

**MONTGOMERY COLLEGE - Germantown Campus  
Mathematics, Statistics, and Data Science Department  
Course Syllabus**

## **I. Instructor Information**

Professor: Dr. Zhou Dong

Email: Zhou.Dong@MontgomeryCollege.edu

Phone: (240) 567-7810

Office: HT 134

Mail box: HT 314

Office Hours: MWF 10:00 am – 11:50 am

You may also email me to schedule an appointment outside of these times.

Learning Assistant: Nicolas Argueta

Email: Nargueta2018@gmail.com

Office Hours: Monday 1:40 pm – 2:30 pm in MAPEL Center (HT229)

## **II. General Course Information**

Calculus I – MATH181

4 credits / 5 hours (For computation of tuition, this course is equivalent to five semester hours. Five hours each week.)

Intended primarily for students of the physical sciences, engineering, and mathematics. An introduction to major ideas of single variable calculus including limits, derivatives, and integrals of algebraic and transcendental functions; applications.

MATH181 fulfills a General Education Program Mathematics Foundation requirement.

**PREREQUISITE:**

A grade of C or better in MATH 165, appropriate score on mathematics assessment test, or consent of department. Assessment levels: ENGL 101/101A or AELW 940, READ 120 or AELR 930.

Fall 2019: CRN 22999

Class Times: MWF 12:00 pm – 1:40 pm

Class Room: HT 403

## **III. Specific Outcomes**

See attached MATH181 Course Outcomes

## IV. Text and Supplies

Single Variable Calculus: Concepts and Contexts (4th edition), by James Stewart, Brooks-Cole, 2007. (ebook is available with WebAssign.)

*WebAssign Access Code*

Class Key: **montgomerycollege 6199 1330**

*A graphing calculator*

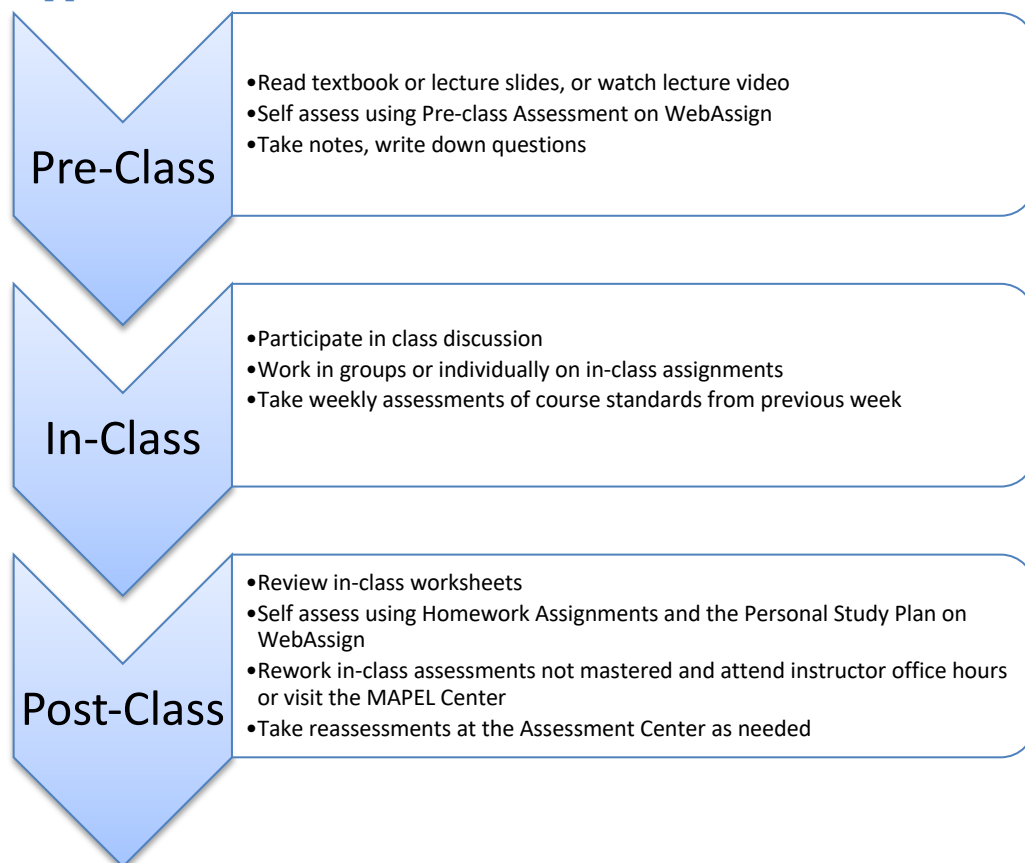
TI-83 or TI-83 Plus is recommended. Graphing calculators may be borrowed from the MAPEL Center (HT229).

*Remind for course communications*

Join online at <http://remind.com/join/math181mc> or text “@math181mc” to 81010.

## V. Course Requirements

### A. Flipped Classroom Instruction



### B. Course Grade

This course uses Standards Based Grading. Your course grade will be based solely on mastery of the course standards (see attached list of standards). Each standard is either “Core” or “Advanced”.

Assessments of all standards will be graded as follows:

Score	Mastery Level	Student work
4	Perfect Mastery	Demonstrates complete understanding of the underlying concept and provides correct solution with appropriate notation and language
3	Imperfect Mastery	Demonstrates complete understanding of the underlying concept but has minor errors in calculation and/or problems with notation and use of language
2	Developing	Demonstrates developing but incomplete understanding of the concept and/or major errors in the computation and presentation of the solution
1	Novice	Demonstrates little to no understanding of the concept with some relevant computations
0	No evidence	Demonstrates no evidence of understanding or not attempted

The initial assessment for all standards will be in class as indicated in the course schedule. If you do not demonstrate mastery of a standard during the in-class assessment, you will have an opportunity to reassess the standard in the Germantown Assessment Center the following week as indicated in the attached schedule. Any standards which you have not shown mastery on during the course of the semester (either in-class or reassessed at the Assessment Center) will be put on your final exam. The final exam for this class is on Monday, December 16, 12:30 pm – 2:30 pm.

### C. Standards

Final letter grades will be determined according to this rubric:

Core Standards	Advanced Standards	Final Grade
Mastery on all	Average score is 3 or above	A
Mastery on all	Average score is between 2 and 3	B
Mastery on all	Average score is below 2	C
Not all mastered Average score is 2 or above	Not applicable	D
Not all mastered Average score is below 2	Not applicable	F

Note:

- Mastery means a score of 3 or 4.
- For the grades of A, B, or C, you must demonstrate mastery on ALL Core Standards.
- Advanced Standards are NOT considered for final grade determination until ALL Core Standards are mastered.

### D. Make-up Policy

Make-ups for missed in-class assessments will not be available. You can take the reassessment the following week as described in Section B. Course Grade, or on the final exam on Monday, December 16, 12:30 pm – 2:30 pm.

## VI. Honors Module

This class has an attached honors module for eligible students in addition to the above requirements. Enrollment is limited to 5 students who meet Honors Program eligibility standards. If you are interested in taking this as an honors class, you must meet with the instructor during the first two weeks of classes.

### A. Eligibility

- Completion of at least 12 Montgomery College credits
- Cumulative 3.2 grade point average or higher
- Grade of A or B in ENGL 101 or ENGL 101A

Alternative criteria can be evaluated by the Campus Honors Program Coordinator: Dr. Christina Devlin, [Christina.Devlin@montgomerycollege.edu](mailto:Christina.Devlin@montgomerycollege.edu), PK139, 240-567-6925

## VII. Other Important Information

### A. Student Code of Conduct and Collegewide Policies and Procedures

In addition to course requirements and objectives that are in this syllabus, Montgomery College has information on its web site (see link below) to assist you in having a successful experience both inside and outside of the classroom. It is important that you read and understand this information. The link below provides information and other resources to areas that pertain to the following: student behavior (student code of conduct), student e-mail, the tobacco free policy, withdraw and refund dates, disability support services, veteran services, how to access information on delayed openings and closings, how to register for the Montgomery College alert System, and finally, how closings and delays can impact your classes. If you have any questions please bring them to your professor. As rules and regulations change they will be updated and you will be able to access them through the link. If any student would like a written copy of these policies and procedures, the professor would be happy to provide them. By registering for this class and staying in this class, you are indicating that you acknowledge and accept these policies.

<http://cms.montgomerycollege.edu/mcsyllabus/>

### B. Basic Needs Statement

Any student who has difficulty accessing sufficient food to eat every day, or who lacks a safe and stable place to live, is urged to contact the Dean of Students Affairs on your campus. Furthermore, please notify the professor if you are comfortable in doing so. This will enable the professor to provide any resources that they may possess. We know this can affect performance in the course and Montgomery College is committed to your success. The Deans of Student Affairs, by Campus:

Germantown	Dr. Jamin Bartolomeo <a href="mailto:Jamin.Bartolomeo@montgomerycollege.edu">Jamin.Bartolomeo@montgomerycollege.edu</a>
Rockville	Dr. Tonya R. Mason <a href="mailto:Tonya.Mason@montgomerycollege.edu">Tonya.Mason@montgomerycollege.edu</a>

Takoma Park Silver Spring	Dr. Clemmie Solomon <a href="mailto:Clemmie.Solomon@montgomerycollege.edu">Clemmie.Solomon@montgomerycollege.edu</a>
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### C. Student Health and Wellness and Fuel for Success

This website offers information about resources for food on our campuses and in the community and has links for community resources. The site offers the schedule for the mobile markets, locations of the food pantries as well as a link for those who wish to contribute their time or money to support our students

<http://cms.montgomerycollege.edu/student-health-and-wellness/fuel-for-success/>

### D. Campus Food Pantries

Campus	Pantry Location	Days & Hours of Operation
<b>Germantown</b>	<i>High Tech (HT) Food Pantry</i> In the hallway, near HT300	9:00 a.m. - 5:00 p.m.
<b>Rockville</b>	<i>Women's' and Gender Studies Program Food Pantry</i> Hallway outside of MT212 ---	Monday-Friday 9:00 a.m. - 5:00 p.m. ---
	<i>Biology Department Food Pantry</i> Science Center, 2 <sup>nd</sup> floor hallway	Monday-Friday 9:00 a.m. - 5:00 p.m.
<b>Takoma Park/Silver Spring</b>	<i>Commons Food Pantry</i> CM 110 ---	Monday - Thursday 8:00 a.m. - 7:00 p.m. Saturdays 9:00 a.m. - 1:00 p.m. ---
	<i>Institute for Justice, Race and Civic Engagement Food Pantry</i> Pavilion 4, #202 <a href="mailto:Vincent.intondi@montgomerycollege.edu">Vincent.intondi@montgomerycollege.edu</a>	Monday and Wed: 12:30-4 Tuesday and Thursday: 2-4

## VIII. Course Schedule

### A. Drop Deadlines

September 15, 2019 Refund Drop	September 29, 2019 No Grade Drop & Audit/Credit	November 19, 2019 W Grade Drop
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### B. Class Schedule

Date	Section		Assessments	
	Title	Number	In-Class	Reassess
Monday, September 9	The Tangent and Velocity Problems	2.1		
Wednesday, September 11	The Limit of a Function	2.2		
Friday, September 13	Calculating Limits Using Limit Laws	2.3		
Monday, September 16			2.1, 2.2	
Wednesday, September 18	Continuity	2.4		
Friday, September 20	Limits Involving Infinity	2.5		

Monday, September 23			2.3, 2.4	2.1, 2.2
Wednesday, September 25				
Friday, September 27	The Derivative	2.6 - 2.8		
Monday, September 30			2.5, 2.6	2.3, 2.4
Wednesday, October 2				
Friday, October 4	Differentiation Rules	3.1 - 3.4 (1.5, 1.7)		
Monday, October 7			2.7, 2.8	2.5, 2.6
Wednesday, October 9				
Friday, October 11				
Monday, October 14	Differentiation Techniques	3.5 - 3.7 (1.6)		2.7, 2.8
Wednesday, October 16				
Friday, October 18	Midterm Exam Review			
Monday, October 21	<b>Midterm Exam</b>		3.1 - 3.7	
Wednesday, October 23	Rates of Change	3.8		
Friday, October 25	Related Rates	4.1		
Monday, October 28			3.8	3.1 - 3.7
Wednesday, October 30	Min & Max Values	4.2		
Friday, November 1				
Monday, November 4	Derivatives & Graphing	4.3, 4.4	4.1, 4.2	3.8
Wednesday, November 6				
Friday, November 8	Optimization	4.6		
Monday, November 11			4.3	4.1, 4.2
Wednesday, November 13	Linear Approximation & Differentials	3.9		
Friday, November 15	Newton's Method	4.7		
Monday, November 18	Indeterminate Forms & L'Hospital's Rule	4.5	4.6, 3.9	4.3
Wednesday, November 20	Areas & The Integral	5.1 - 5.2		
Friday, November 22				
Monday, November 25	Antiderivatives	4.8	4.5, 4.7	4.6, 3.9
<i>Thanksgiving</i>				
Monday, December 2	The FTC	5.3 - 5.4	5.1, 5.2, 4.8	
Wednesday, December 4				
Friday, December 6				4.5, 4.7
Monday, December 9	The Substitution Rule	5.5	5.3, 5.4	5.1, 5.2, 4.8
Wednesday, December 11	More About Areas	6.1		
Friday, December 13	Final Exam Review			5.3, 5.4
Monday, December 16	<b>Final Exam 12:30 - 2:30 pm</b>			

*The professor reserves the right to make changes to this syllabus.*

*Last Updated September 6, 2019*