Montgomery College - Rockville Sample Course Syllabus Department of Mathematics, Rockville MATH 150 Elementary Applied Calculus I

Course Description: A general calculus course primarily for business students. Topics include algebraic, exponential, and logarithmic functions and their graphs; an intuitive approach to limits; differentiation; integration; and functions of several variables. Major emphasis is on applications in business, economics, and the life sciences. The course is not open for credit to students who have a grade of C or better in MATH 181 or equivalent. PREREQUISITE(S): A grade of C or better in MATH 096, appropriate score on mathematics assessment test, or consent of department. Assessment Level(s): ENGL 101/ ENGL 101A or AELW 940, READ 120 or AELR 930. Four hours each week. Formerly MA 160.

MathXL (MXL) is required for submitting answers to homework and quizzes. You may purchase MXL at the MC Bookstore or on-line at coursecompass.com.

Textbook (optional): Barnett et al, Calculus for Business, Economics, Life Sciences, and Social Sciences, 13th ed, 2015.

Required Calculator: 1) A graphing calculator is required for this course TI–83 or TI-84 are preferred. Students will <u>not</u> be permitted to use a TI-89 or TI-92 (or any technology with a computer algebra system) on in-class assessments.

Evaluation		Grad	ding Scale	
MXL HW Average	100 points	A	90 - 100 %	675 - 750 points
MXL Quiz Average Written Exams (4)	50 points 400 points	B C	80 - 89 % 70 - 79 %	525 - 599 points
Written Final Exam	<u>200 points</u> 750 points	F	0 - 69 %	0 - 524 points

Class Attendance: Attendance is extremely important in the successful completion of any course. If, however, missing class is unavoidable, it is your responsibility to contact either me or a classmate for the information you missed during an absence. Students are expected to be on time and to attend all class sessions. In the case of excessive absences (more than three), you may be dropped from the class.

Missed Exam: In the event of an emergency, contact me via e-mail when missing an exam is unavoidable. In general, there are no make-up exams. Your final exam score will replace one missed exam or one lower exam score.

Getting Help with Math: The Ackerman Learning Center

As you complete your math and science requirements at Montgomery College, you are encouraged to take advantage of the many services offered, including tutoring, current text books, a computer lab, calculators, and review sessions. Tutoring is available for students currently enrolled in math, chemistry, biology, physics, engineering, computer science, and geosciences classes at Montgomery College. Check the posted schedules for tutor availability. The Ackerman Learning Center provides a supportive environment outside the classroom where you can work at your own pace. Assistance is available to help you be a successful student. Visit the Ackerman Learning Center soon and go back often!

Location: the ground floor of the new Science West (SW) building in room 109.

Phone: 240-567-5200

Hours of Operation:

Mon – Thurs: 8am – 8pm Fri: 8am – 4pm Sat: 10am – 3pm Sun: Closed

Note: All learning centers require you to bring identification in order to use their facilities. You must bring a valid Montgomery College ID with the current registration sticker.

Disability Support Services (240-567-5058)

Any student who may need an accommodation due to a disability, please make an appointment to see me during my office hour. A letter from Disability Support Services (R-CB122; G-SA175; or TP-ST120) authorizing your accommodations 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 for individuals with disabilities are found at: www.montgomerycollege.edu/dss/evacprocedures.htm.

Combat2College: 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 website at www.montgomerycollege.edu/combat2college and/or contact Joanna Starling at 240-567-7103 or Joanna.starling@montgomerycollege.edu.

Academic Regulations & Student Code of Conduct

All MC students are expected to follow "Academic Regulations" & "Student Code of Conduct" as described in the MC <u>Student Handbook</u>. These regulations and guidelines can be found at: www.montgomerycollege.edu/departments/academicevp/Student_PandP.htm

Montgomery College Alert!

Montgomery College has teamed up with Montgomery County's Office of Emergency Management and Homeland Security and its Alert Montgomery emergency notification system to send text and e-mail messages to the College community, in the event of delays, closures or emergencies at the College. To receive future messages, registration information is at www.montgomerycollege.edu/emergency. Any exams planned on days classes are suspended will be administered at the first class meeting once classes resume.

MATH 150 Course Outcomes

#	Outcome: Upon completion of this course/program a student will be able to:
	Limits
1.	Evaluate limits graphically and algebraically.
2.	Use the graph of a function $f(x)$ to determine if the function is continuous and/or
	differentiable at a given value of x.
	Derivatives
3.	Find a derivative directly from the definition of the derivative.
4.	Write a verbal interpretation of the derivative as a rate of change in the context of an application, using everyday language and appropriate units.
5.	Identify and apply the appropriate rule(s) for symbolic differentiation to find first
	and higher order derivatives.
6.	Recognize and use all standard notations for first and higher order derivatives.
7.	Use first and second derivatives to determine the critical numbers, increasing and
	decreasing behavior, relative extrema, inflection points and concavity of a function;
	use this information to sketch the graph of a function.
8.	Use the graph of the first derivative of a function to obtain information about the
	behavior of a function.
9.	Formulate applied problems - business, economic, and life-science, in particular - into
	mathematical equations using appropriate calculus symbols; solve and interpret the
	solution of such problems in a real-world context.
	Integrals
10.	Interpret the indefinite integral as an inverse process of differentiation and
	evaluate indefinite integrals.
11.	Use the Fundamental Theorem of Calculus to evaluate definite integrals.
12.	Set up and evaluate definite integrals to solve applied problems including problems
	involving area, total change, and average value.

Tentative Schedule	
Week 1	Week 8
Introduction, Sections 1.1 - 1.2	Review 2, Exam 2
Week 2	Week 9
Sections 1.3 - 1.6	Sections 4.1 - 4.2, 4.4
Week 3	Week 10
Sections 2.1 - 2.3	Sections 4.5 - 4.6, Review 3
Week 4	Week 11
Section 2.4, Review 1	Exam 3, Sections 5.1 - 5.2
Week 5	Week 12
Exam 1, Sections 2.5, 2.7	Sections 5.4 - 5.5, 6.1 - 6.2
Week 6	Week 13
Sections 3.1 - 3.3	Review 4, Exam 4
Week 7	Week 14
Sections 3.4, 3.7	Sections 7.1 - 7.2, Final Review
	Week 15 FINAL EXAM