The University of Texas at El Paso
Curriculum Change Proposal
Approval Page

Proposal Title: **New Course Add - Math 0309 : College Algebra CoReq**

Associate Provost
I have read the enclosed proposal and approve this proposal on behalf of the department.

Signature: [Signature]
Date: 10/1/19

Undergraduate Curriculum Committee

Council Action:  □ Approved  □ Returned to the College

Date of Action Report: ____________________________

Signature, Chairman: ____________________________
Date: ____________________________
UNDERGRADUATE CURRICULUM CHANGE MEMO

Date: 9/17/2019

From: Developmental Math, Academic Affairs

Through: Denise Lujan

Through: Dr. Virginia M. Fraire

To: Chair, Undergraduate Curriculum Committee

Proposal Title: Math 0309: College Algebra CoReq

In 2017 the Texas Legislature passed House Bill 2223 requiring that all developmental departments across the state offer a co-requisite course to developmental students. The law specifically stated that by 2018 25% of students must be placed in a corequisite model, by 2019 50% placed into a co-requisite model and by 2020 75% of students must be placed into a co-requisite model. The intent of this law is to allow more students to attempt a college-level Math or English course their first semester.

Working with the Math Department, we have jointly come up with a new course which will continue to help us satisfy this law as the percentages increase.

Math 0309 will provide course specific, College Algebra foundational content that focuses on only skills needed to be successful in the college level math course. The focus will be to provide just-in-time content aligned with the content schedule of the college-level math course.

For data tracking purposes, calculating required percentages each year, and because course content is new; a new course number is needed for this co-requisite math course.
Subject: Re: Approval for Math 0309 College Algebra CoReq
Date: Wednesday, October 2, 2019 at 3:32:50 PM Mountain Daylight Time
From: Fraire, Virginia M
To: Mariani, Maria C

Excellent. Thank you! -Virginia

Virginia M. Fraire, Ph.D.
Associate Provost
Office of the Provost and Vice President of Academic Affairs
The University of Texas at El Paso
500 W. University Ave.
El Paso, TX 79968
Office: 915-747-7078
Fax: 915-747-7522
utepe.edu <http://utepe.edu/> /provost
> <https://www.youtube.com/user/UTEP>

On 10/2/19, 3:31 PM, "Mariani, Maria C" <mcmariani@utepe.edu> wrote:

Hi Virginia, yes I approve it. We will have two sections of Math1309 for the Co-requisite model, regards,
Maria Christina

Dr. Maria C. Mariani
Chair

Department of Mathematical Sciences
The University of Texas at El Paso
500 W. University Ave.
El Paso, TX 79968
Office: 915-747-5761
Fax: 915-747-6502
math.utepe.edu

From: Fraire, Virginia M
Sent: Wednesday, October 2, 2019 2:09 PM
To: Mariani, Maria C
Subject: Approval for Math 0309 College Algebra CoReq

Hello, Dr. Mariani.

Hope your week is going well. Marshall on my team has been working with your team to secure your approval on
the Math 0309 College Algebra CoReq which is needed for the packet we submit to the curriculum office.
Dr. Julie Rivera in the Curriculum Office just informed me that we don’t need a formal letter ---which I thought we did. All we need is an email from you to me stating that you approve moving forward with creating the Math 0309 College Algebra co-requisite course. I am working to try and get us through the process so we can schedule two courses for spring 2020.

Let me know if you have any questions, Thank you!

Virginia

[UTEP]

Virginia M. Fraire, Ph.D.
Associate Provost

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utep.edu<https://utep.edu> /provost

[YouTube]<https://facebook.com/UTEPMiners/> [Instagram]
<https://www.youtube.com/user/UTEP>
COURSE ADD

All fields below are required

College: Academic Affairs Department: Developmental Mathematics

Rationale for adding the course: House Bill 2223 requires that all developmental departments across the state offer a co-requisite course to developmental math students. The law specifically requires that by 2018 25% of students must be placed in a corequisite model, by 2019 50% placed into a co-requisite model and by 2020 75% of students must be placed into a co-requisite model. In order to comply with this law we are creating a new co-requisite math course that will be paired with MATH 1309: College Algebra.

All fields below are required

Subject Prefix and #: MATH 0309

Title (29 characters or fewer): College Algebra CoReq

Dept. Administrative Code: 2857

CIP Code: 27.0101.00 01

Departmental Approval Required: Yes No

Course Level: UG GR DR SP

Course will be taught: Face-to-Face Online Hybrid

How many times may the course be taken for credit? (Please indicate 1-9 times): 1

Should the course be exempt from the “Three Repeat Rule?” Yes No

Grading Mode: Standard Pass/Fail Audit

Description (600 characters maximum): This course will provide college-level course specific foundational content to include: Rectangular Coordinates, Graphs and Linear Equations in Two Variables, Analyzing Graphs of Functions, Transformation, Combinations, Inverse and Quadratic Functions and Models, Polynomial and Synthetic Division, Complex Numbers, Zeros of Polynomial Functions, Rational and Exponential Functions and Graphs, Logarithmic Functions and Graphs, Properties of Logarithms, Exponential and Logarithmic Equations and Models, Linear and Non-Linear Systems of Equations, Linear Systems, Partial Fractions, and Matrices.

Contact Hours (per week): 3 Lecture Hours Lab Hours Other

Types of Instruction (Schedule Type): Select all that apply

A Lecture H Thesis
B Laboratory I Dissertation
C Practicum K Lecture/Lab Combined
D Seminar O Discussion or Review (Study Skills)
Fields below if applicable

If course is taught during a part of term in addition to a full 16-week term please indicate the length of the course (ex., 8 weeks):

TCCN (Use for lower division courses):

<table>
<thead>
<tr>
<th>Prerequisite(s):</th>
<th>Course Number/ Placement Test</th>
<th>Minimum Grade Required/ Test Scores</th>
<th>Concurrent Enrollment Permitted? (Y/N)</th>
</tr>
</thead>
<tbody>
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Corequisite Course(s):
MATH 1309

Equivalent Course(s):
<table>
<thead>
<tr>
<th>Restrictions:</th>
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<tbody>
<tr>
<td>Classification</td>
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<tr>
<td>Major</td>
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<tr>
<td>Week</td>
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Material for Exam 2: Chapter 2 and Chapter 3

<table>
<thead>
<tr>
<th>Sections</th>
<th>Description</th>
<th>Aleks topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>2.1, 2.3</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>2.1-Quadratic functions and Models</td>
<td></td>
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<td></td>
<td>2.3-Polynomials and Synthetic Division</td>
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<tr>
<td>Exam 1 Retake</td>
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<tr>
<td>7</td>
<td>2.4, 2.5, 2.6</td>
<td>23</td>
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<tr>
<td></td>
<td>2.4-Complex Numbers</td>
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<td>2.5-Zeros of Polynomial Functions</td>
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<td></td>
<td>2.6-Rational Functions</td>
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<tr>
<td>8</td>
<td>3.1, 3.2</td>
<td>13</td>
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<tr>
<td></td>
<td>3.1-Exponential Functions and Their Graphs</td>
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<td></td>
<td>3.2-Logarithmic Functions and their Graphs</td>
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<tr>
<td>No Classes</td>
<td>Spring Break</td>
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<tr>
<td>9</td>
<td>3.3, 3.4, 3.5</td>
<td>17</td>
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<tr>
<td></td>
<td>3.3-Properties of Logarithms</td>
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<td></td>
<td>3.4-Exponential and Logarithmic Equations</td>
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</tr>
<tr>
<td></td>
<td>3.5-Exponential and Logarithmic Models</td>
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<tr>
<td>No Classes</td>
<td>Cesar Chavez Day - No classes</td>
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<tr>
<td>10</td>
<td>Review, Exam 2</td>
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DROP DATE DEADLINE

Material for Exam 3: Chapter 7 and Chapter 8 up to 8.4

<table>
<thead>
<tr>
<th>Sections</th>
<th>Description</th>
<th>Aleks topics</th>
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</thead>
<tbody>
<tr>
<td>11</td>
<td>7.1, 7.2</td>
<td>18</td>
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<tr>
<td></td>
<td>7.1-Linear and Nonlinear Systems of Equations</td>
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<td>7.2-Two-Var Linear Systems</td>
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<tr>
<td>Exam 2 Retake</td>
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<tr>
<td>12</td>
<td>7.3, 7.4</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>7.3-Multivariable Linear Systems</td>
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<tr>
<td>Date</td>
<td>Activity</td>
<td>Notes</td>
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<tr>
<td>13</td>
<td><strong>Spring study day</strong></td>
<td><strong>8.1-Matrices and Systems of Equations</strong></td>
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<tr>
<td></td>
<td></td>
<td><strong>8.2-Operations with Matrices</strong></td>
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<tr>
<td>14</td>
<td>8.3,8.4</td>
<td><strong>8.3-The Inverse of a Square Matrix</strong></td>
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<tr>
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<td><strong>8.4-The Determinant of a square matrix</strong></td>
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<tr>
<td>15</td>
<td>Review, Exam 3</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td><strong>NO CLASSES</strong></td>
<td><strong>Dead day</strong></td>
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<tr>
<td></td>
<td>Final Exam</td>
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<tr>
<td></td>
<td><strong>Exam 3 Retake</strong></td>
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</tbody>
</table>
Instructor: .............................................. Contact Phone: ..............................

HELP WITH THIS COURSE:

1. Your instructor’s office hours are dedicated to assist you. This information, as well as Program information is available at http://academics.utep.edu/default.aspx?tabid=17404.
2. A Developmental Math lab will be open for tutoring on Friday of each week. Other online tutoring will also be available (see the “Online Tutoring” section above).
3. Students requiring accommodations for physical or learning disabilities must make arrangements with the Center for Accommodations and Support Services, 106 East Union. If you are eligible for accommodations, you are responsible for presenting to your instructor any DSSO letter and instructions as early as possible in the semester.
4. Tell your instructor if you are in any special programs such as: Athletics, Veterans, ISP, SSSP, START, CAMP, etc.

CONTACT INFORMATION:

If you have concerns regarding your grade, course, etc... speak with your instructor first. They will advise where you can go for help. If the issue cannot be resolved your next step is to speak to the Director, Denise Lujan located in Education 205.

<table>
<thead>
<tr>
<th>Director of Developmental Mathematics</th>
<th>Denise Lujan</th>
<th><a href="mailto:cdlujan@utep.edu">cdlujan@utep.edu</a></th>
<th>915-497-6687</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>By appointment</td>
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If you have issues with ALEKS please speak with Alex Mena in Education 211

<table>
<thead>
<tr>
<th>ALEKS Coordinator</th>
<th>Alex Mena</th>
<th><a href="mailto:alemena@utep.edu">alemena@utep.edu</a></th>
<th>915-892-2127</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office Hours: EDCU Rm 211</td>
<td>By appointment</td>
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</table>

If you have issues with registration, syllabus, and other course issues please speak with Marsha Cardenas in Education 205.

<table>
<thead>
<tr>
<th>Program Coordinator</th>
<th>Marsha Cardenas</th>
<th><a href="mailto:mghodge@utep.edu">mghodge@utep.edu</a></th>
<th>915-491-0949</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office Hours: EDUC Rm 205</td>
<td>By appointment</td>
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</table>
STUDENT CONTRACT

Your class will be taught utilizing the ALEKS (Assessment and Learning in Knowledge Spaces) system this semester. This program uses an online program to assess your mathematical knowledge and creates a path of instruction unique to your mastery needs. Please review this agreement, then sign and return it to your instructor when you are requested to do so.

I UNDERSTAND: (Please initial each item to confirm you understand the following)

_____ I understand this is an actual UTEP course and will be permanently recorded on my transcript.

_____ I understand that being dropped from this course will cause me to be dropped from MATH 1309

_____ I acknowledge that my instructor will weekly visit with me about my progress in class. If I do not want these discussions to take place inside the classroom it is my responsibility to inform my instructor and arrange another time.

Things which can cause me to be dropped or fail the course

_____ Failure to purchase a book and code and use it to create an account and take your initial Knowledge Check by the 2nd day of class will result in being dropped from the course.

_____ Failure to work on ALEKS the required weekly amount of time and gain the required percentage will result in receiving a CoReq Student Deficiency Contract. (Average of 4 topics required per day)

_____ Failure to meet the requirements of the CoReq Student Deficiency Contract will result in either being dropped from both MATH 0309 and MATH 1309 or receive a failing grade.

_____ Failure to take a scheduled Knowledge Check without making prior arrangements with the instructor may result in being dropped from both MATH 0309 and 1309, or receive a failing grade.

_____ Exceeding the allowed amount of absences, or failure to attend class may result in being dropped from both MATH 0309 and 1309 or receive a failing grade.

_____ Class time is for MATH 0309 work only and the computer may not be used for any other purpose. The use of websites during class time will result in an absence being counted against you.

_____ Failure to complete the MATH 0309 ALEKS modules to 100% and the proctored comprehensive Final Exam by the end of the course with a minimum average score of 70% will result in receiving a failing grade of “U” in the course.

_____ All Requests for DROP require a face-to-face meeting with Mrs. Denise Lujan

Things NOT allowed during my time on the math program and which can result in disciplinary action against me.

Students in violation of these policies will be turned over to the Office of Student Conduct and Conflict Resolution for cheating.

_____ The use of electronics, including cell phones are not allowed. This includes, but is not limited to: listening to music, texting, checking email, looking at social media websites, and making phone calls.

_____ The use of websites other than ALEKS to compute mathematical answers or provide “help” is strictly forbidden.

_____ You must do my own work and may not allow others to work on your ALEKS account.

_____ No electronic devices may be used to mathematically assist you during your work time on ALEKS. Calculators, phone apps, laptops, tablets or any other devices are not allowed during ALEKS work time.

Student Signature: ___________________________________________ Date: ___________________
Questionnaire

Student Name: ____________________________

Contact Information:
Cell Phone: ____________________________ Working Email: ____________________________

**UTEP Information:** Major ____________________________ Classification _____________

Have you taken MATH 0309, 0311, or 0312 at UTEP before? ______ YES ______ NO
If YES, when and with what instructor? ____________________________

Next Math course needed (please check)

___ 1319    ___ 1320    ___ 1380    ___ 1508    ___ not sure

**Special Circumstances:** You will be required to spend several hours weekly on the ALEKS program. Please indicate any special circumstances you may face which will cause that to be a challenge.

Where do you work? ____________________________ How many hours per week? ______

How many course hours are you taking at UTEP? ______

Other issues which cause time management problems (*please specify*) ____________________________

__________________________

**Special Programs:** Are you an international student? Yes _________ No _________

Write a short description of yourself, adding anything else you want your instructor to know.

Other interests or extra-curricular activities you have:
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Student Signature: ___________________________ Date: __________________
Arithmetic Readiness (10 Topics)

Fractions (10 Topics)
- Equivalent fractions
- Simplifying a fraction
- Addition or subtraction of fractions with the same denominator
- Addition or subtraction of fractions with the same denominator and simplification
- Finding the LCD of two fractions
- Introduction to addition or subtraction of fractions with different denominators
- Addition or subtraction of fractions with different denominators
- Introduction to fraction multiplication
- Fraction multiplication
- Fraction division

Exponents, Polynomial Expressions, and Factoring (8 Topics)

Factoring Polynomials (8 Topics)
- Introduction to the GCF of two monomials
- Factoring out a monomial from a polynomial: Univariate
- Factoring a univariate polynomial by grouping: Problem type 1
- Factoring a quadratic with leading coefficient 1
- Factoring out a constant before factoring a quadratic
- Factoring a quadratic with leading coefficient greater than 1: Problem type 1
- Factoring a difference of squares in one variable: Advanced
- Factoring a product of a quadratic trinomial and a monomial

Rational and Radical Expressions (9 Topics)

Rational Expressions (7 Topics)
- Simplifying a ratio of polynomials using GCF factoring
- Simplifying a ratio of polynomials by factoring a quadratic with leading coefficient 1
- Simplifying a ratio of polynomials: Problem type 1
- Multiplying rational expressions made up of linear expressions
- Multiplying rational expressions involving quadratics with leading coefficients of 1
- Dividing rational expressions involving linear expressions
- Adding rational expressions with common denominators and quadratic factoring

Complex Fractions (2 Topics)
- Complex fraction involving univariate monomials
- Complex fraction made of sums involving rational expressions: Problem type 1

Quadratic, Rational, and Radical Equations (20 Topics)

Rational Equations that Simplify to Linear (1 Topic)
Solving a rational equation that simplifies to linear: Unlike binomial denominators

Complex Numbers (6 Topics)
- Using $i$ to rewrite square roots of negative numbers
- Simplifying a product and quotient involving square roots of negative numbers
- Adding or subtracting complex numbers
- Multiplying complex numbers
- Dividing complex numbers
- Simplifying a power of $i$

Quadratic Equations (8 Topics)
- Finding the roots of a quadratic equation with leading coefficient 1
- Finding the roots of a quadratic equation with leading coefficient greater than 1
- Solving a quadratic equation needing simplification
- Roots of a product of polynomials
- Writing a quadratic equation given the roots and the leading coefficient
- Solving a quadratic equation using the square root property: Exact answers, advanced
- Applying the quadratic formula: Exact answers
- Solving a quadratic equation with complex roots

Rational Equations that Simplify to Quadratic (5 Topics)
- Restriction on a variable in a denominator: Quadratic
- Solving a rational equation that simplifies to linear: Factorable quadratic denominator
- Solving a rational equation that simplifies to quadratic: Denominator $x$
- Solving a rational equation that simplifies to quadratic: Binomial denominators, constant numerators
- Solving a rational equation that simplifies to quadratic: Binomial denominators and numerators

Lines (36 Topics)

The Coordinate Plane, Distance, and Midpoint (7 Topics)
- Table for a linear equation
- Distance between two points in the plane: Exact answers
- Distance between two points in the plane: Decimal answers
- Midpoint of a line segment in the plane
- Finding an endpoint of a line segment given the other endpoint and the midpoint
- Identifying solutions to a linear equation in two variables
- Finding a solution to a linear equation in two variables

Graphs of Equations (10 Topics)
- Graphing a linear equation of the form $y = mx$
- Graphing a line given its equation in slope-intercept form: Integer slope
- Graphing a line given its equation in slope-intercept form: Fractional slope
- Graphing a line given its equation in standard form
- Finding $x$- and $y$-intercepts given the graph of a line on a grid
- Finding $x$- and $y$-intercepts of a line given the equation: Basic
- Finding $x$- and $y$-intercepts of a line given the equation: Advanced
- Finding intercepts of a nonlinear function given its graph
- Finding $x$- and $y$-intercepts of the graph of a nonlinear equation
- Graphing a parabola of the form $y = ax^2$

Slope and Equations of Lines (14 Topics)
- Classifying slopes given graphs of lines
- Finding slope given the graph of a line on a grid
- Finding slope given two points on the line
Finding the slope of horizontal and vertical lines  
Graphing a line given its slope and y-intercept  
Graphing a line through a given point with a given slope  
Finding the slope and y-intercept of a line given its equation in the form $y = mx + b$  
Writing an equation in slope-intercept form given the slope and a point  
Graphing a line given its equation in point-slope form  
Writing an equation in point-slope form given the slope and a point  
Writing the equation of the line through two given points  
Finding slopes of lines parallel and perpendicular to a line given in slope-intercept form  
Identifying parallel and perpendicular lines from equations  
Identifying parallel and perpendicular lines from coordinates

**Circles** (5 Topics)  
Identifying the center and radius to graph a circle given its equation in standard form  
Identifying the center and radius to graph a circle given its equation in general form: Basic  
Writing the equation of a circle centered at the origin given its radius or a point on the circle  
Writing an equation of a circle given its center and radius or diameter  
Writing an equation of a circle given its center and a point on the circle

**Functions** (43 Topics)  
Identifying functions from relations  
Vertical line test  
Table for a linear function  
Evaluating functions: Linear and quadratic or cubic  
Evaluating a rational function: Problem type 1  
Table for a square root function  
Evaluating a cube root function  
Evaluating functions: Absolute value, rational, radical  
Evaluating a piecewise-defined function  
Variable expressions as inputs of functions: Problem type 1  
Domain and range from ordered pairs  
Domain of a rational function: Excluded values  
Domain of a rational function: Interval notation  
Domain of a square root function: Basic  
Determining whether an equation defines a function: Basic

**Graphs of Functions** (9 Topics)  
Finding inputs and outputs of a function from its graph  
Finding where a function is increasing, decreasing, or constant given the graph  
Finding local maxima and minima of a function given the graph  
Finding the absolute maximum and minimum of a function given the graph  
Graphing a function of the form $f(x) = ax + b$: Fractional slope  
Graphing a function of the form $f(x) = ax^2$  
Graphing a function of the form $f(x) = ax^2 + c$  
Graphing a parabola of the form $y = (x-h)^2 + k$  
Even and odd functions: Problem type 1

**Transformations** (8 Topics)  
Translating the graph of a parabola: One step  
Translating the graph of a parabola: Two steps  
Translating the graph of an absolute value function: One step
Translating the graph of an absolute value function: Two steps
Translating the graph of a function: One step
Translating the graph of a function: Two steps
Transforming the graph of a function by reflecting over an axis
Transforming the graph of a function by shrinking or stretching

Combining Functions; Composite Functions; Inverse Functions (11 Topics)
- Sum, difference, and product of two functions
- Quotient of two functions: Basic
- Introduction to the composition of two functions
- Composition of two functions: Basic
- Horizontal line test
- Determining whether two functions are inverses of each other
- Inverse functions: Linear, discrete
- Inverse functions: Quadratic, square root
- Inverse functions: Cubic, cube root
- Inverse functions: Rational
- Graphing the inverse of a function given its graph

Polynomial and Rational Functions (33 Topics)

Quadratic Functions (9 Topics)
- Finding the vertex, intercepts, and axis of symmetry from the graph of a parabola
- Graphing a parabola of the form \( y = x^2 + bx + c \)
- Graphing a parabola of the form \( y = a(x-h)^2 + k \)
- Graphing a parabola of the form \( y = ax^2 + bx + c \): Integer coefficients
- Finding the zeros of a quadratic function given its equation
- Writing a quadratic function given its zeros
- Finding the x-intercept(s) and the vertex of a parabola
- Finding the maximum or minimum of a quadratic function
- Domain and range from the graph of a quadratic function

Polynomial Functions (3 Topics)
- Finding zeros of a polynomial function written in factored form
- Finding a polynomial of a given degree with given zeros: Real zeros
- Finding x- and y-intercepts given a polynomial function

Division of Polynomials; Remainder and Factor Theorems (4 Topics)
- Polynomial long division: Problem type 1
- Polynomial long division: Problem type 2
- Polynomial long division: Problem type 3
- Synthetic division

Real Zeros of Polynomial Functions (4 Topics)
- Using a given zero to write a polynomial as a product of linear factors: Real zeros
- Finding all possible rational zeros using the rational zeros theorem: Problem type 1
- Descartes' Rule of Signs
- Using the rational zeros theorem to find all zeros of a polynomial: Rational zeros

Complex Zeros of Polynomials Functions (4 Topics)
- Multiplying expressions involving complex conjugates
- Finding a polynomial of a given degree with given zeros: Complex zeros
- Using a given zero to write a polynomial as a product of linear factors: Complex zeros
- Using the conjugate zeros theorem to find all zeros of a polynomial
Rational Functions (9 Topics)
- Finding the intercepts, asymptotes, domain, and range from the graph of a rational function
- Finding the asymptotes of a rational function: Constant over linear
- Finding the asymptotes of a rational function: Linear over linear
- Finding horizontal and vertical asymptotes of a rational function: Quadratic numerator or denominator
- Finding the asymptotes of a rational function: Quadratic over linear
- Graphing a rational function: Constant over linear
- Graphing a rational function: Linear over linear
- Matching graphs with rational functions: Two vertical asymptotes
- Graphing a rational function with more than one vertical asymptote

Exponential and Logarithmic Functions (30 Topics)

Graphing Exponential Functions (6 Topics)
- Table for an exponential function
- Graphing an exponential function and its asymptote: f(x)=bx
- Graphing an exponential function and its asymptote: f(x) = a(b)x
- Graphing an exponential function and its asymptote: f(x)=b^x or f(x)=-b^x
- Translating the graph of an exponential function
- The graph, domain, and range of an exponential function

Logarithmic Functions (7 Topics)
- Converting between logarithmic and exponential equations
- Converting between natural logarithmic and exponential equations
- Evaluating logarithmic expressions
- Solving an equation of the form log_a x = c
- Translating the graph of a logarithmic function
- Graphing a logarithmic function: Basic
- The graph, domain, and range of a logarithmic function

Properties of Logarithms (8 Topics)
- Basic properties of logarithms
- Using properties of logarithms to evaluate expressions
- Expanding a logarithmic expression: Problem type 1
- Expanding a logarithmic expression: Problem type 2
- Expanding a logarithmic expression: Problem type 3
- Writing an expression as a single logarithm
- Change of base for logarithms: Problem type 1
- Change of base for logarithms: Problem type 2

Logarithmic and Exponential Equations (9 Topics)
- Solving a multi-step equation involving a single logarithm: Problem type 1
- Solving a multi-step equation involving a single logarithm: Problem type 2
- Solving a multi-step equation involving natural logarithms
- Solving an equation involving logarithms on both sides: Problem type 1
- Solving an exponential equation by finding common bases: Linear exponents
- Solving an exponential equation by finding common bases: Linear and quadratic exponents
- Solving an exponential equation by using logarithms: Decimal answers, basic
- Solving an exponential equation by using natural logarithms: Decimal answers
- Solving an exponential equation by using logarithms: Exact answers in logarithmic form

Systems of Equations and Matrices (42 Topics)

Systems of Linear Equations in Two Variables (15 Topics)
Identifying solutions to a system of linear equations
Identifying the solution of systems of linear equations from graphs
Classifying systems of linear equations from graphs
Graphically solving a system of linear equations both of the form \( y = mx + b \)
Graphically solving a system of linear equations
Writing a system of linear equations given its graph
Solving a system of linear equations of the form \( y = mx + b \)
Solving a system of linear equations using substitution
Solving a system of linear equations using elimination with \( m \)
Solving a system of linear equations using elimination with multiplication and addition
Solving a system of linear equations with fractional coefficients
Solving a system of linear equations with decimal coefficients
Solving systems of linear equations with \( 0, 1, \) or infinitely many solutions
Solving a 2x2 system of linear equations that is inconsistent or consistent dependent
Identifying the operations used to create equivalent systems of equations

**Systems of Linear Equations in Three Variables** (4 Topics)
- Introduction to solving a 3x3 system of linear equations
- Solving a 3x3 system of linear equations: Problem type 1
- Solving a 3x3 system of linear equations: Problem type 2
- Solving a 3x3 system of linear equations that is inconsistent or consistent dependent

**Operations with Matrices** (9 Topics)
- Scalar multiplication of a matrix
- Addition or subtraction of matrices
- Linear combination of matrices
- Squaring and multiplying 2x2 matrices
- Multiplication of matrices: Basic
- Finding the inverse of a 2x2 matrix
- Finding the inverse of a 3x3 matrix
- Finding the determinant of a 2x2 matrix
- Finding the determinant of a 3x3 matrix

**Using Matrices to Solve Systems of Equations** (7 Topics)
- Completing Gauss-Jordan elimination with a 2x2 matrix
- Gauss-Jordan elimination with a 2x2 matrix
- Writing solutions to 3x3 systems of linear equations from augmented matrices
- Completing Gauss-Jordan elimination with a 3x3 matrix
- Solving a system of linear equations given its augmented matrix
- Finding the inverse of a matrix to solve a 2x2 system of linear equations
- Using the inverse of a matrix to solve a 3x3 system of linear equations

**Partial Fraction Decomposition** (4 Topics)
- Introduction to partial fraction decomposition with distinct linear factors
- Partial fraction decomposition with distinct linear factors
- Partial fraction decomposition with repeated linear factors
- Partial fraction decomposition with an irreducible quadratic factor

**Systems of Nonlinear Equations** (3 Topics)
- Graphically solving a system of linear and quadratic equations
- Solving a system of linear and quadratic equations
- Solving a system of nonlinear equations: Problem type 1
Homework Form and Contract

Each week your instructor will discuss your progress with you. You will be provided with a progress chart which you are required to follow throughout the course. **You are required to complete an average of 4 topics per day in each module. Each week topics goals must be met.** Failure to meet your weekly goal will result in a warning.

Failure to meet topic goals two weeks in a row will result in a CoReq Student Deficiency Contract given. This contract will specify goals and a timeline required to be accomplished by you, to remain in the class. **Failure to complete the targeted goals on time may result in being dropped from the MATH 0309. If you are dropped from Math 0309 you WILL BE DROPPED from your MATH 1309 course.** In addition, you may be required to attend additional tutoring and/or lab time.
DROP POLICY:
✓ You may be dropped from this course if......You are not registered on ALEKS and/or fail to complete your initial Knowledge Check by the 2nd day of class unless other arrangements are made with the Director.
✓ You may be dropped from this course if......You fall behind in weekly percentage/topic requirements and fail to meet required goals on the deficiency contract.
✓ You may be dropped from this course if......You exceed the allowed number of absences.

ABSENCE POLICY:
✓ You are allowed a total of two (2) class absences. Unless arrangements are made with your instructor, you will be dropped on the 3rd class absence.
✓ You may work with your instructor to make-up a 3rd and 4th absence. Only two make-up class sessions will be allowed within the semester.

COURSE GRADE:
✓ You will receive a Grade of S* in MATH 0309 when:
  - You must complete Modules 1-3, [minimum of 4 topics required/day] to 100% and take each Module Exam.
  - All Module Exams have been completed AND all the remaining topics are completed in order to take the Comprehensive Final Exam.

You must accumulate an average of at least 70% from the following:

Module 1 – 20%
Module 2 – 20%
Module 3 – 20%
Comprehensive Final Exam – 40%

✓ Note:
  - You must bring a picture ID to the Final Exam.
  - Average greater than or equal to 70% receive a passing grade of "S", Satisfactory.
  - Average less than 70% receive a failing grade of "U", Unsatisfactory.

DEV MATH WORKSTUDY: Vivi (top left)
TUTORING: Allie (orange shirt) and Carlos
Face-to-Face MATH TUTORING:
A tutoring lab is available to provide you with math help, make-up classes, or work on your homework. Hours will be posted in the labs after the first week of the semester. Please ask your instructor for further details.

Classroom labs are also available for extra help and make-up classes. Seating will be first come, first served. Please note if the lab is full you will need to return at a later time.

ONLINE TUTORING:
Online tutoring will allow you to have access to our developmental math tutor during certain evening and weekend hours. You will be able to see a "whiteboard" where you and the tutor will be able to write your math problem and work through the solution. There will be information provided during your first week of class to give you program details.
ALEKS REQUIRED KNOWLEDGE CHECKS:

✓ Scheduled Proctored Module Exams are required at the completion of each module. (See Calendar) Module exams will only be given after completing ALL the topics in the module on the due date. If for any reason you do not complete the topics prior to the due date, you will be given an opportunity to complete them during Finals week (Extender Program). A grade of 0% will remain for that module until exam has been taken.

✓ Module Exams should be completed during a single class session. If you require more time, schedule additional time with your instructor.

✓ You are required to take a proctored Final Exam.

✓ You may only use your ALEKS notebook on the Final Exam. NO OTHER NOTES OR "PRINT-OUTS" ALLOWED!!!

✓ You may use your personal computer for all work EXCEPT the Module Exams and the Final.

CALCULATOR: The ALEKS program is equipped with a calculator for use in certain parts of the ALEKS course. You will also have access to the calculator in Windows. NO OTHER CALCULATOR WILL BE ALLOWED. If you are caught using a calculator, phone, web-based math program, or any other device you will be turned into the UTEP Office of Student Conduct and Conflict Resolution for cheating.

ALEKS REQUIRED MODULE EXAMS

FIRST DAY
Initial KC and start of class – Average of 4 topics required per day in each module

WEEK OF XXXXXXX
Module 1 Exam

WEEK OF XXXXXXX
Module 2 Exam

WEEK OF XXXXXXX
Module 3 Exam

CREATING YOUR ALEKS ACCOUNT:

1. Go to www.aleks.com and click on yellow box which says, “new user sign up now”. (Even if you have used ALEKS before, please click on the new user link anyway.)

2. There will be two boxes, look for the box on the left and enter the following code: __________

3. Next you will see your instructor’s name and the name of your course. If it is correct, continue.

4. Next you will be asked if you have ever used ALEKS before. Choose "I have never used ALEKS before or I do not have an ALEKS login name". (Even if you have used ALEKS before, please click this option anyway)

5. Open your textbook and remove the ALEKS card. Enter the code in the spaces provided.

6. Fill in the profile.

7. You can record your username and password here:
   a. USERNAME: _______________________
      PASSWORD: ________________________

8. Complete the tutorial and start working.
FAQs:

What if I can’t afford my book by the first day of class? Book loans are available to most students even if you are not eligible for financial aid. Go to https://loans.utep.edu/ and select the third option to apply for a book loan. This will allow you to receive funds which may be used only in the UTEP Bookstore.

What if my computer won’t run ALEKS at home? Call ALEKS tech support at 800-258-2374.

What if I have to miss class? Make-up sessions may be done in any of the following ways by working out the details with your instructor:....
- Attend any instructor’s session, providing they have room for you, and inform them you need to do a make-up class.
- It is your responsibility to request proof of attendance from that instructor.
- Attend the Friday lab hours and let the instructor know you are doing a make-up.

What if I get behind in Topics? You may make up topics working from home, extra sessions in any instructor's lab, attending Friday lab, or using online tutoring.

What if I get dropped? If you get dropped from the class you will also be dropped from your MATH 1309 course.

Contact Info for HELP

Director of Dev Math: Mrs. Denise Lujan
Email: cdlujan@utep.edu  cell: 915-497-6687

ALEKS Coordinator: Mr. Alex Mena
Email: alemena@utep.edu  cell: 915-892-2127

Program Coordinator: Mrs. Marsha Cardenas
Email: mghodge@utep.edu  cell: 915-491-0949

What if I need to drop the class? All requests to drop the course require a face-to-face meeting and must be approved by the Director of Developmental Mathematics, Mrs. Denise Lujan. The University’s withdrawal date is XXXXX. If you need to withdraw after that date, please contact your instructor for assistance.

What if I need special accommodations? Please contact the Center for Accommodations and Support Services, 106 East Union. If you are eligible for accommodations, you are responsible for presenting to your Instructor any DSSO letter and instructions.

May I bring food or drinks into the lab with me? Bottled drinks with screw on caps may be brought into the lab. No other food or drink allowed.

What is the policy concerning cell phones, other electronics, and personal belongings? Cell phones may not be used in the classroom at all. This includes, but isn’t limited to, sending/receiving text messages, listening to music, checking email, looking at websites (Including social media), or using your device as a calculator. Your instructor may ask you to leave all personal belongings in an area away from the computers as you walk into the classroom. If you have an emergency and need to use your phone, you must step out of the classroom.

Daniel Halenar, Technology Specialist  Lupe Mercado, Office Manager