Math 1510

Calculus I- section 05
recitation section 501

Instructor Info —

👤 Dr. Dorsa Ghoreishi

🕐 Virtual Office Hrs: Mon 10-11 Wed 2-3, Fri 10:45-11:45

📍 Ritter Hall 203

@ dorsa.ghoreishi@slu.edu

Course Info ——

📅 MWF

🕐 1:10-2:00 PM

📍 Ritter Hall 327

Recitation Class –

📅 Thursdays

🕐 11-11:50 AM

📍 Ritter Hall 204

TA Info ——

👤 Mathew Chan

🕐 Office Hrs: TBA

@ mathewdave.chan@slu.edu

Course Description

The focus of Math 1510 is on functions, continuity, limits, the derivative, differentiation from graphical, numerical and analytical viewpoints; optimization and modeling; rates and related rates; the definite integral; antiderivatives from graphical, numerical and analytical viewpoints.

Text Book:

Hughes-Hallett, D., Gleason, A. M., McCallum, W. G. (2021). Calculus: Single and Multivariable (8th Edition). Wiley Global Education US.

You are required to have some form of the textbook (traditional, spiral bound, e-book, etc.), but which one is entirely up to you. If you have questions about this, just email me. Check your email for instructions on how to get onto the publisher's website

Prerequisite:

4 years of high school math or a grade of C- or better in MATH 1400

Calculator:

A graphing calculator is required. One of the following will suffice:

1. The TI-84 being the calculator of choice if you decide to buy a calculator. Some people prefer a hand-held calculator.
2. Desmos is recommended. This is a free app you can download on your computer and on your phone.

PDF creator: Genius Scan will create pdf files including multipage ones. It is a free app on the phone. If you happen to have access to a copier that creates PDF files, then that works as well. Notice that you will always need to upload your documents as a single PDF. Check out the following link for more info: Genius Scan

Grading Scheme

5%	**Class Participation**
15%	**Quizzes**
10%	**Homework**
45%	**Exams (15% each)**
5%	**Gateway Exam**
20%	**Final**

Grade cutoffs can change depending on the class average. Most likely we will have: A: 100-92, A-: 92-90, B+: 90-88, B: 88-82, B-: 82-80, C+: 80-78, C: 78-72, C-: 72-70, D: 70-60, F: 60-0

Quizzes

Quizzes will be given throughout the semester either in class or take home. Go to **gradescope** website and sign in using your section**entry code: GERD3Y** . We will use this platform for quizzes and worksheet problems.

Assignments

There will be two kinds of homework in this class:

Webwork: Webwork is electronic homework system. Webwork problems are generally routine computations you need to practice to become comfortable with the course material. You submit answers to these problems at the **webwork** site and receive immediate feedback.

Worksheets: Weekly worksheet assignments will consist of more involved problems. You will work on worksheets in your group during recitation sessions. Each student will need to submit their individual work by the end of each session.

Exams

Gateway Exam: This is a test to check that you have mastered the rules for differentiation. An example will be provided before the first test is given. Students need to score at least 9 out of 10 to get full credit. The test can be taken a maximum of 4 times. Not passing the test will count as 0. The gateway test will be given after we have covered the relevant sections in chapter 3.

Aside from Gateway exams, there will be three fifty-minute midterm exams and a one-hour, fifty-minute final exam. The announcement about the material of each exam will be posted a week prior to the exam date. The tentative time of each exam is:

- **Exam 1:** Friday, February 11
- **Exam 2:** Friday, March 11
- **Exam 3:** Friday, April 22
- **Final Exam:** Friday, May 16, 12:00-1:50 pm

After Exam 1: If your overall grade is lower than C (this includes grades of your exam 1, homework, quizzes, and worksheets) you can re-do one exam problem with two hours of certified tutoring, up to half of the problems you miss on the exam. You may use the mathematics and statistics department tutoring sessions which are offered to all students at no cost, or choose other tutoring sources. Every week, you must present a report on the tutoring session(s) you attended in order to get credit for the re-do questions. The report sheet is available on Canvas.

Office Hours

All the office hours will be held virtually this semester. Check the most updated office hours schedule on canvas. You can join the office hour using the following info:

Meeting ID: 965 7003 1044, Passcode: math

Communication

You can always email me if you have any questions or concerns. If you send an email and don't receive a response within 24 hours, please email me again letting me know you are awaiting a response. I will not answer emails after 7 pm on weekdays. During the weekend responses may be a bit slower. Students are expected to respond to my emails within the same time frame.

Make-up Policy

In the event that an exam or assignment is missed for a valid reason, the student should contact me as soon as possible to document the problem. **I give makeup exams only for severe and documented reasons.**

Student Success

The best source of help is coming to the office hours either in person or over zoom. Other than office hours, the department of mathematics and statistics provides tutoring for this class. Help sessions are staffed by mathematics graduate students. This semester the Help Sessions are mornings, afternoons, and evenings and are online drop-in hours. You can find the schedule at **academic support center**. In recognition that people learn in a variety of ways and that learning is influenced by multiple factors (e.g., prior experience, study skills, learning disability), resources to support student success are available on campus. The Student Success Center assists students with academic-related services and is located in the Busch Student Center (Suite, 331). Students can visit student success center to learn more about tutoring services, university writing services, disability services, and academic coaching.

Drops/Withdrawals

You are responsible to follow the class schedule and learn about the deadlines in case you need to drop or withdraw form the course. Feel free to contact me if you have any questions regarding this during the semester.

Diversity in the Classroom

It is the responsibility of the instructor and the student to foster and maintain a harmonious, non-threatening and non-discriminating environment in the classroom. Although students are encouraged to express their ideas freely, an instructor must be vigilant against any inflammatory and demeaning statements or arguments (in classrooms) that may promote hate toward people, beliefs, and ideals.

Preferred Name/Pronoun

I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester (or even before the start of the semester by emailing me) so that I may make appropriate changes to my records.

Student Learning Outcome

The student learning outcomes (SLOs) determine the structure of the course. The outcomes can be divided by chapter and will determine what questions you will see on the exams.

SLOs for Chapter 1 – Functions, Limits, Continuity Students will be able to:

- Find the equation of a line
- Find the limit at a point based on a graph of the function
- Compute the limit of a function
- Determine if a function is continuous

SLOs for Chapter 2 – Introduction to derivatives Students will be able to:

- Find average rate of change of a function
- Find the derivative using the limit definition
- Interpret what the derivative means in a specific example
- Determine where a function is concave up and down
- Determine if a function is differentiable at a point or not

SLOs for Chapter 3 – Short cuts to differentiation Students will be able to:

- Find the derivative using the product rule
- Find the derivative using the quotient rule
- Find the derivative using the chain rule
- Find the derivative using implicit differentiation
- Find the derivative of inverse functions
- Find the linear approximation of a function at a point
- Use the mean value theorem in an example

SLOs for Chapter 4 – Using the derivative Students will be able to:

- Determine where the local extreme points of a function are located using the appropriate tests
- Find the global maximum and minimum values on an interval
- Set up an optimization problem
- Solve the optimization problem
- Solve related rates problems
- Apply l'Hopital's rule when appropriate
- Determine rate of change of a particle determined by parametric equations.

SLOs for Chapter 5 – Introduction to integration Students will be able to:

- Compute the Riemann Sum approximation for area under the curve
- Compute the definite integral
- Apply the fundamental theorem of calculus (version 1)
- Find integrals using theoretical properties

SLOs for Chapter 6 – Constructing anti-derivatives Students will be able to:

- Find the anti-derivative graphically
- Find the anti-derivative analytically
- Use the second version of the Fundamental Theorem of Calculus to define functions
- Compute derivatives of functions defined by the second Fundamental Theorem of Calculus

Attendance

The health and well-being of SLU's students, staff, and faculty are critical concerns. Accordingly, the following University policy statements on in-person class attendance are designed to preserve and advance the collective health and well-being of our institutional constituencies.

1. Students who exhibit any potential COVID symptoms (those that cannot be attributed to some other medical condition the students are known to have, such as allergies, asthma, etc.) shall absent themselves from any in-person class attendance or in-person participation in any class-related activity until they have been evaluated by a qualified medical official. Students should contact the University Student Health Center for immediate assistance.

2. Students who exhibit any potential COVID symptoms (those that cannot be attributed to some other medical condition the students are known to have, such as allergies, asthma, etc.) but who feel well enough to a) attend the course synchronously in an online class session or b) participate in asynchronous online class activities, are expected to do so. Those who do not feel well enough to do so should absent themselves accordingly.
3. Students (whether exhibiting any of potential COVID symptoms or not, and regardless of how they feel) who are under either an isolation or quarantine directive issued by a qualified health official must absent themselves from all in-person course activity per the stipulations of the isolation or quarantine directive. They are expected to participate in synchronous or asynchronous online class activities as they feel able to do so, or absent themselves accordingly.
4. Students are responsible for notifying each instructor of an absence as far in advance as possible; when advance notification is not possible, students are responsible
dhfihhhhoor as soon after the absence as possible.
5. As a temporary amendment to the current University Attendance Policy, all absences due to illness or an isolation/quarantine directive issued by a qualified health official shall be considered "Authorized" absences (effective August 2020 through May 2021).

Academic Integrity

At Saint Louis University:

Academic integrity is honest, truthful and responsible conduct in all academic endeavors. The mission of Saint Louis University is "the pursuit of truth for the greater glory of God and for the service of humanity." Accordingly, all acts of falsehood demean and compromise the corporate endeavors of teaching, research, health care, and community service via which SLU embodies its mission. The University strives to prepare students for lives of personal and professional integrity, and therefore regards all breaches of academic integrity as matters of serious concern.

This course will follow the *College of Arts and Sciences Academic Honesty Policy*.

All SLU students are expected to know and abide by these policies, which detail definitions of violations, processes for reporting violations, sanctions, and appeals. Please direct questions about any facet of academic integrity to your faculty, the chair of the department of your academic program, or the Dean/Director of the College, School or Center in which your program is housed.

For This Course:
All work that you hand in should be your own. Ask your instructor if you are uncertain what resources you are allowed for any particular assignment.

On exams, you are always allowed to ask your instructor for help. Using the internet or communicating with others to obtain help or is not allowed. Using computational tools not explicitly allowed on the exam instructions is cheating. In cases when two or more students collaborate on an exam, all will be subject to penalties.

Exams in this class include an honesty pledge that you will be asked to sign and submit: "The work I have submitted represents my own effort and does not make use of any resources prohibited by the instructor, including communication in any form with individuals other than the instructor."

For homework, you may discuss with classmates but the final submitted work must be your own.

Cheating on work in this class will be reported to the Dean of the College of Arts Sciences and will result in potential penalties which may include a lowered grade, failure of the course, or sanctions at the university level.

Mandatory Statement on Face Masks

The University's Interim Policy on Face Masks governs all students, faculty, staff, and campus visitors in all University-owned, leased, or operated facilities. All persons physically present in any such University facility associated with this course shall comply fully with this policy at all times. Masks must be worn before entry to all such University facilities (as well as outdoors on all University property when six feet of distance is unpredictable or cannot be maintained). Saint Louis University is committed to maintaining an inclusive and accessible environment. Individuals who are unable to wear a face mask due to medical reasons should contact the Office of Disability Services or Human Resources to initiate the accommodation process identified in the University's ADA Policy. Inquires or concerns may also be directed to the Office of Institutional Equity and Diversity. Notification to instructors of SLU-approved ADA accommodations should be made in writing prior to the first class session in any term (or as soon thereafter as possible). As the instructor of this course, I shall comply fully with SLU's policy and all related ADA regulations. Students who attempt to enter a classroom without wearing masks will be asked by the instructor to wear masks prior to entry. Students who remove their masks at any time during a class session will be asked by the instructor to resume wearing their masks.

Note: Accordingly, no consumption of any food will be allowed in class. Students who do not comply with a request by a SLU instructor to wear a mask in accordance with the University's Interim Policy on Face Masks may be subject to disciplinary actions per the rules, regulations, and policies of Saint Louis University, including but not limited to the Student Handbook. Non-compliance with this policy may result in disciplinary action, up to and including any of the following:

- dismissal from the course(s)
- removal from campus housing (if applicable)
- dismissal from the University

To immediately protect the health and well-being of all students, instructors, and staff, instructors reserve the right to cancel or terminate any class session at which any student fails to comply with faculty or staff request to wear a mask in accordance with University policy.

Students are strongly encouraged to identify to their instructor any student or instructor not in compliance. Non-compliance may be anonymously reported via the SLU Integrity Hotline at 1-877-525-5669 (or confidentially via the Integrity Hotline's *website*.

Disability Accommodations

Students with a documented disability who wish to request academic accommodations must formally register their disability with the University. Once successfully registered, students also must notify their course instructor that they wish to use their approved accommodations in the course. Please contact Disability Services to schedule an appointment to discuss accommodation requests and eligibility requirements. Most students on the St. Louis campus will contact Disability Services, located in the Student Success Center and available by email at Disabilityservices@slu.edu or by phone at 314.977.3484. Once approved, information about a student's eligibility for academic accommodations will be shared with course instructors by email from Disability Services and within the instructor's official course roster. Students who do not have a documented disability but who think they may have one also are encouraged to contact to Disability Services. Confidentiality will be observed in all inquiries.
Note: due to accreditation requirements, regulatory differences, and/or location-specific resources, the School of Law, the School of Medicine, and SLU Madrid have their own standard language for syllabus statements related to disability accommodations. Faculty in those units should seek guidance for syllabus requirements from their dean's office.

Title IX

Saint Louis University and its faculty are committed to supporting our students and seeking an environment that is free of bias, discrimination, and harassment. If you have encountered any form of sexual harassment, including sexual assault, stalking, domestic or dating violence, we encourage you to report this to the University. If you speak with a faculty member about an incident that involves a Title IX matter, that faculty member must notify SLU's Title IX Coordinator and share the basic facts of your experience. This is true even if you ask the faculty member not to disclose the incident. The Title IX Coordinator will then be available to assist you in understanding all of your options and in connecting you with all possible resources on and off campus. Anna Kratky is the Title IX Coordinator at Saint Louis University (DuBourg Hall, room 36; anna.kratky@slu.edu; 314-977-3886). If you wish to speak with a confidential source, you may contact the counselors at the University Counseling Center at 314-977-TALK or make an anonymous report through SLU's Integrity Hotline by calling 1-877-525-5669 or online at https://www.lighthouse-services.com/StandardCustomURL/LHILandingPage.asp. To view SLU's policies, and for resources, please visit the following web addresses: https://www.slu.edu/here4you and https://www.slu.edu/general-counsel.
IMPORTANT UPDATE: SLU's Title IX Policy (formerly called the Sexual Misconduct Policy) has been significantly revised to adhere to a new federal law governing Title IX that was released on May 6, 2020. Please take a moment to review the new policy and information on the following web address: https://www.slu.edu/here4you. Please contact the Anna Kratky, the Title IX Coordinator, with any questions or concerns. Note: due to accreditation requirements, regulatory differences, and/or location-specific resources, the School of Law, the School of Medicine, and SLU Madrid have their own standard language for syllabus statements related to Title IX. Faculty in those units should seek guidance for syllabus requirements from their dean's office.

Core course SLO:

Ways of Thinking: Quantitative Reasoning

This course is part of the Saint Louis University Core, an integrated intellectual experience completed by all baccalaureate students, regardless of major, program, college, school or campus. The Core offers all SLU students the same unified approach to Jesuit education guided by SLU's institutional mission and identity and our nine undergraduate Core Student Learning Outcomes (SLOs).

Ways of Thinking: Quantitative Reasoning is one of 19 Core Components. The University Core SLO(s) that this component is designed to intentionally advance are listed below:

University Core Student Learning Outcomes: The Core SLO(s) that this component is intentionally designed to advance are:

1. SLO 2: Integrate knowledge from multiple disciplines to address complex questions
2. SLO 3: Assess evidence and draw reasoned conclusions
3. SLO 4: Communicate effectively in writing, speech, and visual media

Additionally, the Core Component-level Student Learning Outcomes are listed below:

Component-level Student Learning Outcomes: Students who complete this course will be able to:

• Demonstrate a breadth and depth of mathematical and/or statistical skills needed to analyze and build quantitative models.
• Recognize and understand patterns and arguments found in mathematics and/or statistics
• Recognize the pervasiveness and myriad forms of mathematics and/or statistics which have aided in human and humane progress
• Communicate effectively in mathematical and/or statistical ways by forming arguments and conveying results obtained through the application of quantitative tools