

COURSE PROPOSAL FORM

For complete AGSC Course Requirements & Guidelines, please refer our website: <http://stars.troy.edu>

SECTION 1 - TO BE COMPLETED BY THE INSTITUTION SUBMITTING COURSE FOR APPROVAL

Name of Institution Alabama A&M University

Course Prefix & Number MTH 115 Course Title Pre Calculus Algebra and Trigonometry

Semester Credit Hours 4.0 Does course have a laboratory? YES NO

Is what general academic area is this course currently being offered at your institution? (Select one the following)

Written Composition Humanities & Fine Arts Math & Science Social Science Other Area _____

Check all that apply:

- Initial submission
- Re-submission
- Course title/number change
- Course content change for previously approved course

Course Description (including prerequisites) as it appears in undergraduate catalog:

This course covers functions, logarithms and exponential, trigonometric functions and inverse trigonometric functions, trigonometric identities and equations, vectors, complex numbers, polar coordinates, systems of linear and quadratic equations/inequalities and the binomial theorem. MTH 115 is an intensive pre-calculus preparatory course designed for students in science, technology, engineering, and Mathematics (STEM) degree programs where MTH 125, Calculus I, is the initial course of their degree program. Prerequisite: MTH 105

MUST ATTACH A HARD COPY OF A "REPRESENTATIVE" COURSE SYLLABUS TO THIS FORM

Contact information for person submitting proposal (name, position, mailing address, telephone number, and email address)

Mohammed R. Karim, Interim Chair, Dept. Of Math, 4900 Meridian Street, P. O. Box326, Normal, Alabama, (256) 372-4835, mohammed.karim@aamu.edu

Required Institution Signatures: Department Head/Chair M. Karim Date 7/18/2011
 College Dean W. E. Ely Date 7/18/11
 Academic VP or Provost Daniel Ward Date 7/21/11

SECTION 2 - TO BE COMPLETED BY AGSC ACADEMIC COMMITTEE CHAIR

NAME OF ACADEMIC COMMITTEE: _____

ACADEMIC COMMITTEE RECOMMENDATION: Recommended for AGSC Approval Not Recommended for AGSC Approval

VOTING RESULTS: _____ # of YES votes _____ # of NO votes _____ # not voting/abstaining

SELECTED AREA OF APPROVAL:

- AREA I - Written Composition
- AREA II - Humanities & Fine Arts
- AREA III - Math & Science
- AREA IV - Social Science

If NOT RECOMMENDED, please give explanation:

Committee Chair Signature _____ Date _____

SECTION 3 - TO BE COMPLETED BY AGSC CHAIR

AGSC APPROVAL:

- APPROVED
- NOT APPROVED
- TABLED

AGSC APPROVAL STAMP

IF TABLED, REASON WHY? _____

AGSC Chair: _____ Date _____

AFTER SECTION 1 (ABOVE) IS COMPLETE, MAIL FORM & COURSE SYLLABUS TO:
AGSC/STARS PROGRAM
1101 SOUTH BRUNDIDGE STREET
ELC BUILDING - SUITE 107
TROY UNIVERSITY
TROY, AL 36081
 THE STARS OFFICE STAFF WILL SEND OUT PROPOSAL TO THE APPROPRIATE COMMITTEE AND, IF RECOMMENDED FOR APPROVAL, WILL THEN BRING THE COURSE BEFORE THE AGSC FOR A FINAL VOTE.

SCHOOL OF ARTS SCIENCES
Alabama A&M University
Normal, AL 35762

COURSE SYLLABUS

Summer 2011

Course Number	MTH 115
Course Title	Precalculus Algebra and Trigonometry
Call Number/Section	40148 / 0
Class Times	11:00 - 12:20
Class Location	NCB 103
Prerequisites	MTH101, MTH105, or a satisfactory score on a placement test
Textbook	Barnett, Ziegler, Byleen, and Sobecki, COLLEGE ALGEBRA WITH TRIGONOMETRY, 9 TH Edition, McGraw-Hill, 2011
Instructor	Dr. Chunhui Yu
Office	CH 218
Office Hours	M TWRF: 8:30-9:30, 1:30 - 2:30 or by Appointment
E-mail address	Chunhui.yu@aamu.edu
Telephone number	(256) 372- 4836

COURSE DESCRIPTION

This course covers the algebra of polynomial, rational, exponential and logarithmic functions; algebraic equations; linear and quadratic equations; linear and quadratic inequalities; systems of equations and inequalities, the binomial theorem, the study of (circular) trigonometric functions; inverse trigonometric functions; trigonometric identities; and trigonometric equations. The course also covers vectors, complex numbers, DeMoivre's Theorem, and polar coordinates. Additional topics may include conic sections, sequences, and using matrices to solve linear systems. (Offered Fall, Spring, Summer)

STUDENT LEARNING OUTCOMES

This course is designed to provide students with algebraic, graphing, and trigonometric skills. Upon completion of the course, the student should be able to:

- 1) Solve quadratic equations.
- 2) Demonstrate knowledge of polynomial functions including finding all zeros of function
- 3) Solve exponential and logarithmic equations
- 4) Measure angles
- 5) Know properties of trigonometric functions
- 6) Graph Trigonometric functions

CLASS FORMAT

1. Cell phones should be turned off or placed on silent/vibrate mode upon entering the classroom. Cell phones are not allowed insight on quiz or test dates.
2. Quizzes will be announced the class period prior to the quiz. On the day of a quiz, the quiz will be administered the first 20 minutes of the class period. Students are not permitted to leave afterwards.
3. Attendance, effort, and practice are the keys to success in this class.
4. No earpieces allowed in class (Ipod, MP3, etc.)
5. NO Graphing Calculators allowed

COURSE OUTCOMES

Upon completion of the course, students will possess the necessary algebraic and trigonometric skills required to be successful in the Calculus series.

SERVICES FOR PERSONS WITH DISABILITIES

The University provides environmental and programmatic access for persons with documented disabilities as defined in Section 504 of the Rehabilitation Act of 1973 and the Americans with Disability Act of 1990. Any student who desires information or assistance in arranging needed services for a disabling condition should contact the Director of Special Students Services, Student Center, Room 203, (256) 372-4263.

ATTENDANCE POLICY

A student is permitted one (1) unexcused absence for each credit hour generated by the class. For example, two (2) absences are allowed in a two-hour class.

TUTORIAL ASSISTANCE

Tutorial assistance for undergraduate courses can be obtained from the Tutorial Assistance Network (TAN), a subsidiary of the Office of Academic Support Services. TAN is located in Room 100C Buchanan Hall. The telephone number is 256-372-5487.

GRADE DETERMINATION

Course Requirements	Points Awarded	Percent of Total
4 major tests	100 points per test	60%
7-8 Quizzes	10 – 15 points per quiz	15%
Final (Comprehensive)	100 points	25%
<u>Semester Average</u>		<u>Semester Grade</u>
90 – 100		A
80 – 89		B
70 – 79		C
60 – 69		D
UNDER 60		F

DESCRIPTION OF SPECIFIC ASSIGNMENTS

Special assignments such as PowerPoint presentations or research projects may be required based on the instructor's discretion

COURSE OUTLINE

Dates*	Topics	Assignments
Week 1	R.1 Algebra and Real Numbers R.2 Exponents and Radicals R.3 Polynomials: Factoring R.4 Rational Expressions 1.4 Complex Numbers 1.5 Quadratic Equations	R.1 Exercises 1-16 , 29-34, 41-48 R.2 Exercises 1-26, 51-64, 65-86 R.3 Exercises 1-8, 15-22, 43-62 R.4 Exercises 1-10, 19-36, 43-54 1.4 Exercises 7-44, 53-70, 79-84 1.5 Exercises 5-12, 13-26, 33-56
Week 2	2.1 Cartesian Coordinate System 2.2 Distance and Midpoint 2.3 Equations of a Line	2.1 Exercises 1-22, 31-46, 63-66 2.2 Exercises 5-20, 41-42, 61 2.3 Exercises 19-66
Week 3	3.1 Functions 3.2 Graphing Functions 3.3 Transformation of Functions 3.4 Quadratic Functions 3.5 Composition 3.6 Inverse Functions	3.1 Exercises 7-24, 27-34, 47-62 3.2 Exercises 9-14, 27-32, 37-46, 59-64 3.3 Exercises 11-36, 45-62 3.4 Exercises 7-12, 25-34, 69-74 3.5 Exercises 29-42, 43-60 3.6 Exercises 7-30, 75-84
Week 4	4.1 Polynomial Functions Test 1	4.1 Exercises 9-16, 25-40, 45-54
Week 5	4.2 Real Zeros 4.3 Complex Zeros	4.2 Exercises 19-36, 47-52 4.3 Exercises 5-28, 35-40, 55-68
Week 6	4.4 Rational Functions 5.1 Exponential Functions	4.4 Exercises 11-30, 39-52, 57-64 5.1 Exercises 7-24, 33-50, 65-68
Week 7	5.2 Exponential Models	5.2 Exercises 5-12, 13-36

*Dates are estimates. Examinations on dates other than those listed will be announced at least one week in advance.

	5.3 Logarithmic Functions	5.3 Exercises 5-18, 23-38, 55-72, 79-86
Week 8	5.4 Logarithmic Models 5.5 Exponential/Logarithmic Equations	5.4 Exercises 5-24 5.5 Exercises 7-48, 49-56, 69-90
	Test 2	
Week 9	6.1 Angles and Their Measure 6.2 Right Triangle Trigonometry	6.1 Exercises 7-22, 23-30, 57-68 6.2 Exercises 7-18, 25-36, 63-76
Week 10	6.3 A Unit Circle Approach	6.3 Exercises 7-42, 49-58, 73-76, 79-88
Week 11	6.4 Properties of Trig Functions	6.4 Exercises 7-16, 19-50, 81-84
Week 12	6.5 Graphing Trigonometric Functions Amplitude Periods Phase Shifts Test 3	6.5 Exercises 1-18, 23-30, 57-72
Week 13	6.6 Inverse Trigonometric Functions	6.6 Exercises 7-18, 25-30, 35-52, 65-72
Week 14	7.1 Basic Trigonometric Identities	7.1 Exercises 5-30, 53-74, 85-92
Week 15	7.2 Sum and Difference Identities 7.3 Double and Half Angle Identities	7.2 Exercises 25-46, 51-62, 81-84 7.3 Exercises 13-38, 55-62, 77-82
Week 16	7.4 Product-Sum Identities Sum-Product Identities 7.5 Trigonometric Equations Test 4 and Semester Review	7.4 Exercises 15-34, 39-46, 55-60 7.5 Exercises 5-28, 41-56, 77-80, 83-90