COURSE SYLLABUS

Tunxis Community College

Education That Works For a Lifetime

Course Title:	Calculus I	**Date submitted:**	Spring 2019 (AAC: 19-09)
Department:	STEAM		
Curriculum:	Mathematics		

Course Descriptors: Make certain that the course descriptors are consistent with college and Board of Trustees policies, and the current course numbering system.

Course Code: (eg. ACC 101)	MAT*254
Course Type:	L

A: Clinical B: Lab D: Distance Learning
I: Individual/Independent L: Lecture N: M: Seminar Internship
P: Practicum U: Studio
X: Combined Lecture/Lab Y: Combined Lecture/Clinical/Lab Z: Combined Lecture/Studio

Elective Type:	G/LAS/M

AH: Art History E: English FA: Fine Arts FL: Foreign Language
G: General HI: History HU: Humanities LAS: Liberal Arts & Sciences M: Math S: Science SS: Social Science

Credit Hours:	4
Developmental: (yes/no)	No
Contact Hours: Lecture:	4
Clinical:	0
Lab:	0
Studio	0
Other:	0
TOTAL:	4
Class Maximum:	30
Semesters Offered:	F/Sp/Su

Prerequisites:

C- or better in Precalculus (MAT*186)

Corequisites:

None

Other Requirements:

None

Catalog Course Description:

This course covers the following topics: limits, continuity, and differentiation of algebraic and transcendental functions, including trigonometric, exponential, logarithmic, inverse trigonometric, and hyperbolic functions. Also included are applications of the derivative, antidifferentiation, definite integrals, and the fundamental theorem of calculus.

Topical Outline: List course content in outline format.

1. Review of functions
2. Limits of functions
3. The derivative of algebraic and transcendental functions
4. Applications of the derivative
5. Integrals and the fundamental theorem of calculus

Outcomes: Describe measurable skills or knowledge that students should be able to demonstrate as evidence that they have

Upon successful completion of this course, the student will be able to do the following:

COURSE:

1. calculate limits using the limit laws
2. use the precise definition of a limit

mastered the course content.	3. determine continuity of a function 4. find tangents, velocities and other rates of change 5. calculate derivatives of algebraic, trigonometric, exponential, logarithmic, inverse trigonometric, and hyperbolic functions 6. apply derivatives to curve-sketching and application problems 7. calculate antiderivatives 8. calculate definite integrals using the definition and using the Fundamental Theorem of Calculus
	PROGRAM: *(Numbering reflects Program Outcomes as they appear in the college catalog)*
	GENERAL EDUCATION: *(Numbering reflects General Education Outcomes as they appear in the college catalog)* **7. Quantitative Reasoning -**Students will learn to recognize, understand, and use the quantitative elements they encounter in various aspects of their lives. Students will develop a habit of mind that uses quantitative skills to solve problems and make informed decisions. **Demonstrates**: Interprets numerical information and applies sufficient laws of logic and mathematics to solve problems using numbers, symbols, graphs and/or descriptions. **Does Not Demonstrate:** Misinterprets numerical information or insufficiently applies laws of logic and mathematics to solve problems using numbers, symbols, graphs and/or descriptions.
Evaluation: List how the above outcomes will be assessed.	**Assessment will be based on the following criteria:** Quizzes Exams Projects as assigned
Instructional Resources: List library (e.g. books, journals, on-line resources), technological (e.g. Smartboard, software), and other resources (e.g. equipment, supplies, facilities) required and desired to teach this course.	**Required:** None **Desired:** None
Textbook(s)	Refer to current academic year printout.