MATH 2413 –010   9:00-9:50 MWF   **MATH 2413 –030   10:00-10:50 MWF**
8:00-9:15 TR   **10:50-12:05 TR**

Instructor: Dr. John Gresham   **Office:** Math 235C
Office Phone: 254-968-1954   **e-mail:** **jgresham@tarleton.edu**
Math Department Phone: 254-968-9168   **Office Hours: MW 1-2, TR 9:30-10:30, F 11-12**
Web site: https://faculty.tarleton.edu/jgresham

Catalog Description: Algebraic and transcendental functions, limits, continuity, derivatives and related applications, an introduction to the definite integral, integration, and the Fundamental Theorem of Calculus. Use of computer technology and laboratory assignments will be required in this course. Prerequisite: MATH 1316 or MATH 2412.

Course Prerequisites: Math 1316 or Math 2412

Textbook & Materials: Students may select one of the following two text options:
- (Single Variable) Calculus: Early Transcendentals, 7th edition, by Stewart
- e-book, (Single Variable) Calculus: Early Transcendentals, 7th edition, by Stewart

Supplemental textbook: A free supplemental textbook is available at https://openstax.org/subjects/math.   Select "Calculus Volume I."

Student Learning Outcomes: Upon completion of this course, the student will demonstrate proficiency in the following areas:
- Investigate the concepts of single variable calculus descriptively, numerically, graphically and symbolically
- Demonstrate an understanding of the development of limits, derivatives, integrals and related connections
- Apply the derivative in solving problems including optimization, related rates & curve sketching
- Apply the fundamental theorem of calculus
- Communicate mathematical ideas, solutions, proofs, and counterexamples using proper notation, appropriate technical and non-technical language, and helpful diagrams and graphs

Major Tests: We will have four (4) chapter exams during the semester and a comprehensive final at the end of the semester.

Grading System:

4 Major Exams	15% each
Homework/classwork	10%
Technology Lab work	10%
Comprehensive Final	20%

Grading Scale: 90 – 100 A   80 – 89 B   70 – 79 C   60 – 69 D   0 – 59 F

Technology Lab Work: Exercises and problems will be given involving the use of *Mathematica* software.

Homework: Assignments may be given from the exercises in Stewart or from the free online homework site WeBWork. http://34.195.112.10/webwork2/2019sp_m2413_gresham/. A few of these grades may be dropped at the end of the term. Your username is your Tarleton email address **without** the @go.tarleton.edu. Your **initial password** is your Tarleton Student ID number. You should change your password when you first log in. Short in-class quizzes may also be given over selected exercises.

Makeup Policy: Students may request make-up consideration for valid and **documented** reasons such as illness, death in the immediate family, legal proceedings, or participation in University-sponsored activities. In the event that you are absent other than for reasons outlined above, you will receive a grade of 0. The final exam score may replace **one** low major exam grade, provided that the score on the final is better than the low or missed exam.

University Email Policy: Your university email address is now the official means of electronic mail communication. Personal email addresses will no longer be used to contact students. According to Tarleton State University's Email Communication Guidelines, "official communications will be sent to the recipients' official University email address. Students are expected to check their email on a frequent and consistent basis ..." If you have not claimed your Tarleton email account, please contact the Computer Helpdesk at (254) 968-9885 as soon as possible.

Core Values: Tarleton State University's core values are integrity, leadership, tradition, civility, excellence, and service. Central to these values is integrity, which is maintaining a high standard of personal and scholarly conduct. Academic integrity represents the choice to uphold ethical responsibility for one's learning within the academic community, regardless of audience or situation

University Policy: Students are responsible for knowing and abiding by the policies and information contained in the Tarleton Student Handbook. [See the TSU Student Handbook]

Student Responsibilities: The student is *solely* responsible for:
- Completing each assignment by the specified due date.
- Obtaining assignments and other materials for classes from which they are absent.
- Utilizing, as needed, all available study-aid options (including meeting with the instructor, referring to outside texts, etc.) to resolve any questions that they might have regarding homework, course material, and/or projects.
- Giving as much of an effort as it takes to pass this course.

Academic Conduct: Any student guilty of academic dishonesty, cheating, or plagiarism in academic work shall be subject to disciplinary action. [TSUSH] The instructor may initiate disciplinary action in any case of academic misconduct. In the case of cheating on an exam, a grade of zero shall be assigned to the exam, and this score may not be replaced by the final exam score in calculating the semester average.

Services for Students with Disabilities: It is the policy of Tarleton State University to comply with the Americans with Disabilities Act and other applicable laws. If you are a student with a disability seeking accommodations for this course, please contact the Center for Access and Academic Testing, at 254.968.9400 or caat@tarleton.edu. The office is located in Math 201. More information can be found at www.tarleton.edu/caat or in the University Catalog.

Attendance Policy: Regular and punctual class attendance is expected of all students. If excessive absences prevent satisfactory progress, a recommendation for withdrawal from the course may be made.

Cell phones: Students are expected to set their cell phone so as to emit no audible noise in the classroom. Except for emergency situations, cell phone use (including texting) during the class period is prohibited. A student who is noticeably (to the instructor) distracted by his/her cell phone and/or distracting others with it may be asked to immediately disable it or to leave the classroom. To compensate for your electronic deprivation, keep your calculator on.

Calculator Policy: Each student will be required to have an approved graphing calculator available for use. The TI-84 is the recommended choice, but other TI models (TI-*ns*pire, TI-83+, TI-86, etc.) or other brands are acceptable. I will use primarily the TI-84 in the classroom. Students using other brands are responsible for learning how to operate their calculators.   The instructor reserves the right to prohibit the use of calculators on certain assignments or tests. A limited number of calculators are available for rent from the Math Club. Students should see the Math Office (MATH 142) for more information.

Study Aids:
- The Mathematics Clinic offers to all students enrolled in remedial and freshman-level mathematics courses an opportunity to obtain free tutoring. The Math Clinic is located in room 203. Its hours are posted on the door.
- The university offers several programs through which students may obtain free or reduced-fee private tutoring. Interested students should visit Student Success Services for more details.
- The department maintains a list of students that are interested in tutoring privately. Inquire in the Math Office, Room 142.

Notes:
- In the event that the university is closed for a scheduled class time, whatever was scheduled for that day and/or whatever was due that day will be scheduled and/or due on the next scheduled class time. University closure and emergency information is sent to all students, faculty, and staff through Code Purple. All students are automatically enrolled in Code Purple through their Tarleton email address. See http://www.tarleton.edu/codepurple for more information
- **All items contained in this syllabus are subject to change as the semester progresses. Students will be notified of any changes.**

Student Safety and Title IX

You are in college to achieve academic success, but you must feel safe and take care of yourself to reach your full potential. You have the right to pursue your education in a safe environment. Title IX makes it clear that violence and harassment based on sex and gender are civil rights offenses subject to accountability. ***If you or someone you know has been harassed or assaulted, there is help and support on campus.*** You may seek assistance confidentially through the Student Counseling Center or the Student Health Center. You may also make a report to the campus Title IX coordinator, which may trigger a university investigation (not a criminal investigation). Additionally, you may pursue criminal charges through the university police department. If the assault occurred away from campus, UPD can assist you in connecting with the appropriate law enforcement agency.

Student Counseling Center: 254-968-9044 (phone is answered 24 hours a day, 7 days a week), TSC 212
Student Health Services: 254-968-9271, TSC 212
Title IX Coordinator: 254-968-9754, Admin Annex 1, Room 112
University Police Department: 254-968-9002, located on the back side of Wisdom Gym

Academic Integrity Statement

Tarleton State University's core values are integrity, leadership, tradition, civility, excellence, and service. Central to these values is integrity, which is maintaining a high standard of personal and scholarly conduct. Academic integrity represents the choice to uphold ethical responsibility for one's learning within the academic community, regardless of audience or situation.

Academic Civility Statement

Students are expected to interact with professors and peers in a respectful manner that enhances the learning environment. Professors may require a student who deviates from this expectation to leave the face-to-face (or virtual) classroom learning environment for that particular class session (and potentially subsequent class sessions) for a specific amount of time. In addition, the professor might consider the university disciplinary process (for Academic Affairs/Student Life) for egregious or continued disruptive behavior.

Academic Excellence Statement

Tarleton holds high expectations for students to assume responsibility for their own individual learning. Students are also expected to achieve academic excellence by:
- honoring Tarleton's core values.
- upholding high standards of habit and behavior.
- maintaining excellence through class attendance and punctuality.
- preparing for active participation in all learning experiences.
- putting forth their best individual effort.
- continually improving as independent learners.
- engaging in extracurricular opportunities that encourage personal and academic growth.
- reflecting critically upon feedback and applying these lessons to meet future challenges.

Academic Affairs Service Statement

Tarleton faculty, staff, and students are expected to model responsible citizenship through service activities that promote personal and academic growth while enhancing the university, local, regional, national, and global communities. These activities will foster a culture of academic/public engagement that contributes to the achievement of the university's mission and core values.

Observation of a Religious Holy Day: Texas House Bill 256 requires institutions of higher education to excuse a student from attending classes or other required activities, including examinations, for the observance of a religious holy day. The student shall also be excused for time necessary to travel. An institution may not penalize the student for the absence and allows for the student to take an exam or complete an assignment from which the student is excused. No prior notification is required.

Math 2413 Prospective Calendar Spring 2019 (Subject To Change)

Week	Section	
	Section	
1	1.1-1.6	Review of Functions
	2.1	The Tangent and Velocity Problems
	2.2	Limit of a Function
2	2.3	Calculating Limits
	2.4	Rigorous definition of a limit
	2.5	Continuity
3	2.6	Limits at infinity; Horizontal Asymptotes
	2.7	Derivatives and Rates of Change
	2.8	Derivatives as a function
4	Review	
	Test 1	Chapters 1.1-2.8
	3.1	Derivatives of polynomial and exponential functions
	3.2	Product and Quotient Rules
5	3.3	Derivatives of trigonometric functions
	3.4	Chain Rule
	3.5	Implicit differentiation
6	3.6	Derivatives of logarithmic functions
	3.7	Applications of rates of change
	3.8	Exponential growth and decay
7	3.9	Related rates
	3.10	Differentials
	3.11	Hyperbolic functions
8	Review	
	Test 2	Chapter 3.1-3.11
	4.1	Maximum and Minimum values of functions
	4.2	Rolle's Theorem; Mean Value Theorem
9	4.3	First and second derivative tests for graphing functions
	4.4	Indeterminate forms
	4.5	Summary of curve sketching
10	4.6	Graphing with Calculus and Calculators
	4.7	Optimization
	4.8	Newton's method
11	Review	
	Test 3	Chapter 4.1-4.8
	4.9	Antiderivatives
12	5.1	Areas and distances
	5.2	Definite integrals
13	5.3	Fundamental Theorem of Calculus
	5.4	Indefinite integrals
	5.5	The Substitution Rule
14	Review	
	Test 4	Chapter 4.9, 5.1-5.5
	Optional Topics	
15	Review for Final	

January 21, 2019 - Martin Luther King, Jr. Holiday
March 11-15, 2019 – Spring Break
March 21, 2019 - Service Day
March 29, 2019 – MAA Conference Day
April 19, 2019 – No classes

Final Exam times
Section 010: 8:00 - 10:30 am, Monday, May 6, 2019
Section 030: 3:00 – 5:30 pm, Monday, May 6, 2019

See this web site for final exam times
http://catalog.tarleton.edu/undergrad/universitycalendarsandfinalexaminationschedules