Math 116 Calculus of a Single Variable Fall 2021

Time/Location:	TR 4:30am-6:20am, Enterprise Hall 275
Instructor:	Ahsan H. Chowdhury (achowdh6@gmu.edu)
Office:	Exploratory Hall 4407
Textbook:	*Thomas' Calculus: Early Transcendentals, 14th edition, by Hass, Heil, Weir.*
Prerequisite:	The prerequisite is Math 113 (minimum grade of C) or an equivalent course.
Office Hours:	TR 11:45pm-12:45pm W 1:30pm-2:30pm *Other meeting times are available by appointment.

Attendance
Class attendance will be taken daily and kept for Mathematics Department records. Students are responsible for course materials and announcements covered in class.

Classroom Courtesy Statement
You and your classmates are here to learn, and that happens best in an atmosphere of mutual respect with freedom from distractions and disturbances. All of us should abide by the Virginia Tech Principles of Community. Part of this mutual respect involves letting me know what pronouns you prefer to go by.

Homework/Quizzes
Both homework problems and quizzes will contribute to this part of your grade. There may also be extra credit assignments that I will spread throughout the semester that can also contribute to this portion of your grade only. Extra credit given this way cannot result in earning more than 100% on the homework/quiz portion of students' grade.

Homework assignment due dates will be posted on Canvas and announced in class. Quizzes will be given to test that students are keeping up with material taught in class. Students should prepare for quizzes by reviewing the material from class and completing the assigned homework. Suggested problems from the textbook can be found on the syllabus should students need additional practice. In some cases, corrections on assignments and quizzes will be allowed.

Assignments are considered late after their due dates. Late assignments are only accepted if they meet the conditions in the Make-Up policy.

Tests
There will be 3 midterm exams and a comprehensive final exam. Each midterm exam will take place during class time on the dates listed below. It is possible for me to allow test corrections on midterm exams, for at most half the points you lost back, but I will decide that individually for each midterm exam.

	Test Date (Tentative)
Test 1	**Week 5**
Test 2	**Week 9**
Test 3	**Week 14**
Final Exam	**Tuesday, 4:30pm-7:15pm**

You must take tests on the specified date. If you have a verified conflict with the time scheduled for an exam, contact me as soon as possible. Usually, makeup exams will not be given unless the conditions in the Make-Up policy are met. Both these situations will be handled on an individual basis.

The final exam is a required class meeting that will not be rescheduled for discretionary reasons, including conflicts with work schedules, conflicts with classes and exams at other colleges, and travel plans.

Make- Up Policy
If you have a documented reason for being unable to complete and/or submit an assignment, quiz, or exam at its scheduled time, you may have the opportunity to make-up the assignment. This will occur at my discretion, on an individual basis. If I approve of the make-up work, we will discuss the deadlines for that assignment. To increase the likelihood that this will occur, you should do the following:

• If you know you will be absent during a specific class meeting, provide the documentation well in advance of that class meeting.
• If you miss a class meeting due to sudden illness or an emergency situation, contact me as soon as possible with the necessary documentation.

Grading
Graded work for the course is split into the following categories:

- 20% Homework/Quizzes
- 60% Midterm Exams (3 Tests) (20% each)
- 20% Comprehensive Final Exam

A 90% will guarantee an A, 80% a B, 70% a C, 60% a D. +/- Added at Instructor discretion.

Specific grading disputes should be brought to my attention within one week of return of the assignment. Appeals outside of this timeframe will not be considered.

Additional Help
The Math Tutoring Center is located in the Johnson Center Room 344. Help is available on a walk-in basis. For hours of operation see *http://math.gmu.edu/tutorcenter.htm*
The Volgenau School of Engineering also offers peer tutors.
http://volgenau.gmu.edu/undergraduates/peer-mentors

Honor System
You are expected to follow the GMU Honor Code http://academicintegrity.gmu.edu/honorcode/

No collaboration is allowed on quizzes or tests. Any indication that you have worked together, used someone else's ideas, copied, or allowed fellow student to copy your work is a violation of the GMU Honor Code.

Some of the behaviors that will be considered cheating are:
- Communicating with another person during an assessment
- Copying material from another person from any assignment being graded
- Allowing another person to copy from any assignment being graded
- Use of unauthorized assistance on any assignment being graded
- Use of unauthorized notes or books during an assessment
- Providing or receiving a copy of a quiz or exam used in the course
- Use of a cell phone during an assessment

Disability Statement

If you have a learning or physical difference that may affect your academic work, please see me and contact the Office of Disability Services (ODS) at 993-2474, http://ods.gmu.edu . All academic accommodations must be arranged through the ODS. Please submit your accommodation sheet under the Accommodations tab on the left side of Blackboard.

MATH 1226 Syllabus Fall 2021-Tentative						
Week			Section	Topic	Textbook Problems	Quiz on
Week 1	Aug 23-27	1	5.5	Intro to Course / Substitution Rule (Review)		
		2	5.2-5.3	The Definite Integral (Review)		
		3	5.6	Areas Between Curves		Quiz on 5.5, 5.2, 5.3
		4	6.1	Volumes (Known Cross-Sections)		
Week 2	Aug 30-Sep 3	1	6.1b	Volumes (Disk/Washer)		
		2	6.2	Volumes by Cylindrical Shells		
		3	6.5	Work (Springs/Ropes)		Quiz on 5.6-6.2
		4	6.5	Work (Pumping liquids)		
Week 3	Sep 6-10	1	**Labor Day**	**No Class**		
		2	8.2a	Integration by Parts		Quiz on 6.5
		3	8.2b	Integration by Parts		
Week 4	Sep 13-17	1	8.3	Trigonometric Integrals		
		2	**Review**			
		3	8.4a	Trigonometric Substitution		Quiz on 8.2-8.3
		4	8.4b	Trigonometric Substitution		
Week 5	Sep 20-24	1	**TEST 1**	**Includes material through Section 8.3**		
		2	8.5a	Integration of Rational Functions by Partial Fractions		
		3	8.5b	Integration of Rational Functions by Partial Fractions		
		4		Strategy for Integration		
Week 6	Sep 27-Oct 1	1	8.7	Approximate Integration		
		2		Income Inequality and the Gini Index		
		3	6.6	Applications to Physics and Engineering (Centers of Mass)		Quiz on 8.4-8.7
		4	4.5a	Indeterminate Forms and L'Hospital's Rule		
Week 7	Oct 4-8	1	4.5b	Indeterminate Forms and L'Hospital's Rule		
		2	8.8a	Improper Integrals		
		3	8.8b	Improper Integrals		Quiz on 6.6-8.8
		4	8.9	Probability		
Week 8	Oct 11-15	1	**Review**			
		2	10.1a	Intro to Convergence and Divergence Sequences		
		3	10.1b 10.2a	Sequences Series		Quiz on 8.8b-10.1a
		4	**Flexible**	**Flexible**		
Week 9	Oct 18-22	1	**TEST 2**	**Includes material through Section 8.9**		
		2	10.2b	Series		
		3	10.3	The Integral Test		
		4	10.4a	The Comparison Tests		
Week 10	Oct 25-29	1	10.4b	The Comparison Tests		
		2	10.6a	Alternating Series and Absolute Convergence		
		3	10.6b,10.5a	Alternating Series and Absolute Convergence		Quiz on 10.2-10.6a
		4	10.5a	Ratio and Root Tests		
Week 11	Nov 1-5	1	10.5b	Ratio and Root Tests		
		2		Strategy for Testing Series		
		3	10.7a	Power Series		Quiz on 10.6-10.5
		4	10.7b	Representations of Functions as Power Series		
Week 12	Nov 8-12	1	10.7c	Representations of Functions as Power Series		
		2	10.8,10.9	Taylor and Maclaurin Series		
		3	10.8,10.9	Taylor and Maclaurin Series		Quiz on 10.7-10.8
		4	10.10a	Applications of Taylor Polynomials		

Week 13	**Nov 18-19**	1	**10.10b**	Applications of Taylor Polynomials		
		2	11.1	Curves Defined by Parametric Equations		
		3	11.1	Curves Defined by Parametric Equations		Quiz on 10.10-11.1
		4	**Review**			
Thanksgiving Break						
Week 14	**Nov 29-Dec 3**	1	**TEST 3**	**Includes material through Section 10.10**		
		2	11.3a	Polar Coordinates		
		3	11.3b, 11.4	Polar Coordinates		
		4	**Review**			
Week 15	**Dec 6-8**	1	**Review**			
		2	**Review**			
14-Dec		Tu	**FINAL EXAM**	**Cumulative Final Exam 430pm-7:15pm**		