COURSE #: 20100 **COURSE TITLE: Calculus I** CAREER: undergraduate CATEGORY: regular TERM OFFERED: Fall, Spring, Summer PRE-REQUISITES: Math 19500 or placement PRE/CO-REQUISITES: HOURS/CREDITS: 4HR/WK; 4 CR DATE EFFECTIVE:08/01/18 COURSE SUPERVISOR: Bianca Santoro	**CATALOG DESCRIPTION:** Limits, continuity, derivatives, differentiation and its applications, differentials, definite and indefinite integrals. Text: Thomas' Calculus: Early Transcendentals (14 Heil, and Weir (Pearson).

COURSE LEARNING OUTCOMES

After taking this course, the student should be able to:	Contributes to Departmental Learning Outcome(s):
1. Evaluate limits, including the use of L'Hôpital's Rule.	a, b, e1, e2
2. Differentiate algebraic and transcendental functions.	a, b, e1, e2
3. Solve Maximum and Minimum problems.	a, b, c, e1, e2
4. Solve Related Rates problems.	a, b, c
5. Apply methods of calculus to sketch curves.	a, b
6. Anti-differentiate algebraic and trigonometric functions.	a, b, c, e1, e2
7. Approximate integrals by Riemann sums.	e1, e2, g
8. Evaluate elementary integrals using substitution.	a

COURSE ASSESSMENT TOOLS

1. Term average, based mostly on in-class examinations: 60% of grade
2. Comprehensive written final exam: 40% of grade.

DEPARTMENTAL LEARNING OUTCOMES

The mathematics department, in its varied courses, aims to teach students to

a. perform numeric and symbolic computations
b. construct and apply symbolic and graphical representations of functions
c. model real-life problems mathematically
d. use technology appropriately to analyze mathematical problems
e. state (e1) and apply (e2) mathematical definitions and theorems
f. prove fundamental theorems
g. construct and present (generally in writing, but, occasionally, orally) a rigorous mathematical argument