



MAT 089: Elementary Algebra

Class Days/Times/Room: <ul style="list-style-type: none">• section 1: Monday and Wednesday / <i>lu:nas c miaklos</i>, 9:00 to 11:30 am, room 303, Central/Sells/Komkced e-Wa:ositk Campus• section 2: Tuesday and Thursday / <i>ma:ltis c huiwis</i>, 2:00 to 4:30 pm, room 502, Central/Sells/Komkced e-Wa:ositk Campus	Fall (<i>wi'ihanig</i>) 2018
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Instructor: Richard LEE	Regular Phone: 520 383 0062 Cell Phone/Voice Mail: 520 205 2123 (text acceptable: be professional!) E-mail: rlee@tocc.edu or rlee@glasscity.net Office location: Faculty Building / Ha-Maşcamdam Ha-Ki 121 Office hours: Tuesday and Thursday afternoons (times to be announced), other days as needed
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Course Description: <p>This course transitions from arithmetic to algebra, which includes signed numbers, order of operations, polynomials, fractions, linear equations, area and perimeter, decimals, percent, and ratio and proportion. It includes an introduction to algebra, including the real number system, algebraic expressions, linear equations and inequalities, integer exponents, simple rational expressions and square roots. The course includes an introduction to measurement and mathematical modelling of relationships among variables.</p>

Course Objectives: <p>Upon successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none">1. Define absolute value and graph real numbers on the number line.2. Perform operations on signed numbers3. Apply the laws of mathematics to arithmetic and algebraic expressions.4. Apply the order of operations to arithmetic and algebraic expressions.5. Simplify and evaluate arithmetic and algebraic expressions.6. Translate percentage problems into algebraic equations and solve.7. Solve ratio and proportion problems.8. Plot points and graph linear equations9. Demonstrate measurement sense including units, precision, accuracy and error.10. Add, subtract, multiply and divide numbers in the real number system.11. Graph and solve linear equations and inequalities12. Add, subtract, multiply, divide and factor polynomials.13. Add, subtract, multiply and divide rational expressions.14. Evaluate statistics presented in a news story
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Student Learning Outcomes (SLOs) :

After completion of the course students will be able to

- Simplify and perform operations with signed numbers, arithmetic and algebraic expressions, understand various uses of constants and variables to represent quantities or attributes, demonstrate operation sense and communicate verbally, graphically and symbolically the effects of common operations on numbers.
- Solve linear equations with rational coefficients. Construct and use equations to represent relationships involving one or more unknowns or variable quantities to solve problems.
- Plot points and graph linear equations on the Cartesian coordinate system. Describe the behavior of linear models using words, algebraic symbols, graphs and tables. Use appropriate terms and units to describe rate of change ex. describe the rate of change using appropriate units: slope for linear relationships or average rate of change over an interval for nonlinear relationships.
- Compare relationships represented in different ways.
- Be able to use and interpret percentages in a variety of contexts including, but not limited to: Parts to whole comparisons, decimal representations of percentages, quantifying risks and other probabilities, rates, change, and margins of error.
- Create (mathematical) models of situations, including representations such as tables, graphs, equations and words, using multiple variables to represent quantities and attributes. Furthermore, students will describe why these tools are a useful strategy for understanding the world, along with their limitations.
- Critically evaluate statistics being presented in a media report including: identifying the reference value for a reported percentage, evaluating the sampling strategy, determining sources of bias, describing the difference between correlation and causation, identifying confounding variables.

Course Structure:

This course will be operating on a combination of **group activity, discussions** and rarely traditional lecture that will enhance the student's knowledge of mathematical concepts. Some of this work will need to be done outside of class. That being said, you will have ample time in class to do work in class. (I hope not to be too repetitive, but there still will be homework!)

You will find the format of this class to be a bit different than most. If however you are currently taking, or have had, IRW 070 or 090, then this will be familiar. I will try to make sure that half the class be dedicated to homework.

Texts and Materials:

- Quantway Pathway (with 1 year digital access) printed text Core and College combo, ISBN 9781975024130 *you will use the same book (which, for this semester, you should not be paying anything) for both MAT 089 and MAT 142H. I am willing to mail you a pdf of same on request.*
- A calculator is required, as is a TOCC e-mail and computer access login. An iPad is **not** required.

Evaluation and Grading & Assignments:

There are 35 assignments worth 10 points a piece, corresponding to each section. = $35 \times 10 = 350$
The review assignments 1R, 2R, 3R, 4R and CR are worth 50 points each. = $5 \times 50 = 250$
Total is 600 points.

If you've bothered to read ahead, you'll wonder where I put 2.CA and 4.CA... that is at instructor's option.

Per Department of Education rules and TOCC policy, I must take attendance. While I'm not grading for it, if you are borderline for a letter grade, I will use this to your advantage - or disadvantage.

An A requires $600 \times .9 = \underline{\hspace{2cm}}$ points. A B will require $600 \times .8 = \underline{\hspace{2cm}}$ points.

Himdag Cultural Component:

My interpretation of what Nahban said in *the Desert Smells Like Rain* is this: while the *himdag* discourages direct, exact answers, in the mathematical world, one is expected to be able to come up with a precise answer for the situation. That being said, there are a few common issues shared:

- *Baban* (coyotes) are not going to affect your homework or my tests – they didn't write either. (Certainly beats the classic "My dog ate my homework!")
- While one must go through a maze to see *i'itoi*, there was no mention as to how many mazes there were to get to him. Likewise, you will discover that there are many different ways to perform the math necessary to see the final answer.
- *I-we:tma*: for your success, the college's and the community's, DO NOT work alone – it is a group activity (except on the tests, of course).
- *T-Wohocudadag c t-apedag c t-pik elida*: We believe in ourselves and others. We learn for our well-being. We respect each other, ourselves and our community. We respect and take pride in our own work. We respect each other's abilities, quirks and privacy.

Prerequisites and destinations - please read carefully:

To be in this class, you must have

- passed math 082 **or** 086 here, at Pima Community College, or at San Carlos Apache College with a C or better (equivalent courses within Arizona will be considered), or
- tested into this class with a score in either COMPASS (at least 32 in Prealgebra) or successor Accuplacer (at least 25 in Elementary Algebra), or
- obtained permission of the instructor, usually after review of previous coursework

*It is strongly recommended that you have either placed above by placement test, and/or passed IRW 070 Integrated Reading and Writing -- below that level, and you will find that what I expect for reading and writing in this course to be **extremely** challenging.*

Upon successful completion of this course, you will be taking Math 142H Collegiate Mathematics.

Policies and expectations-

- **T-apedag:** The Government does require me to take attendance for financial aid purposes. I understand if you miss class for legitimate reasons: E-mailing me and contacting the front office **5203838401** are the best ways of letting me know if you miss class. You still are responsible for any material covered in class. ***If you're sick, look out for yourself first, just let me and whomever you're working with in group know if you're not coming in, eh? REMINDER: THIS a group-work based course.***
- Integrity and Honor: I don't mind if you work on the homework in groups. In fact, it's required. I do expect for you to put your best effort in - and not rely on everyone else to do it. Everything else about this topic is available in *the TOCC Student Handbook*.
- Homework and Feedback: **We are adults:** Although I expect homework to be done as soon as the topic(s) are covered, I understand that it may be late. Just get it done, really. (*Folks, with the amount of time we have in class scheduled for homework, there's no reason for late.*) Not every question will be checked, but I will be using what you have done wrong as a springboard for class. For this semester, you should spend 4 credit hrs x 3 hrs per credit hr = _____ hours a week on this course.
- Withdrawal: Final deadline is **November 2nd 2018**. By that date, you will have had at least one test. As a general rule, if you have been absent more than 25% of the time (8 classes), you should speak with an adviser immediately. *All institutions of higher education (public, private, religious, tribal) strongly encourage instructors NEVER to ask students to withdraw from a course for both financial aid purposes and respect for the student.* (See *t-pik elida* on previous page.) Again, there will be a midterm, a final and homework.
- Incompletes (I): This course's nature (you learn something new every class) makes them awkward. However, per TOCC policy, if you have completed $\frac{3}{4}$ of the course and specifically request it, I may consider it. *Please call before final exams to assure enough time to consider your request.* In handing out an incomplete, I will assume that you:
 - will finish this course on your own time.
 - will receive a form with the I grade filled in and what work *must* be done to complete the course.
 - will have one year to complete the work, else the grade will revert to an F.
- Makeups: My homework policy has been mentioned beforehand. As for exams, I allow a *reasonable* amount of time – not more than two weeks.
- **Final grades will be available online via Jenzabar.** Per FERPA and the Himdag, I will not give grades over the phone and am strongly discouraged from e-mailing same. (Again, see *t-pik elida* above.)
- Struggling? Tutoring and assistance are available in the Student Success Center in the main building / *i-we:mta ki* and from me during office hours..
- **In accordance with *t-pik elida*:**
 - the Americans with Disability Act 1990 (ADA) and Section 504 of the Rehabilitation Act: if you have a learning problem, physical disability, or medical illness that requires you to have any special arrangements, please inform your instructor at the beginning of the semester so your academic performance will not suffer because of the disability or handicap. We will honor any special arrangements from the Disability Resources Office - questions can be directed to Anthony Osborn aosborn@tocc.edu or Ron Felix rfelix@tocc.edu or Christine Kelly (e-mail below)
 - Title IX: Tohono O'odham Community College faculty and all staff are dedicated to creating a safe and supportive campus. Title IX and our school policy prohibit discrimination on the basis of sex - this includes sexual misconduct; harassment, stalking, domestic and dating violence and sexual assault. Sexual discrimination and sexual violence can undermine students' academic success and quality of life on campus and beyond. We encourage students who have experienced any form of sexual misconduct to talk about their experience and seek the support they need. Confidential support and academic advocacy can be found with: Christie Kelly, MA, Counselor/Title IX Coordinator ckelly@tocc.edu

Consolidated Course Outline and Homework Assignments

material on tests and dates for topics subject to change - sections in italics are if time permits.

Dates in (parentheses) are Tuesday/Thursday

	Date / taş	coverage	done?	points	
1	8/20 (8/21)	Intro, 1.0, 1.1, 1.2		10, 10	
2	8/22 (8/23)	1.3		10	
3	8/27 (8/28)	1.4		10	
4	8/29 (8/30)	1.5		10	
5	9/3* (9/4)	1.6		10	Labor Day 9/3
6	9/5 (9/6)	1.7		10	
7	9/10 (9/11)	1.8		10	
8	9/12 (9/13)	1.9, 1.R		10, 50	
9	9/17 (9/18)	2.1, 2.2		10, 10	
10	9/19 (9/20)	2.3, 2.4		10, 10	
11	9/24 (9/25)	2.5, 2.6		10, 10	
12	9/26 (9/27)	2.7, 2.8		10, 10	O'odham tas. and fall break and St. Francis d'Assisi day
13	10/8 (10/9)	2.9, 2.CA, 2.R		10, ?, 50	
14	10/10 (10/11)	3.1, 3.2		10, 10	
15	10/15 (10/16)	3.3		10	
16	10/17 (10/18)	3.4		10	
17	10/22 (10/23)	3.5		10	
18	10/24 (10/25)	3.6		10	
19	10/27 (10/28)	3.7		10	
20	10/29 (10/30)	3.8, 3.R		10, 50	
21	10/31 (11/1) ***	4.1		10	final withdrawal deadline 11/2 at 5 pm
22	11/5 (11/6)	4.2		10	
23	11/7 (11/8)	4.3		10	
24	11/12* (11/13)	4.4		10	Veteran's Day 11/12
25	11/14 (11/15)	4.5		10	
26	11/17 (11/18)	4.6		10	
27	11/19 (11/20)	4.7		10	
28	11/24 (11/25)	4.8		10	
29	11/26 (11/27*)	4.9		10	Thanksgiving 11/27
30	12/3 (12/4)	4.CA, 4.R		?, 50	
31	12/5 (12/6)	CR		50	
32	12/10 (12/11)				Finals week

Please note: dates with a single star mean class isn't in session that day with TOCC being closed. There is enough *wiggle-room* for me to get topics covered. There is a good chance that I will be out 10/31 - 11/1 for a conference involving this course and its format - details to come.

DISCLAIMER: This syllabus is designed to evolve and change throughout the semester based on class progress and interests. You will be notified of any changes as they occur.

References:

- Furlonge, Isaac. (2016.) *Course syllabus*.
- Guarin, Jorge. (2011.) *Course syllabus*.
- Hronopoulos, Sophia. (2012.) *Course syllabus*.
- Nabhan, Gary Paul. (1982.) *The Desert Smells Like Rain: A naturalist in Papago Indian Country*. San Francisco: North Point Press.
- Newberry, Teresa. (2012.) *Course syllabus*.
- Sun-bat, Catherine. (2014.) *Course syllabus*
- Tohono O'odham Community College core values website http://www.tocc.edu/core_values.htm (2015.)