

This is an **ONLINE** course that *requires WebAssign & Blackboard!*

Montgomery College
Rockville Campus
Department of Mathematics
MATH - 182 - Calculus II
A Distance Learning Course
SYLLABUS

The instructor reserves the right to make changes to the syllabus, scheduling of topics, quizzes & exams.

GENERAL COURSE INFORMATION

Course Title/Number/CRN/Semester

Calculus II - MATH 182 - XXXXX - Spring

Course Duration:

Online Course/Blackboard/WebAssign

Class Days/Time/Location:

INSTRUCTOR INFORMATION

Name:

Mary E. Hopkins (Dr. Hop)

Office/Cell:

RV Science Center 254B/XXXXXXX

Email:

mary.hopkins@montgomerycollege.edu

Office Hours (on Rockville campus):

See my attached weekly schedule on page ***

COURSE DESCRIPTION

MATH 182 is a continuation of MATH 181 with a focus on integrals. It is intended primarily for students of the physical sciences, engineering, and mathematics. This course includes further differentiation & integration of transcendental functions, methods of integration with applications, indeterminate forms, improper integrals, Taylor's formula, infinite series & polar coordinates. Applications incorporating real world problem solving, emphasizing model creation & interpretation, are integrated throughout the course.

PREREQUISITES

- A grade of C or better is required in MATH 181 or equivalent, appropriate score on mathematics assessment test, or consent of math department.
- Mathematical maturity, strong work ethic & deep understanding of algebra & trigonometry.

TEXT

- e - Book: James Stewart, *Calculus: Concepts and Contexts*, 4th Ed., Cengage, 2010
- You will buy a **WebAssign access code that includes the above e-book version of the text.**
- A *copy of the text* and a *student solution manual* that accompanies the text can be found at The Math/Science Center (on the bottom floor of Macklin Tower of Rockville campus).
- **Supplementary Resources for Book:** http://www.stewartcalculus.com/media/9_home.php

You do NOT need to buy a print copy of text!!

REQUIRED MATERIALS

- 1) Purchase access code for *Enhanced WebAssign* at <https://www.webassign.net/v4cgi/selfenroll/classkey.html>.
Our "class key" is montgomerycollege **XXXX XXXX**.
- 2) E-book version of the text that is *already included* with your EWA access.
- 3) **TI-83/TI-84** (or +) graphing calculator.

GENERAL COURSE REQUIREMENTS

- ✓ **Complete midterm and final exam at one of the Montgomery College assessment centers.**
- ✓ Complete *weekly HWs & quizzes, 2 tests, a midterm* and a *cumulative final exam*.
- ✓ Participate in the weekly discussion boards.
- ✓ Check Montgomery College email and Blackboard on a daily basis.
- ✓ Enhanced WebAssign access code that includes the e-book version of Stewart's text.
- ✓ Graphing calculator. TI 83/83+, 84/84+ preferred.
- ✓ Access to a computer with *broadband internet access & WebAssign system requirements*.

COMMUNICATION

- The *official* means of communication will be your **MONTGOMERY COLLEGE EMAIL & BLACKBOARD (BB)**.
- *You are required to check your email & BB account daily.*
- **Note:** Personal emails between a student & me will be sent using MC email.
- **Texting Software REMIND:** If you want to receive my announcements/emails via text message, then do the following: **Text the message @XXXXXX to the number 81010.**

CALCULATING YOUR EARNED GRADE

Weekly WebAssign Homework	10%
Weekly WebAssign Quiz	10%
Tests (2) (Blackboard)	25%
Midterm (Assessment Center)	25%
Final Exam (Assessment Center)	30%
Total	100%

Weighted Average	Grade
90 to 100	A
80 to 89.999	B
70 to 79.999	C
60 to 69.999	D
Below 60	F

TESTS/EXAMS

- There will be **2 timed tests that will be posted on Blackboard**. You will handwrite your solutions, take photos or scan your solutions, save as 1 single pdf file and send to me via Blackboard. The average of your 2 test scores makes up 25% of your grade.
- You must complete the **midterm and final exam at one of the Montgomery College Assessment Centers**. Your midterm is worth 25% and your final exam score is worth 30% of your overall grade.

FORMULA POLICY

The following formulas/tests will be tested without the use of a calculator or formula sheet at some point during the course.

- 1) Know the general antiderivatives formulas.
- 2) Know integration by parts formula.
- 3) Know how to construct partial fractions with linear or quadratic factors in the denominator.
- 4) L'Hospital's Rule.
- 5) Determine area between curves without referring to formulas.
- 6) Determine volume and work without referring to formulas.
- 7) Formula for the average value of a function.
- 8) Convergence Tests for Infinite Sequences and Series.

IMPORTANT REMARKS

- # 1 For all assignments, all work/steps must be shown. If the work is incorrect or missing, no credit will be given.
- # 2 Your solutions must clear, organized, thorough and correct.
- # 3 You are responsible for checking Blackboard and their MC email on a daily basis.
- # 4 This is an online class and so you need to be self- motivated to be successful.
- # 5 My statistics show that the most successful students tend to be those that consistently participate on the discussion boards.
- # 6 **The instructor reserves the right to make changes in the syllabus, scheduling of topics, quizzes & exams.**

MC ROCKVILLE TUTORING

The Math Science Center offers *tutoring* and other resources.

- Rockville Location, Math/Science Center, Macklin Tower 02, 240-567-5200
- Spring 2015 Hours: Mon-Thur 8am-8pm, Fri 8am-4pm, Sat 10am-3pm, Sun Closed
- <http://www.montgomerycollege.edu/Departments/mathscriv/>

MAKE-UP POLICY

- It is expected that students complete all HWs/quizzes/tests/exams when scheduled.
- No test scores are dropped. There are no make-ups for tests or exams.
- Tests (or final exam) will NOT be administered early or late.
- HW assignments can be completed up to 2 days late, with a 25% penalty deduction.

SECTIONS COVERED

- Section 5.5 of the textbook through chapter 8, as well as appendices G and H & section 4.5.
- Course topics: <http://www.montgomerycollege.edu/Departments/math/CourseTopics/ma182rockville.pdf>

COURSE OUTCOMES

#	Upon Completion Of The Course A Student Will Be Able To:
1	Techniques of Integration
	Evaluate integrals by using the appropriate techniques.
	Approximate definite integrals by using appropriate numerical techniques.
2	Indeterminate Forms and Improper Integrals
	Find limits involving indeterminate forms & evaluate improper integrals.
3	Applications of Integration
	Set up, evaluate, & interpret integrals for arc length, area, volume, and average
	Set up, evaluate, and interpret integrals that model applications in physics.
4	Differential Equations
	Solve differential equations using graphical, numerical, and analytic methods
	Model applications such as population growth with differential equations.
5	Infinite Sequences & Series
	Determine the convergence or divergence of sequences and series.
	Represent functions with power series and approximate functions with
6	Polar Coordinates
	Graph polar equations.
	Use integration to find the area of a polar region.
7	Technology
	Use technology to discover, explore, illustrate and understand integrals.

** IMPORTANT DATES **		
Last Day To Drop With:		
94% Refund & No Grade:	JAN-31-2016	
80% Refund & No Grade or Change to Audit/Credit:	FEB-14-2016	
27% Refund & Withdraw:	APR-17-2016	
EXAM DATES:		
<ul style="list-style-type: none">• The instructor reserves the right to change any quiz date or any test date.• If a test date is moved then the students will be notified at least 1 week in advance.• The midterm & final exam must be completed at a MC Assessment Center on one of the dates listed. You choose which day works best for you.		
MIDTERM	MC Assessment Center	MARCH-4, 5, 7, 8, 9-2016
FINAL EXAM	MC Assessment Center	MAY-7, 9, 10, 11, 12, 13-2016
MONTGOMERY COLLEGE ASSESSMENT CENTERS (See hours)		
http://cmsbackup.montgomerycollege.edu/edu/plain.aspx?id=2579		

VETERAN'S SERVICES

If you are a veteran or on active or reserve status and you are interested in information regarding opportunities, programs and/or services, please visit the **Combat2College** Web site at:

<http://cms.montgomerycollege.edu/edu/tertiary1.aspx?urlid=53>

ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES

Any student who may need an accommodation due to a disability, please make an appointment to see me during my office hour. In order to receive accommodations, a letter from Disability Support Services (R-CB122; G-SA175; or TP-ST120) will be needed. Any student who may need assistance in the event of an emergency evacuation must identify to the Disability Support Services Office; guidelines for emergency evacuations are at: www.montgomerycollege.edu/dss/evacprocedures.htm.

STANDARDS OF COLLEGE BEHAVIOR

Montgomery College seeks to provide an environment where discussion & expression of all views relevant to the subject matter of the class are recognized. However, students don't have the right to interfere w/ the faculty member's right to teach or the other students' rights to learn. Faculty & staff set standards of behavior that are w/in the guidelines & spirit of the Student Code of Conduct or other College policies for classrooms, events, offices, etc, by announcing or posting these standards early in the semester. For more information, please refer to number 42001 in <http://cms.montgomerycollege.edu/pnp/#Chapter4>.

ACADEMIC HONESTY

Academic dishonesty in college is a very serious offense. Each student is expected to do his/her own work on all quizzes and tests and class and homework exercises. Students who engage in any act that the classroom instructor judges to be academic dishonesty or misconduct are subject to sanctions. For more information, please refer to Number 42001 in <http://cms.montgomerycollege.edu/pnp/#Chapter4>.

INCLEMENT WEATHER

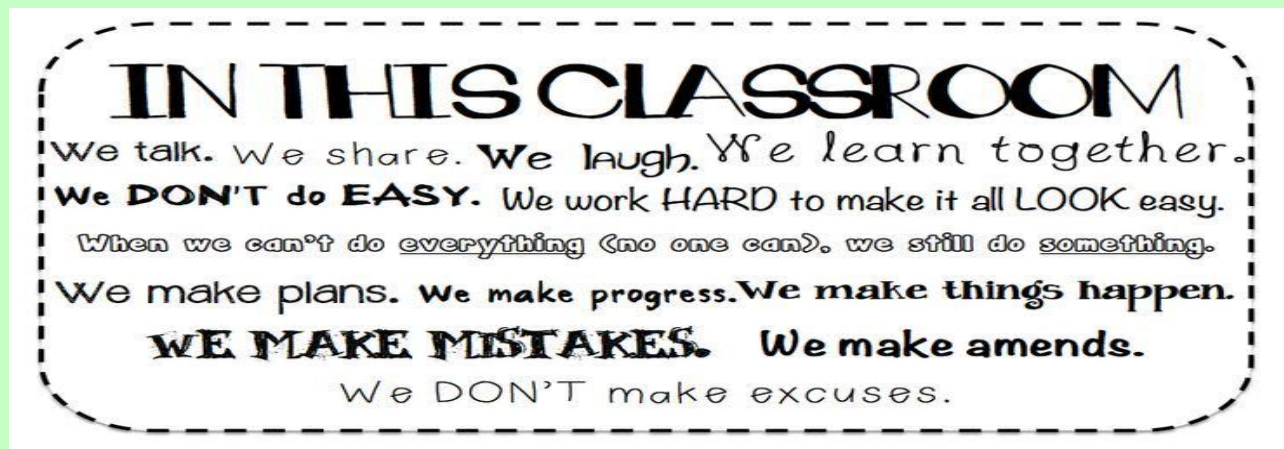
If inclement weather forces the College or any campus or College facility to suspend classes or close, public service announcements will be provided to local radio and television stations as early as possible. You may also call MC at 240-567-5000 or check www.montgomerycollege.edu to verify MC school closings. Any exams planned on days classes are suspended will be administered at the first class meeting once classes resume. Here is the link to sign up for text alerts:

<http://cms.montgomerycollege.edu/wdce/inclementweather.html>.

GENERAL EDUCATION REQUIREMENTS

- MATH 182 fulfills the requirement for General Ed. Math Foundation and for a general elective.
- Montgomery College's General Education Program is designed to ensure that students have the skills, knowledge and attitudes to carry them successfully through their work and personal lives.
- This course provides multiple opportunities to develop two or more of the following competencies: written and oral communication, scientific and quantitative reasoning, critical analysis and reasoning, technological competency, and information literacy. For more information, please see www.montgomerycollege.edu/gened.

PROBLEM SOLVING TIPS



1. Don't be afraid to think!!!
2. You **MUST** spend time brainstorming to get a feel for what is going on. What exactly are they asking? What are the assumptions? How can I translate this into math? You may come up with some clever solution that no one else would have thought of!!
3. Start w/ drawing a figure to visually model what is going on. Which quantities are constant vs. changing? Assign variables to changing quantities.
4. Try building an equation that expresses the relationship between known & unknown quantities.
5. When you get to a point where you don't know what to do next, then put it down for a while. Take a break. Go on a hike or have a glass of wine (only if ≥ 21 years old!!). Come back to it later with a fresh mind!!
6. Don't give up!!!! Take each problem as a personal challenge!!!
7. And always remember the following.
 - a) If you are only willing to dedicate 15 minutes to solving a problem, then you will **NEVER** solve any problem of significance.
 - b) When working on a problem, never think "I can't solve it." Think "I haven't solved it **YET**."
 - c) Complex, multi-stepped problem solving is a skill that will serve you well throughout your life.
8. Learn to be "**Academically Scrappy**"!