

## MATH 2414 – 03 (CALCULUS II) Syllabus for Fall 2023

**Classroom:** EMAGC 1.318

**Time:** MW 6:00pm – 7:40pm

**Instructor:**

Dr. Zhijun (George) Qiao

Office: EMAGC 3.722, Phone: 665-3406 (W), Email: [zhijun.qiao@utrgv.edu](mailto:zhijun.qiao@utrgv.edu)

Webpage: <http://faculty.utrgv.edu/zhijun.qiao/>

**Office hours:** M & W 4:30pm – 5:30pm (In Person at MAGC 3.722 or via Zoom at <https://utrgv.zoom.us/j/2824166420>) or by appointment.

**Teaching Assistant:**

Mr. Yonghong Chen, UTRGV E-mail: [yonghong.chen01@utrgv.edu](mailto:yonghong.chen01@utrgv.edu)

Office Location: EMAGC 3.540, Office Hours: Tuesdays and Thursdays 4:00pm - 5:00pm

**Prerequisite:**

A student must have completed and passed Calculus I (MATH 2413) with a grade C or better, or appropriate high school background and placement scores. The student not meeting this requirement will be asked to drop the course.

**Textbook:** OpenStax Calculus Volume 2 edited by Gilbert Strang and Edwin “Jed” Herman. The book is published under CC BY-NC-SA 4.0 license, which means that you are free to use and adapt it, but not for commercial purposes. The book is an Open Educational Resource and is available for free download at <https://openstax.org/details/books/calculus-volume-2>.

**Topics** include methods of integration, applications of definite integrals, parameterized curves, integration in polar coordinates, and infinite sequences and series.

**This course** is run in-person only. All exams must be taken in-person.

**Lectures:** the lectures will present the theory, techniques, and applications of the course material. Participation is required. Due to the limited lecture time, most of your learning will take place through doing the assignments. **Notes:** At the end of each week, the lecture notes from the week will be uploaded to Blackboard.

**Workshops (Optional):** these are not an official part of your schedule, but they will greatly benefit your learning. In a workshop, your TA will slowly go through several problems inspired by or taken from the written homeworks and WeBWorK problems, in close to complete detail. The workshops will be held in person, but also recorded over Zoom. Recordings will be made available to you in case your schedule does not allow your attendance. The workshops will thus help you to have close to complete solutions for several of your written homeworks. The recordings of the workshops will be made available on Blackboard after each workshop.

**Practice Problems:** There is an official list of Practice Problems that you should look at. The practice problems are based on the course material that is required across all sections of Math 2414. Doing and

understanding the solutions to these Practice Problems will help you in preparing for the final exam because at least 70% of the exam points will be based directly on the Practice Problems.

**Discussion Forums:** For any questions at all related to clarifying lecture content, needing hints on the homeworks or exercises, or questions about course policies or exam content, please use the Blackboard Discussion Forums. This way, everyone in the class can benefit from the discussion. Emails pertaining to these subjects will not receive a response. Please only email your instructors if the concern is personal.

**Electronic Devices:** To participate in the class participation questions, please bring an internet enabled device to class, e.g., a smartphone, tablet, or laptop.

**Calculator:** A calculator (TI-83 plus) capable of performing complicated integrals and calculations (e.g. some definite integrals and series etc) is recommended, but not required.

**Daily supplies:** You need to bring Textbook, Notebook, Loose leaf paper, Graph paper, Pen, Pencil etc to the class.

**Course Objectives:** The purpose of this course is to use basic integral formulas and basic mathematical techniques to calculate integrals (both definite and indefinite) and infinite sequences and series. Emphasis will be placed on the learning and understanding of definitions and abstractions in mathematics, as well as the study of the use of integration and series in real-world problems. A more detailed list of topics is given later under *Course Schedule*.

**Student Learning Outcomes:** After completing this course students will be able to

1. Use definite integral to find volume and area of surface of revolutions, length of plane curves.
2. Use integrals to solve physical problems, involving the work done by a force, the fluid force against a wall, and the location of an object's center of mass.
3. Use integrals to find length of curves and areas enclosed by curves given in rectangular and polar coordinates.
4. Evaluate integrals using integration by parts.
5. Evaluate integrals of trigonometric functions and use trigonometric substitution.
6. Evaluate integrals of rational functions by expressing the integrand as a sum of partial fractions and evaluate the integrals of partial fractions.
7. Use integration, the Direct Comparison Test, or the Limit Comparison Test to test the improper integrals for convergence.
8. Evaluate improper integrals.
9. Evaluate infinite series, alternating series, power series, Taylor and Maclaurin series and determine whether each series converges or diverges.
10. (Time Permitting) Understand the notions of probability density/mass and cumulative distribution/mass functions and use them to normalize probabilities in models and convert between probability densities of related variables.
11. (Time Permitting) Identify and solve first order linear and separable ordinary differential equations, and to derive models for such equations.

**General Grade Policy**

**Quizzes/Written Homework and Webwork** – Homework assignment be issued on a regular basis and will consist of problems from the Webwork or Textbook and occasional handout. Quizzes and Tests are based on homework problems. A quiz will be taken every week. It is strongly recommended that students work all those homework problems since quiz and test score are used to determine your grade. Completing the assignments is the *single most important part* of this course. You will be expected to spend, on average, about 3 hours each week completing the assignments. You are allowed to work in groups to complete the homework, but the quiz paper must be finished solely by you. Any type of academic dishonesty will be handled by the instructor or by the appropriate administration. A homework assignment sheet will be delivered to everybody on the 1<sup>st</sup> day of class. No late re-quiz will be accepted.

**Tests** – there will be three one-hour in-class tests. All tests must be taken during their scheduled times. The test time will be announced in advance (basically, a test will be given monthly), and a short review will be given before each test. All students must show their work on the tests. Scores will be provided to you separately. No retest opportunities.

**Final Exam** – The comprehensive final exam is tentatively scheduled on December 13 (W), 2023, 3:30pm – 5:15pm. All students must take the final exam at the scheduled time. A summary review will be given in the class before the final exam.

**Grading** – The course grade will be based on

Best 10 of the weekly HW/quiz at 10 points each	100 pts
Test 1	100 pts
Test 2	100 pts
Test 3	100 pts
Comprehensive Final Exam	100 pts
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Total	500 pts

The course grade will be assigned according to a scale no higher than A(90-100%), B(80-89%), C(70-79%), D(60-69%), F(below 60%).

**THERE WILL BE NO MAKE-UP EXAMS GIVEN.**

If a student is absent during a scheduled major test and quiz, the student must go by the instructor's office during the scheduled office hours to discuss the validity of the excuse. In the case of a valid excuse, the missed test grade will be replaced by the final exam grade. If a student does not have a valid excuse, the grade for the missed test is a zero and cannot be replaced. If you arrive late for a test, you will not be given additional time to complete the exam. Anyone arriving at a test after somebody else who took the exam has left will not be allowed to take the exam. Students missing more than one exam may be dropped from the course. With an unexcused absence, a score of 0 will be recorded for the missed HW/Quiz or exam.

**Tutoring: you may use online resources as your own study for homework problem solving.**

**Classroom Behavior:**

- All beepers and cellular phones must be turned off before you enter the classroom.
- Once in class, a student is expected to remain in class for the duration of the class. If a student needs to leave class early, then the student needs to discuss the situation with the instructor before class begins.

- During class students are expected to be courteous to the instructor and other classmates. Examples of discourteous behavior are unnecessary talking, sleeping, tardiness, leaving class while instructor is lecturing, sharpening pencils during the lecture, etc.
- No Food Allowed In Classroom.
- Chronic tardiness and discourteous behavior will not be tolerated and is the cause for a student's dismissal from class for the remainder of the semester.

### **UTRGV Policy Statements**

UTRGV requires all electronic communication between the University and students be conducted through the official University supplied systems UTRGV-Mail. Please use your UTRGV-Mail account for all correspondence with me.

### **MANDATORY COURSE EVALUATION PERIOD:**

Students are required to complete an ONLINE evaluation of this course, accessed through your UTRGV account (<https://my.utrgv.edu/home>); you will be contacted through email with further instructions. Students who complete their evaluations will have priority access to their grades. Online evaluations will be available: July 1 – 8 for summer I semester courses.

**ATTENDANCE:** Students are expected to attend all scheduled classes and may be dropped from the course for excessive absences. UTRGV's attendance policy excuses students from attending class if they are participating in officially sponsored university activities, such as athletics; for observance of religious holy days; or for military service. Students should contact the instructor in advance of the excused absence and arrange to make up missed work or examinations.

### **STUDENTS WITH DISABILITIES:**

If you have a documented disability (physical, psychological, learning, or other disability which affects your academic performance) and would like to receive academic accommodations, please inform your instructor and contact Student Accessibility Services to schedule an appointment to initiate services. It is recommended that you schedule an appointment with Student Accessibility Services before classes start. However, accommodation can be provided at any time. **Brownsville Campus:** Student Accessibility Services is located in Cortez Hall Room 129 and can be contacted by phone at (956) 882-7374 (Voice) or via email at [ability@utrgv.edu](mailto:ability@utrgv.edu). **Edinburg Campus:** Student Accessibility Services is located in 108 University Center and can be contacted by phone at (956) 665-7005 (Voice), (956) 665-3840 (Fax), or via email at [ability@utrgv.edu](mailto:ability@utrgv.edu).

**COURSE DROPS:** According to UTRGV policy, students may drop any class without penalty earning a grade of DR until the official drop date. Following that date, students must be assigned a letter grade and can no longer drop the class. Students considering dropping the class should be aware of the "3-peat rule" and the "6-drop" rule so they can recognize how dropped classes may affect their academic success. The 6-drop rule refers to Texas law that dictates that undergraduate students may not drop more than six courses during their undergraduate career. Courses dropped at other Texas public higher education institutions will count toward the six-course drop limit. The 3-peat rule refers to additional fees charged to students who take the same class for the third time.

## **ACADEMIC INTEGRITY**

Members of the UTRGV community uphold the [Vaquero Honor Code](#)'s shared values of honesty, integrity and mutual respect in our interactions and relationships. In this regard, academic integrity is fundamental in our actions, as any act of dishonesty conflicts as much with academic achievement as with the values of honesty and integrity. The Writing Center is an excellent resource to assist in learning about and avoiding plagiarism in writing. Violations of academic integrity include, but are not limited to: cheating, [plagiarism \(including self-plagiarism\)](#), and collusion; submission for credit of any work or materials that are attributable in whole or in part to another person; taking an examination for another person; any act designed to give unfair advantage to a student; or the attempt to commit such acts (Board of Regents Rules and Regulations, STU 02-100, and UTRGV Academic Integrity Guidelines). **All violations of Academic Integrity will be reported to Student Rights and Responsibilities through [Vaqueros Report It](#).**

### **Student Support Resources**

*We are committed to your personal, academic, and professional success; please know you can reach out to me for questions and/or I can help you identify the resources you need. UTRGV offers student support resources designed to contribute to your well-being and academic excellence.*

Students seeking academic help in their studies can use university resources in addition to an instructor's office hours. University Resources include the Advising Center, Career Center, Counseling Center, Learning Center, and Writing Center. These centers provide services such as tutoring, writing help, counseling services, critical thinking, study skills, degree planning, and connections student employment (through [Handshake](#) and [HR Student Employment](#)). In addition, services, such as the Food Pantry are also provided. Locations are listed below.

Center Name	E-mail	Brownsville Campus	Edinburg Campus
<b>Advising Center</b>	<a href="mailto:AcademicAdvising@utrgv.edu">AcademicAdvising@utrgv.edu</a>	BMAIN 1.400 (956) 665-7120	EITTB 1.000 (956) 665-7120
<b>Career Center</b>	<a href="mailto:CareerCenter@utrgv.edu">CareerCenter@utrgv.edu</a>	BINAB 1.105 (956) 882-5627	ESTAC 2.101 (956) 665-2243
<b>Counseling Center</b>	<a href="mailto:Counseling@utrgv.edu">Counseling@utrgv.edu</a>	BSTUN 2.10	EUCTR 109

Center Name	E-mail	Brownsville Campus	Edinburg Campus
	<a href="#">Mental Health Counseling and Related Services List</a>	(956) 882-3897	(956) 665-2574
<b>Food Pantry</b>	<a href="mailto:FoodPantry@utrgv.edu">FoodPantry@utrgv.edu</a>	BCAVL 101 & 102 (956) 882-7126	EUCTR 114 (956) 665-3663
<b>Learning Center</b>	<a href="mailto:LearningCenter@utrgv.edu">LearningCenter@utrgv.edu</a>	BMSLC 2.118 (956) 882-8208	ELCTR 100 (956) 665-2585
<b>University Library</b>	<a href="mailto:circulation@utrgv.edu">circulation@utrgv.edu</a> <a href="http://www.utrgv.edu/library">www.utrgv.edu/library</a>	BLIBR (956) 882-8221	ELIBR (956) 665-2005
<b>Writing Center</b>	<a href="mailto:WC@utrgv.edu">WC@utrgv.edu</a>	BLIBR 3.206 (956) 882-7065	ESTAC 3.119 (956) 665-2538

## Financial Need

Students who demonstrate financial need have a variety of options when it comes to paying for college costs, such as scholarships, grants, loans and work-study. Students should visit the Student Services Center (U Central) for additional information. U Central is located in BMAIN 1.100 (Brownsville) or ESSBL 1.145 (Edinburg) or can be reached by email ([ucentral@utrgv.edu](mailto:ucentral@utrgv.edu)) or telephone: (956) 882-4026. In addition to financial aid, U Central can assist students with registration and admissions.

## Blackboard Support

If you need assistance with course technology at any time, please contact the Center for Online Learning and Teaching Technology (COLTT).

<b>Campus:</b>	<b>Brownsville</b>	<b>Edinburg</b>
<b>Location</b>	Casa Bella (BCASA) 613	Marialice Shary Shivers (EMASS) 3.142
<b>Phone</b>	(956)-882-6792	(956)-665-5327
<b>Toll Free</b>	1-(866)-654-4555	

<b>Campus:</b>	<b>Brownsville</b>	<b>Edinburg</b>
<b>Support Tickets</b>	Submit a Support Case via our <a href="#">Ask COLTT Portal</a>	
<b>Online Support</b>	<a href="#">Chat with a Support Specialist online.</a>	
<b>24/7 Support</b>	Need Blackboard assistance after hours? You can call our main office numbers, (956)-882-6792 or (956)-665-5327, to speak with a support representative.	

## University Policy Statements

*We care about creating a safe and supportive learning environment for all students. The University policy statements below are intended to create transparency for your rights and responsibilities as students. We each contribute to ensuring a safe and positive environment through our actions and conduct, and students are encouraged to advocate for their needs.*

## STUDENT ACCESSIBILITY SERVICES

Student Accessibility Services staff can be contacted at either campus to learn about and explore accessibility services.

<b>Campus:</b>	<b>Brownsville</b>	<b>Edinburg</b>
<b>Location:</b>	Music and Learning Center (BMSLC, 1.107)	University Center (EUCTR, 108)
<b>Phone:</b>	phone (956) 882-7374	phone (956) 665-7005
<b>e-mail</b>	<a href="mailto:ability@utrgv.edu">ability@utrgv.edu</a>	

## STUDENTS WITH DISABILITIES

Students with a documented disability (physical, psychological, learning, or other disability which affects academic performance) who would like to receive reasonable academic accommodations should contact **Student Accessibility Services (SAS)** for additional information. In order for accommodation requests to be considered for approval, the student must apply using the [mySAS portal](#) and is responsible for providing sufficient documentation of the disability to SAS. Students are required to participate in an interactive discussion, or an intake appointment, with SAS staff. Accommodations may be requested at any time but are not retroactive, meaning they are valid once approved by SAS. Please contact SAS early in the semester/module for guidance. Students who experience a broken bone, severe injury, or undergo surgery may also be eligible for temporary accommodations.

## PREGNANCY, PREGNANCY-RELATED, AND PARENTING ACCOMODATIONS

Title IX of the Education Amendments of 1972 prohibits sex discrimination, which includes discrimination based on pregnancy, marital status, or parental status. Students seeking accommodations related to pregnancy, pregnancy-related condition, or parenting should submit the request using the form found at [Pregnancy and Parenting | UTRGV](#).



## SEXUAL MISCONDUCT AND MANDATORY REPORTING

In accordance with UT System regulations, your instructor is a “Responsible Employee” for reporting purposes under Title IX regulations and so must report to the Office of Institutional Equity & Diversity (OIED@utrgv.edu) any instance, occurring during a student’s time in college, of sexual misconduct, which includes sexual assault, stalking, dating violence, domestic violence, and sexual harassment, about which she/he becomes aware during this course through writing, discussion, or personal disclosure. More information can be found through the [Office of Institutional Equity and Diversity](#), including confidential resources available on campus. The faculty and staff of UTRGV actively strive to provide a learning, working, and living environment that promotes personal integrity, civility, and mutual respect that is free from sexual misconduct, discrimination, and all forms of violence. If students, faculty, or staff would like confidential assistance, or have questions, they can contact OVAVP (Office for Victim Advocacy & Violence Prevention) at (956) 665-8287, (956) 882-8282, or [OVAVP@utrgv.edu](mailto:OVAVP@utrgv.edu).

## DEAN OF STUDENTS

The Dean of Students office assists students when they experience a challenge with an administrative process, unexpected situation, such as an illness, accident, or family situation, and aids in resolving complaints. Additionally, the office facilitates student academic related requests for religious accommodations, support students formerly in foster care, helps to advocate on behalf of students and inform them about their rights and responsibilities, and serves as a resource and support for faculty and campus departments.

[Vaqueros Report It](#) allows students, staff, and faculty a way to report concern about the well-being of a student, seek assistance in resolving a complaint, or report allegations of behaviors contrary to community standards or campus policies. The Dean of Students can be reached by email ([dos@utrgv.edu](mailto:dos@utrgv.edu)), phone (956-665-2260), or by visiting one of the following office locations: Cavalry (BCAVL) 204 or University Center (EUCTR 323).