

CURRICULUM CHANGE PROPOSAL

APPROVAL PAGE

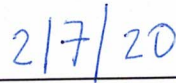
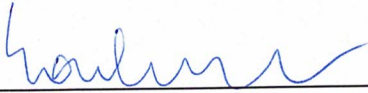
Proposal Title: Core Approval for MATH 1309: College Algebra

College: Science

Department: Mathematical Sciences

DEPARTMENT CHAIR

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



Signature

Date

COLLEGE CURRICULUM COMMITTEE CHAIR

I have read the enclosed documents and approve the proposal on behalf of the college curriculum committee.

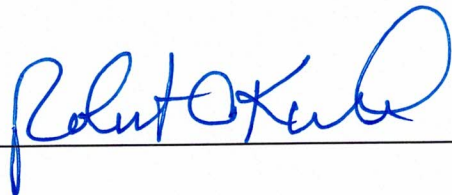


Signature

Date

COLLEGE DEAN

I have read the enclosed documents and approve the proposal on behalf of the college. I certify that the necessary funds will be allocated by the college in support of this proposal.



Signature

Date

CURRICULUM CHANGE PROPOSAL

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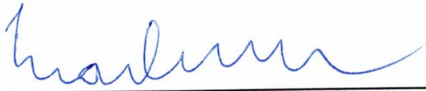
Proposal Title: Core Approval for MATH 1310: Trigonometry and Conics

College: Science

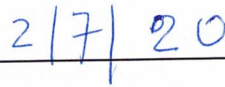
Department: Mathematical Sciences

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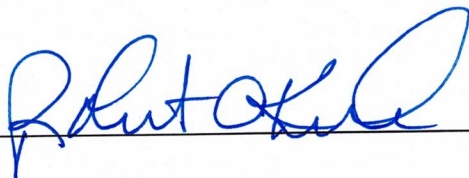
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Signature



Date

UNDERGRADUATE CURRICULUM CHANGE MEMO

Date: 2/13/2020

From: Amy Wagler, Mathematical Sciences

Through: Christina Mariani, Mathematical Sciences

Through: Robert A. Kirken, College of Science

To: Carla Ellis, Chair of UGCC

Proposal Title: Creation of Core Status for MATH 1309: College Algebra

MATH 1309 focuses on developing critical thinking skills through use of practical problem solving skills. The course also develops students' empirical and quantitative skills through the focus on understanding mathematical functions, systems of equations, matrix calculations. We request that MATH 1309 be added to the core courses so that students can fulfill the core mathematics requirements with this and MATH 1310: Trigonometry and Conics.

UNDERGRADUATE CURRICULUM CHANGE MEMO

Date: 2/13/2020

From: Amy Wagler, Mathematical Sciences

Through: Christina Mariani, Mathematical Sciences

Through: Robert A. Kirken, College of Science

To: Carla Ellis, Chair of UGCC

Proposal Title: Creation of Core Status for MATH 1310: Trigonometry and Conics

MATH 1310 focuses on developing critical thinking skills through use of practical problem solving skills and by applying trigonometric reasoning to problems related to other content areas. The course also develops students' empirical and quantitative skills through the focus on understanding trigonometric functions and their properties and application. We request that MATH 1310 be added to the core courses so that students can fulfill the core mathematics requirements with this and MATH 1309: College Algebra.

UTEP Core Curriculum Course Addition Proposal

Course Prefix, Number, and Title: MATH 1309, College Algebra

Proposal Approvals:

Proposal Creator:

Name: Dr. Amy Wagler, Associate Chair of Mathematical Sciences
Department: Mathematical Sciences
Email: awagler2@utep.edu
Phone: (915) 747-6847
Office: Bell Hall 311

Alternate Point of Contact:

Name: Dr. Christina Maria Mariani, Chair
Department: Mathematical Sciences
Email: mcmariani@utep.edu
Phone: (915) 747-5761
Office: Bell Hall 120

Course Information:

Type: Existing Course
Course: MATH 1309
Credit Hours: 3
Course Offered: Fall Spring Summer
TCCN: MATH 1309
Prerequisites: ([MATH 0311](#) w/C or better) OR (TSI 350-390)

Course Description:

The content of the entire course covers topics from basic mathematics and develops them using practical and theoretical tools, building applications and making a strong support for Calculus classes. A student passing Math 1309 College Algebra will be able to work with the concepts of functions (functions in general, exponential and logarithmic functions, polynomial and rational functions), to solve a system of linear and non-linear equations and inequalities, to make basic operations with matrices and apply mathematical induction method.

Foundational Component Area: Mathematics

Foundational Component Area Intent: MATH 1309 focuses on developing critical thinking skills through use of practical problem solving skills. The course also develops students' empirical and quantitative skills through the focus on understanding mathematical functions, systems of equations, and matrix calculations. MATH 1309 content will teach communication skills through use of oral and written explanations of student reasoning and small group work.

Core Curriculum Objectives

Critical Thinking: MATH 1309 content is designed to develop students' critical thinking skills by teaching mathematical problem solving skills. Students will be prompted to explain their reasoning when working through problems, and ask critical questions about other students' work.

Communication: MATH 1309 will emphasize communication of student reasoning in both oral and written form. Students will be encouraged to orally explain problems to other students and will be required to provide written explanations of mathematical reasoning at times. Class discussions will be used to encourage student collaboration and communication.

Empirical and Quantitative Skills: MATH 1309 will directly meet this objective through the content focused on functions, systems of equations, and matrix calculations. All course content is focused on developing students' empirical and quantitative skills.

Proposed Syllabus: Sample syllabus and assignments are below.

Course Assessment Plan

[Descriptions of the major assignments referenced for each category are below in the syllabus]

Critical Thinking: Critical thinking skills are assessed as major components of the homework and exams by evaluating the quality of student mathematical reasoning using the following measures of evidence:

- Written explanations of steps taken in solving problems (both using a narrative and complete mathematical explanation)
- Written explanations of problem solving plan and needed information to complete the process
- Presentation of problem solving process to class or group

Communication Skills: Communication skills are assessed by evaluating the ability of students to use written or oral explanations to clarify their problem solving process. This is assessed by analyzing the students' use of a narrative with correct grammar, spelling, and sound sentence structure. The arguments must also be logically organized.

- Team-led discussion presentation
- Short narratives summarizing concepts and methods in class

Empirical and Quantitative Skills: Empirical and quantitative skills are assessed through several written assignments (homework and exams) throughout the semester. This component is a core skill of this course and will be assessed using:

- Regular homework assignment requiring shown work
- In-class quizzes
- In-class exams

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COLLEGE OF SCIENCE
DEPARTMENT OF MATH

Course number: MATH 1309
 Course Title: College Algebra
 Credit Hours:
 Class Key: utep ##### (Instructors: insert your WebAssign class key here.)
 Term: _____
 Course Meetings & Location: _____
 Prerequisite Courses: MATH 0311 or TSI score between 350 – 390 or placement by previous Accuplacer scores or enrolled in a Co-Requisite (MATH 0311)
 Instructor: _____
 Office Location: _____
 Contact Info: 747-_____
 E-mail address ____
 Emergency Contact ____
 Office Hrs: _____

Textbook(s), Materials: Required: Pre-Calculus by Larson, 10th edition
 (available as e-book and hardcover)
 Suggested: Laptop and Graphing Calculator

Course Objectives
 (Learning Outcomes): Students are expected to have a clear understanding of the ideas of College Algebra as a solid foundation for subsequent courses in mathematics and other disciplines as well as for direct application to real life situations.

The content of the entire course covers topics from basic mathematics and develop them using practical and theoretical tools, building applications and making a strong support for Calculus classes.

A student passing Math 1309 College Algebra will be able to work with the concepts of functions (functions in general, exponential and logarithmic functions, polynomial and rational functions), to solve a system of linear and non-linear equations and inequalities, to make basic operations with matrices and apply mathematical induction method.

Course Activities/Assignments: You will find all assignments on <http://webassign.net/> . Please use Mozilla Firefox or Google Chrome since WebAssign works best with these browsers. Unannounced quizzes may be administered in the classroom.

Assessment of Course Objectives: There will be 3 exams and a final exam. All exams, written by a committee, are administered in the classroom. A WebAssign Retake Exam will be administered in the library after each exam.

If a student receives a grade of D or F, they may register for wintermester or take a comprehensive TestOut exam after wintermester. A grade of 70% or better on the comprehensive wintermester exam or a 70% or better on the TestOut exam will replace a failing course grade with a grade of C. (A grade change form will be signed and submitted by TBA.)

Grading Policy: Your grade will be calculated as follows:

WebAssign homework	15%
In Class Quizzes	15%
Exam 1	15%
Exam 2	15%
Exam 3	15%
<u>Comprehensive Final Exam</u>	<u>25%</u>
Total	100%

The grading scale for this course is:

90 – 100 = A

80 – 89 = B

70 – 79 = C

60 – 69 = D

0 – 59 = F.

The Drop Date for this semester is. No drops will be approved after this date.

Make-up Policy: No makeup exams will be allowed except with proper documentation, i.e. doctor's note, hospital's note, or UTEP excused absence document.

Attendance Policy: Students must attend every class and attend all lectures. Attendance will be taken. A student will be dropped if he/she misses 3 lectures. Students are to arrive to class on time. It is the student's responsibility to make up missed assignments as determined by their instructor.

Civility Statement: Please do not use smart phones, smart watches, iPads, blue tooth or any smart device during quizzes and exams. Cell phones and tablets should be set to silent or vibrate, and any calls should be taken outside of class. Please do not wear headsets or blue tooth devices during class. Please don't talk in class. Cell phone calculators may not be used on quizzes or exams. Calculators may not be shared during quizzes and exams. Active participation in class is expected, teamwork in class will be implemented. Video or pictures of lectures must have written consent from the instructor and student(s).

Disability Statement: If you have a disability and need classroom accommodations, please contact The Center for Accommodations and Support Services (CASS) at 747-5148, or by email to cass@utep.edu, or visit their office located in UTEP Union East, Room 106. For additional information, please visit the CASS website at www.utep.edu/CASS. *CASS' Staff are the only individuals who can validate and if need be, authorize accommodations for students with disabilities.*

Academic Integrity Policy: Each student is responsible for notice of and compliance with the provisions of the Regents' [Rules and Regulations](#), which are available for inspection electronically at <http://www.utsystem.edu/bor/rules/homepage.htm>.

All students are expected and required to obey the law, to comply with the Regents' [Rules and Regulations](#), with System and University rules, with directives issued by an administrative official in the course of his or her authorized duties, and to observe standards of conduct appropriate for the University. A student who enrolls at the University is charged with the obligation to conduct himself/herself in a manner compatible with the University's function as an educational institution.

Any student who engages in conduct that is prohibited by Regents' [Rules and Regulations](#), U. T. System or University rules, specific instructions issued by an administrative official or by federal, state, or local laws is subject to discipline, whether such conduct takes place on or off campus or whether civil or criminal penalties are also imposed for such conduct.

Military Statement: If you are a military student with the potential of being called to military service and /or training during the course of the semester, you must contact me as soon as possible **before** you leave.

MATH 1309 Course Schedule

	Material for Exam 1 : chapter 1 (1.1-1.9)	
Week	Sections	Description
1	1.1, 1.2	1.1-Rectangular Coordinates 1.2-Graphs of Equations
2	1.3, 1.4	1.3- Linear Equations in Two Variables 1.4-Functions
3	1.5,1.6,1.7	1.5-Analyzing Graphs of Functions
		1.6-Library of Parent Functions
		1.7-Transformations of Functions
4	1.8,1.9	1.8-Combinations of Functions 1.9 Inverse Functions
5	Review, Exam 1	
	Material for Exam 2: Chapter 2 and Chapter 3	
	Sections	Description
6	2.1,2.3	2.1-Quadratic functions and Models 2.3-Polynomials and Synthetic Division
	Exam 1 Retake	
7	2.4, 2.5,2.6	2.4-Complex Numbers 2.5-Zeros of Polynomial Functions 2.6-Rational Functions
8	3.1,3.2	3.1-Exponential Functions and Their Graphs 3.2-Logarithmic Functions and their Graphs
	No Classes	Spring Break
9	3.3,3.4,3.5	3.3-Properties of Logarithms 3.4-Exponential and Logarithmic Equations 3.5-Exponential and Logarithmic Models
	No Classes	Cesar Chavez Day - No classes
10	Review, Exam 2	
		DROP DATE DEADLINE
	Material for Exam 3: chapter 7 and chapter 8 up to 8.4	
	Sections	Description
11	7.1,7.2	7.1- Linear and Nonlinear Systems of Equations 7.2-Two-Var Linear Systems
	Exam 2 Retake	
12	7.3,7.4	7.3-Multivariable Linear Systems

		7.4-Partial Fractions
	No classes	Spring study day
13	8.1,8.2	8.1-Matrices and Systems of Equations
		8.2-Operations with Matrices
14	8.3,8.4	8.3-The Inverse of a Square Matrix
		8.4-The Determinant of a square matrix
15	Review, Exam 3	
	NO CLASSES	Dead day
16	Final Exam	
	Exam 3 Retake	

UTEP Core Curriculum Course Addition Proposal

Course Prefix, Number, and Title: MATH 1310, Trigonometry and Conics

Proposal Approvals:

Proposal Creator:

Name: Dr. Amy Wagler, Associate Chair of Mathematical Sciences
Department: Mathematical Sciences
Email: awagler2@utep.edu
Phone: (915) 747-6847
Office: Bell Hall 311

Alternate Point of Contact:

Name: Dr. Christina Maria Mariani, Chair
Department: Mathematical Sciences
Email: mcmariani@utep.edu
Phone: (915) 747-5761
Office: Bell Hall 120

Course Information:

Type: Existing Course
Course: MATH 1310
Credit Hours: 3
Course Offered: Fall Spring Summer
TCCN: MATH 1310
Prerequisites: ([MATH 1309](#) w/C or better)

Course Description:

The content of the entire course covers topics from basic mathematics and develops them using practical and theoretical tools, building applications, and making a strong support for Calculus classes. A student passing Math 1310, Trigonometry and Conics, will be able to work with the concepts of trigonometric functions and their properties, and to apply them in problems related to other branches of Science: Calculus, Algebra, Physics, Chemistry, Biology, Pharmacy, Engineering, Statistics, etc. to work with conics (Parabola, Ellipses, and Hyperbolas), conic rotations, parametric equations.

Foundational Component Area: Mathematics

Foundational Component Area Intent: MATH 1310 focuses on developing critical thinking skills through use of practical problem solving skills and by applying trigonometric reasoning to problems related to other content areas. The course also develops students' empirical and quantitative skills through the focus on understanding trigonometric functions and their properties and application. MATH 1310 content will teach communication skills through use of oral and written explanations of student reasoning and small group work.

Core Curriculum Objectives

Critical Thinking: MATH 1310 content is designed to develop students' critical thinking skills by teaching mathematical problem solving skills. Students will be prompted to explain their reasoning when working through problems and ask critical questions about other students' work.

Communication: MATH 1310 will emphasize communication of student reasoning in both oral and written form. Students will be encouraged to orally explain problems to other students and will be required to provide written explanations of mathematical reasoning at times. Class discussions will be used to encourage student collaboration and communication.

Empirical and Quantitative Skills: MATH 1310 will directly meet this objective through the content focused on trigonometric functions, properties of these functions, and application of these functions to scientific domains. All course content is focused on developing students' empirical and quantitative skills.

Proposed Syllabus: Sample syllabus and assignments are below.

Course Assessment Plan

[Descriptions of the major assignments referenced for each category are below in the syllabus]

Critical Thinking: Critical thinking skills are assessed as major components of the homework and exams by evaluating the quality of student mathematical reasoning using the following measures of evidence:

- Written explanations of steps taken in solving problems (both using a narrative and complete mathematical explanation)
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Communication Skills: Communication skills are assessed by evaluating the ability of students to use written or oral explanations to clarify their problem solving process. This is assessed by analyzing the students' use of a narrative with correct grammar, spelling, and sound sentence structure. The arguments must also be logically organized.

- Team-led discussion presentation
- Short narratives summarizing concepts and methods in class

Empirical and Quantitative Skills: Empirical and quantitative skills are assessed through several written assignments (homework and exams) throughout the semester. This component is a core skill of this course and will be assessed using:

- Regular homework assignment requiring shown work
- In-class quizzes
- In-class exams

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Course #: MATH 1310
Course Title: Trigonometry and Conics
Credit Hours: 3
Class Key: utep ##### **(Instructors: insert your WebAssign class key here.)**

Term: _____
Course Meetings & Location: _____
Prerequisite Courses: Math 1309 (College Algebra) with a grade of at least C or appropriate placement scores.

Instructor: _____
Office Location: _____
Contact Info: 747-_____
E-mail address ____
Emergency Contact ____
Office Hrs: _____

Textbook(s), Materials: Required: Pre-Calculus by Larson, 10th edition
(available as e-book and hardcover)

Suggested: Graphing Calculator

Course Objectives (Learning Outcomes): Students are expected to have a clear understanding of the ideas of Trigonometry and Conics as a solid foundation for subsequent courses in mathematics and other disciplines as well as for direct application to real life situations.

The content of the entire course covers topics from basic mathematics and develop them using practical and theoretical tools, building applications and making a strong support for Calculus classes.

A student passing Math 1310 Trigonometry and Conics course will be able to work with the concepts of trigonometric functions and their properties, and to apply them in problems related to other branches of Science: Calculus, Algebra, Physics, Chemistry, Biology, Pharmacy, Engineering, Statistics, etc.

To work with conics (Parabola, Ellipses, and Hyperbolas), rotation of conics, parametric equations, polar coordinates, and graphs of polar equations,..., etc

Course Activities/Assignments: You will find all assignments on <http://webassign.net/> . Please use Mozilla Firefox or Google Chrome since WebAssign works best with these browsers. Unannounced quizzes may be administered in the classroom.

Assessment of Course Objectives: There will be 3 exams and a final exam. All exams, written by a committee, are administered in the classroom. A WebAssign Retake Exam will be administered in the library after each exam.

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Military Statement: If you are a military student with the potential of being called to military service and /or training during the course of the semester, you must contact me as soon as possible **before** you leave.

MATH 1310 Course Schedule

Material for Exam 1 : chapter 4 (4.1-4.8)		
Week	Sections	Description
1	4.1,4.2	4.1- Radian and Degree Measure 4.2-Trigonometric Functions: The unit Circle
2	4.3,4.4	4.3-Right Triangle Trigonometry 4.4-Trigonometric functions of any Angle
3	4.5,4.6	4.5-Graphs of Sine and Cosine Functions 4.6-Graphs of Other Trigonometric functions
4	4.7,4.8	4.7-Inverse Trigonometric functions 4.8-Applications and Models
5	Review, Exam 1	
Material for Exam 2: Chapter 5 and Chapter 6		
6	5.1,5.2	5.1-Using Fundamental Identities 5.2-Verifying Trigonometric Identities
7	5.3,5.4,5.5	5.3-Solving Trigonometric Equations 5.4-Sum and Difference Formulas 5.5-Multiple Angles and Product-To-Sum Formulas
8	6.1,6.2,6.3	6.1-Law of Sines 6.2-Law of Cosines 6.3-Vectors in the Plane
No Classes Spring Break		
9	6.4,6.5,6.6	6.4-Vectors and Dot Products 6.5-The Complex Plane 6.6-Trigonometric Form of a Complex Number
	No Classes	Cesar Chavez Day - No classes
10	Review, Exam 2	
		DROP DATE DEADLINE
Material for Exam 3: chapter 10		
11	10.2,10.3	10.2- Introduction to Conics: Parabola 10.3- Ellipses
12	10.4, 10.5	10.4- Hyperbolas 10.5-Rotation of Conics
	No classes	Spring study day
13	10.6, 10.7	10.6-Parametric Equations 10.7-Polar Coordinates
14	10.7,10.8	10.7-Polar Coordinates 10.8-Graphs of Polar Equations
15	Review, Exam 3	
	NO CLASSES	Dead day
16	Final Exam	