

LAREDO COMMUNITY COLLEGE GENERAL COURSE SYLLABUS

INSTRUCTOR:	Humberto Laurel
DEPARTMENT:	Mathematics
PHONE NUMBER/EXTENSION and EMAIL ADDRESS:	(956) 721-5426
OFFICE HOURS:	By appointment only
COURSE TITLE:	Calculus I
COURSE NUMBER:	Math 2413
COURSE LEVEL:	College
CONTACT HOURS (RANGE FOR STATE INFORMATION):	48 Hrs
LAB:	None
TEXTBOOKS:	Thomas' Calculus Early transcendentals, 12 th edition.
CORE or NON-CORE Course	CORE
COURSE DESCRIPTION:	Limits and continuity; the Fundamental Theorem of Calculus; definition of the derivative of a function and techniques of differentiation; applications of the derivative to maximizing or minimizing a function; the chain rule, mean value theorem, and rate of change problems; curve sketching; definite and indefinite integration of algebraic, trigonometric, and transcendental functions, with an application to calculation of areas. MATH 2412—Pre-Calculus Math or equivalent preparation
LEARNING OUTCOMES	Upon successful completion of this course, students will: <ol style="list-style-type: none"> 1. Develop solutions for tangent and area problems using the concepts of limits, derivatives, and integrals. 2. Draw graphs of algebraic and transcendental functions considering limits, continuity, and differentiability at a point. 3. Determine whether a function is continuous and/or differentiable at a point using limits. 4. Use differentiation rules to differentiate algebraic and transcendental functions. 5. Identify appropriate calculus concepts and techniques to provide mathematical models of real-world situations and determine solutions to applied problems. 6. Evaluate definite integrals using the Fundamental Theorem of Calculus. 7. Articulate the relationship between derivatives and integrals using the Fundamental Theorem of Calculus. 8. Optional: Find the area between curves. 9. Optional: Integrate using basic substitution

	techniques.
COURSE OBJECTIVES OR EXEMPLARY OBJECTIVES	<p>The objective of the mathematics component of the core curriculum is to develop a quantitatively literate college graduate. Every college graduate should be able to apply basic mathematical tools in the solution of real-world problems.</p> <p><u>Exemplary Educational Objectives</u></p> <ol style="list-style-type: none"> 1. To apply arithmetic, algebraic, geometric, higher-order thinking, and statistical methods to modeling and solving real-world situations. 2. To represent and evaluate basic mathematical information verbally, numerically, graphically, and symbolically. 3. To expand mathematical reasoning skills and formal logic to develop convincing mathematical arguments. 4. To use appropriate technology to enhance mathematical thinking and understanding and to solve mathematical problems and judge the reasonableness of the results. 5. To interpret mathematical models such as formulas, graphs, tables and schematics, and draw inferences from them. 6. To recognize the limitations of mathematical and statistical models. 7. To develop the view that mathematics is an evolving discipline, interrelated with human culture, and understand its connections to other disciplines.
SCANS COMPETENCIES	Refer to attachment
SCANS ASSESSMENT	C1, 5, 6, 7, 9, 10, 18 F1, 3, 4, 5, 6, 9, 10, 12
TEACHING STRATEGIES METHODS OF INSTRUCTION:	Lecture
OUTCOMES ASSESSMENT:	See Instructors 1st day handouts
METHODS AND CRITERIA FOR EVALUATION:	Homework – 24% Quizzes – 24% Tests – 32% Final Exam – 20%
GRADING SCALE:	A = 100-90% B = 89-80% C = 79-70% D = 69-60% F= 59% or below NC= No credit (for developmental courses)

	<p>Students must access the Semester Progress Report and Final grades through PasPort (http://passport.laredo.edu)</p> <p>Instructors will notify students of the window of availability for grades.</p>
<p>ATTENDANCE REGULATIONS</p>	<p>ATTENDANCE REGULATIONS</p> <p>A student is required to attend classes to remain enrolled. A student will be dropped from the class by the instructor according to College Attendance Regulations; however, a student may be reinstated by the Division Dean upon the recommendation of the instructor(s) and the Department Chair. An agreement from the student to make up all of the missed assignments, lab times and/or tests is required.</p> <p>A student has the right to initiate a drop request from any or all classes by informing the instructor and submitting a drop slip to the Registration Center or through PasPort at www.laredo.edu.</p> <p>It is advised that a student contact Financial Aid Center at (956) 721-5361 prior to dropping a course.</p> <p><u>Regular Semester</u></p> <p>During a regular semester, students will be dropped after being absent:</p> <ol style="list-style-type: none"> 1- For six consecutive lecture hours on Monday-Wednesday-Friday schedule, 2- For two consecutive classes that meet once a week, 3- For four consecutive lecture hours on Tuesday-Thursday or Monday-Wednesday or Saturday-Sunday schedule, or 4- For 20 percent of the total class time. <p>A grade of "W" will be given through the Friday of the twelfth week of the semester for all drops initiated by the instructor or by the student (www.laredo.edu via PasPort). After the Friday of the twelfth week of the semester, a grade of "F" will be given. Exceptions require the approval of the Vice-President of Instruction.</p> <p><u>Summer Courses:</u></p> <p>During a summer session, students will be dropped after being absent for any of the following:</p>

- 1- For four class meetings on a Monday through Friday schedule,
- 2- For two class meetings on a Tuesday, Wednesday, Thursday schedule,
- 3- For three class meetings on a Monday through Thursday schedule,
- 4- For two class meetings on a Monday, Tuesday, Wednesday schedule,
- 5- For two class meetings on a Monday-Wednesday or Saturday-Sunday schedule, or
- 6- For 20 percent of the total class time.

A grade of "W" will be given through the Thursday of the fourth week of the summer session for all drops initiated by the instructor or by the student. After the Thursday of the fourth week of the summer session, a grade of "F" will be given. Exceptions require the approval of the Vice President of Instruction.

Responsibility for class attendance rests with the student. Regular and punctual attendance is expected.

Instructors must drop students in a timely manner and in accordance with the College's attendance policy to comply with the requirements of external funding agencies. The last day that the student attended the class must be included in the drop slip. It is the student's responsibility to ensure that drop slips be completed and processed, whether student-requested or faculty-initiated.

Online Student Attendance Guidelines

A student is required to attend classes or log into online classes to remain enrolled. A student will be dropped from the class by the instructor according to College Attendance Regulations; however, a student may be reinstated by the Division Dean upon the recommendation of the instructor(s) and the Department Chair. An agreement from the student to make up all of the missed assignments, lab times and/or tests is required.

Students have the right to initiate a drop request from any or all classes by informing the instructor(s) and submitting a drop slip to the Registration Center or through PasPort at www.laredo.edu. Online students

must complete and submit the electronic drop form available within their course shell.

During a regular semester, a student will be dropped after being absent for any of the following:

- 1-Six consecutive lecture hours on Monday-Wednesday-Friday schedule,
- 2- Twice in row in a class that meets once a week,
- 3- Four consecutive lecture hours on Tuesday-Thursday or Monday-Wednesday or Saturday-Sunday schedule,
- 4- 20 percent of the total class time,
- 5- Failing to log into the online class prior to the census class day (twelfth class day during a regular semester),
- 6- Failing to log into the online class prior to the census class day (sixth class day during an eight week flex entry course), or
- 7- Failing to log into the online class fourteen consecutive days during a regular semester.

A grade of "W" will be given through the Friday of the twelfth week of the semester for all drops initiated by the instructor or by the student. After the Friday of the twelfth week of the semester, a grade of "F" will be given to students that exceed the allowed number of absences, even if they continue to attend or login to the course.

During a summer session, a student will be dropped after being absent for any of the following:

- 1- Four class meetings on a Monday through Friday schedule,
- 2- Two class meetings on a Tuesday, Wednesday, Thursday schedule,
- 3- Three class meetings on a Monday through Thursday schedule,
- 4- Two class meetings on a Monday, Tuesday, Wednesday schedule,
- 5- Two class meetings on a Monday-Wednesday schedule,
- 6- 20 percent of the total class time,
- 7- Failing to log into the online class prior to the census class day (seventh class day during a summer session),
- 8- Failing to log into the online class prior to the census class day (sixth class day during an eight week flex entry course), or
- 9- Failing to log-in seven consecutive days during a summer session.

	<p>Absence From Final Examinations: A student who is absent from a final examination receives a grade of "0" for the examination and a grade of "F" for the course. Any students authorized to be absent from a final examination receive a grade of F* on their transcript until they take the final examination. Such students must take the final exam within four months. Final exams cannot be re-taken</p> <p>Other Policies (LCC and State-Wide) A. 3-peat—If a student signs up for a class for a third time, even if he/she dropped or failed it before, the State will not provide funding for that student and the student will be required to pay an additional fee. B. 6 W’s—Beginning Fall 2007, students cannot drop more than 6 classes throughout their college career. Any subsequent drops will become F’s. The rule includes credits earned at all Texas colleges/universities, and W’s will carry over when transferring to other institutions. C.. Finishing on time—The State expects students to graduate on time. Students who obtain 90 or more credit hours at a Community College are no longer eligible for financial aid.</p>
SPECIAL SERVICES CENTER	<p>A student with disabilities, including learning disabilities, who wishes to request special accommodations in this class should notify the Special Services Center. The request should be made early in the semester so that appropriate arrangements may be made. In accordance with Federal Law, a student requesting accommodations must provide documentation of his/her disability to the Special Services Counselor. For additional information, visit the Special Services Center at:</p> <ul style="list-style-type: none"> • Fort Macintosh Campus - KCC room 213 or call 721-5137. • South Campus – Billy Hall Building A Room 121 or call 794-4137 <p>The student who needs note-taking and/or test-taking accommodations must notify the faculty member prior to the first exam.</p> <p>A pregnant student is required to meet all course/program outcomes, including attendance.</p>

	<p>There may be contaminants present in clinical area(s) that could adversely affect a fetus. It is advisable for the student to contact her obstetrician, once pregnancy has been confirmed, to ensure that there are no medical concerns/limitations to continuing their courses.</p>
<p>GRADE APPEAL</p>	<p>A student who wishes to question the final grade earned in a course or class activity should first discuss the situation with the instructor who issued the grade. If the issue is not resolved, the student should contact the appropriate Department Chairperson to request a review of the grade.</p> <p>If the student is not satisfied with the Department Chairperson's decision, the student may contact the appropriate Dean of Instruction for assistance related to the grade appeal. Established departmental procedures will be utilized to resolve student grade appeals. After all other avenues have been exhausted, the student may request a review of the grade by the Vice-President for Instruction. Student grades are an academic matter; therefore, there is no further appeal beyond the Office of the Vice-President for Instruction.</p> <p>Students have two weeks (10 working days) after a final course grade is issued to appeal it. Students have one week (five working days) after an activity grade is issued to appeal it. Exceptions require the approval of the Vice-President for Instruction.</p>
<p>CLASSROOM ETIQUETTE:</p>	<p style="text-align: center;">Code of Student Conduct & Discipline</p> <p>Each student is expected to be fully acquainted with all published policies, rules, and regulations of the college, copies of which shall be available to each student for review at the Office of Dean of Student Affairs. Laredo Community College will hold each student responsible for compliance with these policies, rules, and regulations. The student is responsible for obtaining published materials to update the items in this Code. Students are also expected to comply with all federal, state, and local laws. This principle extends to conduct off campus which is likely to have an adverse effect on Laredo Community College or on the educational process.</p> <p style="text-align: center;">Student Misconduct</p> <p>Each student is expected to conduct him/herself in a manner consistent with the college's functions as an educational institution. Specific examples of misconduct</p>

and the disciplinary process is located at www.laredo.edu (go to Student Information, then Student Handbook).

Use of Personal Electronic Devices

The use of an electronic device shall not interfere with the instructional, administrative, student activities, public service, and other authorized activities on College District premises. Unless prior authorization is obtained from the instructor or respective College District official, the use of an electronic device is expressly prohibited in classrooms, laboratories, clinical settings, and designated quiet areas on College District premises. Certain violations of this policy may be excused in the case of emergencies or other extenuating circumstances provided that prior approval is obtained from the instructor or respective College District official.

The use of electronic equipment capable of capturing still or moving images in any location where individuals may reasonably expect a right to privacy is not authorized on College District premises. Noncompliance with these provisions shall be considered a violation of Board adopted policy and shall warrant appropriate disciplinary action.

Academic Dishonesty:

The college expects all students to engage in all academic pursuits in a manner that is beyond reproach. Students will be expected to maintain complete honesty and integrity in their experiences in the classroom. Any student found guilty of dishonesty in their academic work is subject to disciplinary action.

(1) The college and its official representatives may initiate disciplinary proceedings against a student accused of any form of academic dishonesty including, but not limited to, the following:

A. **Scholastic dishonesty** includes, but is not limited to, cheating on academic work, plagiarism, and collusion.

B. **Cheating on academic work includes:**

- a. Copying from another student's test paper or other academic work.
- b. Using, during a test, materials not authorized by the person giving the test.
- c. Collaborating, without authority, with another student during an examination or in preparing academic work.
- d. Knowingly using, buying, selling, stealing,

	<p>transporting, or soliciting, in whole or part, the contents of an unadministered test.</p> <p>e. Substitution for another student, or permitting another student to substitute for oneself, to take a test or prepare other academic work.</p> <p>f. Bribing another person to obtain an unadministered test or information about an unadministered test.</p> <p>C. Plagiarism means the appropriation of another's work and the unacknowledged incorporation of that work in one's own written work offered for credit.</p> <p>D. Collusion means the unauthorized collaboration with another person in preparing written work offered for credit.</p> <p>(2) Procedures for discipline due to academic dishonesty shall be the same as in student disciplinary actions, except that all academic dishonesty actions shall be first considered and reviewed by the faculty member. If the student does not accept the decision of the faculty member, he/she may appeal the decision to the appropriate Department Chairperson, Dean of Instruction, or the Vice President for Instruction and Student Development. If the student does not accept the decision of the appropriate Department Chairperson, Dean of Instruction, or the Vice President for Instruction and Student Development, the student may then follow the normal disciplinary appeal procedures for a review of the decision.</p> <p>For additional information please refer to the: Student Policies - LCC Policy Manual The LCC Policy Manual is available online and includes all Federal, State, and Local Policies applicable to the college. Students may access the LCC Policy Manual through LCC's Web Page (www.laredo.edu) - Homepage, select-Campus Information, select - Manual of Policy.</p>
EMERGENCY PROCEDURES	<p><u>LCC Alert System:</u> Safety and security for LCC is paramount. When an emergency arises, LCC will provide students with information as rapidly and as efficiently as possible. Students must register for the LCC Alert system at www.laredo.edu/lccalert</p> <p><u>Fire:</u> Upon activation of the alarm, you will quietly and calmly exit the building from the nearest exit. Once everyone has gathered, at a predetermined or arranged site, a roll call shall be taken to ensure everyone is out of the building. If the building is on fire, no one should be</p>

near it to allow firefighting equipment and emergency vehicles to access the building. Additionally, building that may have chemicals, paints, or aerosol cans may have explosions that could be dangerous to anyone near the building.

No one should re-enter the building until an “All Clear” has been given. The “All Clear” shall be determined by a senior campus official in cooperation with the incident commander from the responding agency.

PLEASE NOTE: The Science buildings do contain several types of biological and chemical agents. Some of these agents are stored in large quantities, while some are considered dangerous to human health through contact to skin or if fumes are inhaled. The buildings should be placed to warn responding emergency personnel if they should put on SCBA or wear “HAZ-MAT” mat suits in lieu of or over turnout gear.

Injury, Person Down, Illness, Stalking or Theft:

Call the Campus Police (Main 721-5303; South 794-4303 or 111 Emergency) and/or the campus nurse (Main 721-5189; South 794-4189) to alert emergency personnel. Give the location of the person and briefly describe the person’s condition. If the person is not breathing or does not have a pulse, call 9-911 to alert the City of Laredo emergency services.

For serious injury, illness, heart attack etc., call 111 from any Campus phone or 911 from your personal cell phone. A back up call should be made to the Campus Police and the Campus Nurse. They may be able to arrive on the scene quicker than the EMT’s and City police. When placing an emergency call, be sure to give instructions to the nearest entrance to the building, thus saving time for emergency personnel.

Assault: Call the Campus Police (Main 721-5303; South 794-4303 or 111 Emergency) and 9-911 to alert the City of Laredo emergency services. For any possible threats to life or property from criminal acts call Campus Police. Please remember that after hours they operate on a limited staff basis.

DISCLAIMER:	Every attempt has been made to make the contents of this syllabus informative and accurate. Content of the syllabus is subject to revision and change in the event of extenuating circumstances. Changes will be distributed to you in writing.
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The updated official version of the LCC Catalog will be the on-line catalog and can be found at www.laredo.edu.

COURSE SCHEDULE

1st Week –

- Ch. 2.1 – Rates of Change and Limits
- Ch. 2.2 – Calculating Limits Using the Limit Laws
- Ch. 2.3 – Precise Definition of a Limit

2nd Week –

- Ch. 2.4 – One-Sided Limits and Limits at Infinity
- Ch. 2.6 – Continuity
- Ch. 3.1 – Derivative as a Function
- Ch. 3.2 – Differentiation Rules

Test 1

3rd Week –

- Ch. 3.3 – Derivatives as a Rate of change
- Ch. 3.4 – Derivatives of Trigonometric Functions
- Ch. 3.5 – Chain Rule and Parametric Equations
- Ch. 3.6 – Implicit Differentiation
- Ch. 3.7 – Related Rates

Test 2 –

4th Week –

- Ch. 4.1 – Extreme Values of Functions
- Ch. 4.2 – Mean Value Theorem
- Ch. 4.3 – Monotonic Functions and the First Derivative Test
- Ch. 4.4 – Concavity and Curve Sketching
- Ch. 4.8 – Antiderivatives

Test 3 –

5th Week –

- Ch. 5.1 – Estimating with Finite Sums
- Ch. 5.2 – Sigma Notation and Limits of Finite Sums
- Ch. 5.3 – Definite Integral
- Ch. 5.4 – Fundamental Theorem of Calculus
- Ch. 5.5 – Indefinite Integrals and the Substitution Rule

6th Week –

**Review for Final
Final Exam (Cumulative)**

*Schedule is subject to change

LAREDO COMMUNITY COLLEGE

COURSE SYLLABUS

STUDENT ACKNOWLEDGEMENT

I have read and understand the information and requirements of the syllabus for

Course & Number

Student Name

Palomino ID

Date

Admission into and/or graduation from the program does not guarantee employment, any particular salary level, and/or passage on any licensure examinations.

Student Signature _____

Faculty Name _____

SCANS COMPETENCIES

ENCLOSURE

The Secretary's Commission on Achieving Necessary Skills (SCANS) has identified foundation skills and workplace competencies for students. Foundation Skills are defined in three areas: basic skills, thinking skills, and personal qualities. Basic Skills includes Reading, Writing, Arithmetic and Mathematical Operations, Listening, and Speaking effectively. Thinking Skills include a worker must think creatively, make decisions, solve problems, visualize, know how to learn, and reason effectively. Personal Qualities include a worker must display responsibility, self esteem, sociability, self management, integrity, and honest. Work Place Competencies include resources, interpersonal skills, information, systems, and technology.

Resources.

- C1. **Allocates Time:** Selects relevant, goal-related activities, ranks them in order of importance, allocates time to activities, and understands, prepares, and follows schedules.
- C2. **Allocates Money:** Uses or prepares budgets, including making cost and revenue forecasts, keeps detailed records to track budget performance, and makes appropriate adjustments.
- C3. **Allocates Material and Facility Resources:** Acquires, stores, and distributes materials, supplies, parts, equipment, space, or final products in order to make the best use of them.
- C4. **Allocates Human Resources:** Assesses knowledge and skills and distributes work accordingly, evaluates performance, and provides feedback.

Interpersonal

- C5. **Participates as a member of a team:** Works cooperatively with others and contributes to group with ideas, suggestions, and effort.
- C6. **Teach Others New Skills:** Helps others to learn.
- C7. **Serves Clients/Customers:** Works and communicates with clients and customers to satisfy their expectations.
- C8. **Exercises Leadership:** Communicates thoughts, feelings, and ideas to justify a position, encourages, persuades, convinces, or otherwise motivates an individual or groups: including responsibly challenging existing procedures, policies, or authority.
- C9. **Negotiates to Arrive at a Decision:** Works toward an agreement that may involve exchanging specific resources or resolving divergent interests.
- C10. **Works with Cultural Diversity:** Works well with men and women and with a variety of ethnic, social, or educational backgrounds.

Information

- C11. **Acquires and Evaluates Information:** Identifies need for data, obtains it from existing sources or creates it, and evaluates its relevance and accuracy.
- C12. **Organizes and Maintains Information:** Organizes, processes, and maintains written or computerized reports and other forms of information in a systematic fashion.
- C13. **Interprets and Communicates Information:** Selects and analyzes information and communicates the results to others using oral, written, graphic, pictorial, or multi-media methods.
- C14. **Uses Computers to Process Information:** Employs computers to acquire, organize, analyze, and communicate information.

Systems

- C15. **Understands Systems:** Knows how social, organizational, and technological systems work and operates effectively within them.
- C16. **Monitors and Corrects Performance:** Distinguishes trends, predicts impact of actions on system operations, diagnoses deviations in the function of a system/organization, and takes necessary action to correct performance.
- C17. **Improves and Designs Systems:** Makes suggestions to modify existing systems to improve products or services, and develops new or alternative systems.

Technology

- C18. **Selects Technology:** Judges which set of procedures, tools, or machines, including computers and their programs will produce the desired results.
- C19. **Applies Technology to Task:** Understands the overall intent and the proper procedures for setting up and operating machines, including computers and their programming systems.
- C20. **Maintains and Troubleshoots Technology:** Prevents, identifies, or solves problems in machines, computers, and other technologies.