graphs, and box-and-whisker plots

SLO 2: Students will use descriptive statistics including mean, median and range to summarize and compare data sets

SLO 3: Students will be able to use proportions to make estimates related to a population on the basis of a sample

Course Goal #5: Understand the Basic Concepts of probability

SLO 1: Students will be able to distinguish between theoretical and experimental probability

SLO 2: Students will use theoretical probability and proportions to make approximate predictions

SLO 3: students will be able to make and identify connections between the concept of ratio and the concepts of probability

Attendance Policy: If you miss three (3) consecutive class periods, you may be dropped from the course**. *Do not assume I will drop you***, especially after the third week of class, but be aware it is an option I may exercise if warranted. If you miss any classes in the first week of a closed section, you *will* be dropped. If you show no or little progress, have not purchased your book, or have not made other arrangements for completing the homework by the end of the third week of class you *will* be dropped.

The last day to drop without being assigned a grade is Friday, September 1 by 5:00 pm.

Grading Policy: Grades will be based on the following:

- Homework assignments 20%
- Attendance/Participation 15%
- Unit tests 30%
- Projects/papers 15%
- Portfolio 10%
- Final assessment 10%

Depending on the grading option you have chosen, your final course grade will be determined as follows:

- You will receive an A in the course if you have a weighted average of 90% or better.
- You will receive a B in the course if you have a weighted average of 80% to 89%.
- You will receive a C in the course if you have a weighted average of 70% to 79%.
- You will receive a D in the course if you have a weighted average of 50% to 69%.
- You will receive an F in the course if you have a weighted average less than 50%.
- You will receive a CR in the course if you have a weighted average of at least 70%.
- You will receive an NC in the course if you have a weighted average less than 70%.

I do not usually give a + grade unless you are on the borderline between two letters in which case I may give the C+ for example instead of the B-. I give the D+ instead of the C- because a C- is not a passing grade. **You must earn a C or better to pass this course.**

Homework: 20% of your course grade
Because we focus on the underpinnings of mathematics, the why, rather than just computations, you will be asked to do more reading and writing than calculation. I will give extensions for three assignments without need for documentation, meaning you can turn them in one class period late for full credit. I will not accept original assignments that are more than a week late.

Unit Tests: 30% of your course grade
There will be three unit tests which will collectively count for 30% of your course grade (10% each). These will be take-home rather than in-class tests, so you will have time to think about your answers. I encourage you to work in study groups outside of class, but the final product you turn in for your tests must demonstrate your own, individual understanding of the material, not simply a parroting of the group consensus. If you do not show your own work and thought processes on the test, you may not receive credit. If you simply copy answers directly from the board when we review the test, you will receive at most half credit for the question. Do not share your test papers! You must demonstrate that ***you*** have thought about the explanations given in class and have made them your own. Any papers for which I suspect cheating or copying, ***both parties*** will receive no credit.

Projects and Papers: 15% of your course grade
There are three projects/papers you will complete for this course (see more information about each posted in Learn). More information to come later. Each project/term paper is worth 100 points. ***Term papers must be completed individually***.

Portfolio: 10% of your course grade
Please collect all assignments, in-class and out-of-class, in a portfolio. You will be asked to organize these assignments in a way that is meaningful to you. At the end of the semester you will also be asked to complete a final self-assessment of your work based on these assignments. Half of your portfolio grade comes from you having your collected work organized in a binder and half will come from your self assessment.

Final Assessment: 10% of your course grade
During finals week you will be asked to present a lesson based on a mathematical concept pertinent to the course. Details for this will be given separately

Time to allot for out-of-class assignments: Plan right now to spend an average of 9 hours per week outside of class reading your text, doing homework and discussion postings, and working on your papers/projects or unit tests. This time cannot all be lumped on the weekend; you will need to spend some time during the week as well. There is no guarantee you will pass if you dedicate this amount of time, you still need to demonstrate understanding of the material and use your time wisely, but you are not likely to pass if you don't.

Tools for Success

- Study groups are a good option. But again, do not copy assignments from each other that are to be done individually.
- I have posted face-to-face office hours and am also available in the Math Center. If the posted times are not convenient for you, let me know and we can schedule a mutually agreeable time. Let me know if you plan to attend office hours so I don't run off to the copy room or something.

Plagiarism and Not Doing Your Own Work
It's a bad idea to plagiarize or to have other people do your work for you. Refer to the UNM-Valencia Catalog for the campus policy on "Dishonesty in Academic Matters." If I receive assignments from two or more people that are supposed to be done individually (for example, the homework assignments and unit tests) that are basically identical, you will *all* receive a zero for that assignment.

Classroom Behavior
Texting during class is not permitted. If you have a cell phone it must be silenced or set to vibrate. If you must take a call, please step out of the classroom even during group work. Some people like to have a laptop, netbook, or tablet in class to take notes and look up information on the Internet. As long as your use of a computer or mobile device does not disturb those around you and as long as what you are doing is pertinent to the class this is acceptable. If, however, you are doing something that does not have to do with what is happening in class I will ask you to put the device away.

No food is allowed in the classroom and only drinks that are in closed containers.

If you exhibit any behavior that is disruptive or I consider as endangering myself or other students, you will be asked to leave and I will report the incident to the Dean.

Equal Access
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 your accommodations are provided in a timely manner. It is up to you to obtain documentation of a disability by contacting Equal Access Services at Valencia Campus, Jeanne Lujan at (505)925-8910 and here is their

web page: http://www.unm.edu/~vcadvise/equalaccess.htm . I will not guarantee accommodation without the appropriate documentation.

Responsible Employee: 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 page 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.

Important Dates:
Unless otherwise indicated, these deadlines are by 5:00 PM Mountain Time

- Last day to add or change grading mode on LoboWeb — Friday, Sept. 1
- Labor Day Holiday (no classes) — Monday, Sept. 4
- Last day to drop without a grade/add with form — Friday, Sept. 8
- Fall Break — Th/Fr, Oct. 12 & 13
- Last day to drop ***without*** Dean's permission — Friday, Nov. 10
- Thanksgiving Holiday — Th/Fr, Nov. 23 & 24
- Last day to change grading mode with form — Friday, Dec. 8
- Last day to drop ***with*** Dean's permission — Friday, Dec. 8

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Week	Date	Day	Topic(s)	Complete Before Class
1	8/21	Mon.	Syllabus	Written activities you complete at home will be due the indicated class meeting
2	8/28	Mon.	Numerical Exp. and Expressions with Variables	**READ:** Sects. 9.1, 9.2 **DO:** Act. 9A, 9E, 9G
	8/30	Wed.	Equations for Diff. Purposes	**READ:** Sect. 9.3 **DO:** Act. 9M, 9P p. 367+ #2, 4, 13; p. 376+ #8, 17
Last day to add a course or change sections: Friday, Sept. 1 by 5:00 PM MT				
Last day to change grading option in LoboWeb: Friday, Sept. 1 by 5:00 PM MT				
Labor Day Holiday, Monday, September 4 (no class)				
3	9/6	Wed.	Solving Equations	**READ:** Sect. 9.4 **DO:** Act. 9S, 9T p. 383+ #2,3,6,15
Last day to drop without a grade is Friday, September 8 by 5:00 PM				
4	9/11	Mon.	Algebra Word Probs. with Strip Diagrams	**READ:** Sect. 9.5 **DO:** Act. 9U p. 390+ #1, 4, 7
	9/13	Wed	Sequences	**READ:** Sect. 9.6 **DO:** Act. 9Z, 9AA p. 396+ #4,5
5	9/18	Mon.	Functions	**READ:** Sect. 9.7 **DO:** Act. 9FF, 9HH p. 407+ #5, 7, 9 **In Class:** Creating Functions
			Begin Unit 1 Take-Home Test	
	9/20	Wed.	Linear Functions	**READ:** Sect. 9.8 **DO:** Act. 9LL
			END UNIT 1	p. 419+ #1, 6, 7, 12
6	9/25	Mon.	***BEGIN UNIT 2*** Proportional Reasoning	**Unit 1 Test Due** **READ:** Ch. 18 p. 453-458 Elem. And MS Math (in Learn) **DO:** Write responses to Pause & Reflect p. 457 p. 432+ #5, 10, 11 (due 10/2)
	9/27	Wed.		Proportional Reasoning Quiz Posted in Learn

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Week	Date	Day	Topic(s)	Complete Before Class
7	10/2	Mon.	Wrap up Unit 1	see assignments above **In Class:** Go over Unit 1 test **Fibonacci Paper due**
	10/4	Wed.	Propotional Reasoning	**READ:** Ch. 18 p. 459-466 Elem. And MS Math (in Learn) **DO:** Act. 18.2 p. 456, Act. 18.4 p. 458 **In Class**: Act. 18.7, scale drawings
8	10/9	Mon.	Similarity	**READ:** Sect. 14.5 (Beckmann) **DO:** Act. 14N, 14O Act. 18.6 p. 461 (handout) **In Class**: One-Point Perspective **Unit 1 Test Corrections Due**
	10/11	Wed.	Solving Proportional Situations	**READ:** Ch. 18 p. 466-472 Elem. And MS Math (in Learn) **DO:** Write responses to Pause & Reflect p. 467 and 468 Act. 14S in Beckmann **In Class**: Act 18.12, 18.13 (handout)
Fall Break Thursday - Sunday, October 12 through 15				
9	10/16	Mon.	Solving Proportional Situations	**READ:** Ch. 18 p. 472-474 Elem. And MS Math (in Learn) **DO:** Write response to Writing to Learn #4 p. 475 **In Class**: Solve proportional eqs. **One-Point Perspective Project due**
			Begin Unit 2 Take-Home Test	
	10/18	Wed.	Proportional Situations ***END UNIT 2***	**READ:** Sect. 7.2 (Beckmann) **DO:** Act. 7F (Beckmann) **In Class**: Act. 7G (Beckmann)
10	10/23	Mon.	***BEGIN UNIT 3*** Statistics	**READ:** Sect. 15.1 Beckmann **DO:** Act. 15A p. 291+ #5, 18 **In Class**: Act. 15D **Unit 2 Test Due**
	10/25	Wed.		**READ:** Sect. 15.2 Beckmann **DO:** Act. 15F p. 661+ #4, 7 **In Class**: Act. 15E

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Week	Date	Day	Topic(s)	Complete Before Class
11	10/30	Mon.	Wrap up Unit 2	**DO:** p. 672+ #2, 5 **In Class**: Go over graded Unit 2 test
	11/1	Wed	Statistics	**READ:** Sect. 15.3 Beckmann **DO:** Act. 15L, 15N **In Class**: Act. 15P
12	11/6	Mon.		**READ:** Sect. 15.4 Beckmann **DO:** Act. 15S p. 682+ #11, 12, 18 **In Class**: Act. 15Q
				Unit 2 Test Corrections Due
	11/8	Wed.	Probability	**READ:** Sect. 16.1 Beckmann **DO:** Act. 16A p. 696+ #3, 10, 13 **In Class**: Act. 16B
	Last day to withdraw without Deans approval is Friday, November 10 by 5:00 PM			
13	11/13	Mon.	Probability	**READ:** Sect. 16.2 Beckmann **DO:** Act. 16G p. 707+ #1, 4, 5 **In Class**: Acting out probabilities
				How to Lie With Statistics paper due
	11/15	Wed.		**READ:** Sect. 16.3 Beckmann **DO:** Act. 16I p. 713+ #1, 2, 4 **In Class**: Palindromes
14	11/20	Mon.		**READ:** Sect. 16.4 Beckmann **DO:** Act. 16L p. 720+ #3, 6, 10, 15 **In Class**: Act. 16J, 16K
	11/22	Wed.		**DO:** p. 726+ #6, 9, 16
			Begin Unit 3 Take-Home Test	
Thanksgiving Break Thursday - Sunday, November 23 through 26				
	11/27	Mon.	Catch Up	Catch up on anything we need to complete for the class
			Proposal for Final Project due	
	11/29	Wed.		Work on Unit 3 test and final projects
			END UNIT 3	**Unit 3 Test Due**
	12/4	Mon.	Presentations	**Portfolios due**
	12/6	Wed.	Presentations	