



Korea University International Summer Campus (KU ISC) 2018

Embark on a unique summer

June 26, 2018 ~ August 2, 2018

ISC101A – Calculus I

I . Instructor

Professor : Wayne Smith
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Home Institution : University of Hawaii
Office : 305 Woodang hall
Office Hours : 2:00pm – 2:50pm Monday, Tuesday, Wednesday, Thursday

II. Textbook

Required : Any standard calculus textbook. Lectures will follow the recommended
Textbook : text below.
Recommended : *University Calculus (Alternate Edition)* by J. Hass, M. Weir, and
text : G. Thomas; Addison Wesley
ISBN-13: 978-0321471963

III. Course Description and Objectives

This introductory course will cover the basic concepts of one variable calculus, including limits, differentiation with applications, and integration. The approach is more computational than theoretical. The course material is fundamental for majors in mathematics, the sciences, and engineering. Students enrolling in the course are assumed to have basic knowledge of algebra and trigonometry.

Upon successful completion Calculus I, the student will have an understanding topics listed in the class outline below, be able to solve routine problems, and be able to apply the ideas.

IV. Grading

Attendance : 4 %
Midterm Exam : 30 %
Final Exam : 30 %
Quiz : 12 %
Assignments : 24 %

V. Class Outline

Date	Topic	Chapter	Remarks
June 26 (Tue)	Orientation Day		
June 27 (Wed)	A quick review of pre-calculus; introduction to limits	1; 2.1, 2.2	
June 28 (Thu)	Limits of functions, limit laws; precise definition of limit	2.2, 2.3	
June 29 (Fri)	One sided limits and limits at infinity; infinite limits and asymptotes	2.4, 2.5	
July 2 (Mon)	Continuity; Tangents and derivatives at a point	2.6, 2.7	
July 3 (Tue)	Derivative as a function; differentiation rules	3.1, 3.2	
July 4 (Wed)	Derivatives as rates of change; derivatives of trig functions	3.3, 3.4	
July 5 (Thu)	The Chain Rule; QUIZ 1 covering Chapter 2	3.5	
July 9 (Mon)	More chain rule; implicit differentiation; related rates	3.6, 3.7	
July 10 (Tue)	More related rates; linearization and differentials	3.7, 3.8	
July 11 (Wed)	Absolute and local extrema; Review for Exam 1	4.1	
July 12 (Thu)	Exam 1 , covering Chapters 2 and 3		
July 16 (Mon)	Critical points, the Mean Value Theorem and some of its applications	4.1, 4.2	
July 17 (Tue)	Monotonicity, concavity, and sketching of curves; applied optimization problems	4.3, 4.4, 4.5	
July 18 (Wed)	More applied optimization; antiderivatives	4.5; 4.7	
July 19 (Thu)	area estimates; sigma notation, Riemann sums;	5.1; 5.2	
July 23 (Mon)	The definite integral and its basic properties	5.3	
July 24 (Tue)	The Fundamental Theorem of Calculus	5.4	
July 25 (Wed)	Indefinite integrals and substitution	5.5	
July 26 (Thu)	Definite integrals and substitution; QUIZ 2 covering Chapter 4 and part of Chapter 5	5.5	
July 30 (Mon)	Areas between curves	5.6	
July 31 (Tue)	Review for Exam 2		
Aug 1 (Wed)	Exam 2 , covering the whole course		
Aug 2 (Thu)	Consultation on grades; graduation ceremony		

VI. Additional information

Grades will be based on attendance and conduct in class (20 points), homework (120 points), quizzes (60 points), Exam #1 (150 points), and Exam #2 (150 points). Grades for the course will be based on the total points students get of the 500 possible points. Regular attendance is expected and students are expected to read ahead in the text the material corresponding to the lectures.

The homework will be in the form of Worksheets, which will be distributed in class. Blank worksheets can also be found on the webpage

www.math.hawaii.edu/~wayne/calcl1_2018.html

Late worksheets will not be accepted, but the lowest 2 scores on the 10 worksheets will be dropped.