

OKLAHOMA STATE UNIVERSITY

Oklahoma City

Department of Mathematics

Instructor: Ricky Streight

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I. COURSE: Math 2123 TECHNICAL CALCULUS I (3 credit hours) Spring 2015

II. COURSE DESCRIPTION: First half of a terminal sequence in Calculus offered in one semester for students in the School of Technology. Contents include functions and graphs, differential and integral calculus with applications. Prerequisites: Math 1513 (College Algebra) and 1613 (Trigonometry).

III. TEXT: Essential Calculus, by Wright, Hurd, and New
Hawkes Learning, 2nd Edition, 2008
ISBN: Student Hardcover: 978-0-918091-95-6
Student Bundle: 978-0-918091-93-2

The textbook is **required** for all sections of this course, regardless of the method of instruction.

IV. Next Course in Sequence: Math 2133 (Technical Calculus II)

V. GOAL STATEMENT:

The general education curriculum is designed to help students develop math, science and communication skills; gain a sense of social, ethical, and cultural values; and appreciate the application of these values in an increasingly technological and global society.

The following institutional goals supported in this class are:

The student should be able to apply fundamental mathematical principles.

The student should be able to demonstrate skills necessary to be a contributing member of society in a continuously changing global society.

VI. COURSE OBJECTIVES:

After completion of the course the student should be able to:

- A. State the definition of a straight line, circle, parabola, ellipse and hyperbola, and know the standard equation for each and sketch the graph of each.
- B. Identify and find the equation, given conditions that describe a set of points.
- C. State intuitively the meaning of limits.
- D. Evaluate the limit of a sum, product, quotient and composite of two or more functions.

- E. Calculate the derivative using the definition of the derivative.
- F. Apply the basic rules to find the derivative of a sum, product, and quotient and apply the Chain Rule for differentiation.
- G. Differentiate Implicitly.
- H. Apply differentiation to real world applications.
- I. Calculate the differential.
- J. Define the six trigonometric functions.
- K. Find the derivatives of the six trigonometric functions.
- M. Find the derivative of the logarithmic and exponential functions.

VII. COURSE REQUIREMENTS AND INFORMATION:

- A. Prerequisites: Math 1513 (College Algebra) and Math 1613 (Trigonometry) or Math 1715 (College Algebra and Trigonometry).
- B. Special Information: This is an online class. Homework will be conducted in the Hawkes software system. See my website for further information on getting started in Hawkes: www.osuokc.edu/rickyws

Free tutoring is available for all math students at the Learning Center.

- C. Attendance: This is an online class. Attendance is based on progress in the Hawkes software.
- D. Withdrawal and Incomplete Grades:

WITHDRAWALS: Any student may drop, withdraw, or change to audit not later than the 6th week of classes. This must be processed through the Admissions Office and does not require the instructor's approval. All students remaining on the roll after the 6th week of classes will receive a letter grade.

ADMINISTRATIVE WITHDRAWAL POLICY:

With department/division approval, faculty may choose to **AW** (administratively withdraw) a student who meets one or more of the following criteria:

1. Has **never attended** class by the end of the first three weeks (the first two weeks for an eight-week course) of classes;
2. Has **consecutively** missed 25 percent of the class meetings for a course (2 classes in a row); or
3. For other reasons considered by the faculty to be appropriate.

Students who attend class intermittently are **not** eligible for an **AW**.

The specific guideline (1 - 3 above) that justifies an **AW** must be noted on the **AW** form; complete instructions for administrative withdrawal and the full **AW** policy are printed on the back of each Administrative Withdrawal form.

INCOMPLETES: The incomplete grade (**I**) may be given only to a student who has completed more than 70% of the course work with a passing grade, has a valid reason for not being able to complete the course, and has the instructors approval.

The agreement for Incomplete Grade Form signed by the student and the instructor must accompany the original grade roll at the completion of the grading period.

E. Grading: There will be three tests, one comprehensive final, and other activities such as homework, internet assignments, and attendance. Make-up tests will be given only if there is a valid reason for missing a test, such as illness, family emergency, etc. and must be made up no later than one week after returning from absence and before the next scheduled test.

Grading Scale:	<u>Percentage</u>	<u>Letter Grade</u>
	90% or higher	A
	80-89	B
	70-79	C
	60-69	D
	59% or below	F

Breakdown:	<u>Assignment</u>	<u>Final Grade Portion</u>
	Lessons	25%
	Test 1	25%
	Test 2	25%
	Test 3	25%

F. **Academic Dishonesty or Misconduct:** Academic dishonesty or misconduct is not condoned nor tolerated at institutions within the Oklahoma State University system. Academic dishonesty is behavior in which a **deliberately fraudulent misrepresentation is employed in an attempt to gain undeserved intellectual credit, either for oneself or for another.** Academic misconduct is behavior that results in intellectual advantage obtained by violating specific standards, but without deliberate intent or use of fraudulent means. Academic dishonesty or misconduct cases are governed by the OSU-OKC Campus Student Rights and Responsibilities Code. **Copies of the Student Rights and Responsibilities can be obtained from the Student Activities and Campus Life Office or an electronic version is also available online at <http://www.osuokc.edu/rights/>.**

VIII. A.D.A Policy: OSU-OKC complies with Section 504 of the Rehabilitation Act and the Americans with Disabilities Act. If any member of this class feels that he/she has a disability and needs special accommodations of any nature whatsoever, please request special accommodations by contacting the Office of Services to Students with Disabilities, located on the first floor of the Student Center, Office 112, or call 945-3385. All accommodations must be approved by the Services to Students with Disabilities Office.

IX. Electronic Device Policy:

Cell phones and other electronic devices are disruptive to the class. If a student's work or family situation requires the student to keep the device turned on during class, the student must turn the phone to a silent or vibrate mode. If a student must receive a call during class, the student will leave the room. **A student may not make a call during class. Cell phones and all electronic devices may not be used during an exam unless stipulated by an instructor.** Use of a cell phone or electronic device during an exam is considered academic misconduct, and the student will be subject to the appropriate penalties. This policy may be strengthened by the instructor.

Graphing calculators are considered electronic devices. Calculators with built-in Computer Algebra Systems (CAS) are **not allowed** in any math class.

Prohibited calculators in this category include:

- Casio: model numbers that begin with CFX-9970G
- Texas Instruments: model numbers that begin with TI-89, TI-92 or TI-Nspire
- Hewlett-Packard: HP 48GII and model numbers that begin with HP 40G or HP 49G

This policy may be strengthened by the instructor.

X. Unattended Children Policy:

“For personal safety of children and potential problems in supervision, children should not be at any location on campus without adult supervision. No children are permitted in classrooms, laboratories, teaching areas or the Library.” OSU-OKC 2008-2009 Catalog, pg 12.

XI. General Education Goal Statement (Visit the OSUOKC website for a list and description of the general education goals.)

XII. Syllabus Modification Statement: Faculty have the right to change or modify the course syllabus materials during the academic year. Any changes will be shared with students. Every attempt will be made to provide those changes in writing.

XIII. Institutional Statement: Each student is responsible for being aware of the information contained in the OSU-OKC Catalog, Student Handbook, and semester information listed in the Class Schedule.

XIV. Global Education Mission: Global education is an institutional commitment to providing learning environments that provide a cross-cultural global perspective through all facets of the educational process. This institutional commitment to Global Education shall manifest itself throughout the entire institution, providing support for diversity, international, and inter-cultural educational opportunities. These opportunities will be institutionalized through curricular and co-curricular activities. This institutional commitment to Global Education will assist OSU-OKC in accomplishing its mission of preparing students for an increasingly technological and global society.

XV. COURSE OUTLINE AND TENTATIVE SCHEDULE:

The course schedule is located at

<http://www.streight.com/osuokc/tech%20calc%20I/tcdates.html>

Spring 2015