Math 119 - Integral Calculus   Spring 2017

Instructor: Prof. Jan Minton   461 Trexler Hall
                                                   Office Hours: Mon & Wed: 3:30-4:30
                                                                    Tue & Thur: 3:00-5:00
                                                                    Otherwise by appointment
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Course Objective: This course is the sequel to Math 118. Together they provide an introduction to calculus, with integrated pre-calculus review of relevant topics. Calculus topics include the study of derivatives, beginning integrals and graphing. An additional focus of the course will be the use of technology as a learning aid.

Intended Learning Outcomes:

   ... apply techniques of differentiation and integration to model and solve problems.
   … understand the role of Calculus and the infinitesimal in modern mathematics
   ... calculate, by hand, rudimentary integrals and derivatives
   … understand and manipulate various types of functions
   ... recognize the role of technology in Calculus, understand when it should be used, and be aware of its limitations.

Required   **Text:** *Calculus: Early Transcendental Functions*, Smith and Minton, 4th Edition
Materials   **Technology:** Graphing Calculator
                                     Inquire course management system
                                     Installation of *Mathematica* software – see course *Inquire* site for instructions

Attendance Policy: Full attendance is expected. Simple attendance is not graded, but graded activity will occur during many class periods. As stated in the Academic Catalog, "Every student is accountable for all work missed because of class absence. Instructors, however, are under no obligation to make special arrangements for students who are absent." Also, anytime you come in late or leave during class you miss part of the course and you disrupt the educational experience for everyone else. Do this only in the case of emergency.

Overall Workload: In addition to the 3 hours of class time, you are expected to work outside of class for a minimum of 9 additional hours per week.

Quizzes   There will be routine "weekly" quizzes on recent calculus material. No make-up quizzes will be given, but the lowest quiz grade will be dropped.

                         Class preparation quizzes: Frequently students will be directed to prepare for class watching a video. A brief quiz (some on Inquire, some on paper) will follow each assignment. No make-ups.

Mathematica   Throughout the semester we will enhance our study of calculus by doing a series of Mathematica Projects. These projects will introduce you to the software package Mathematica and allow you to take advantage of its graphical and computational capabilities to reinforce your understanding of calculus.

Practice: Practice problems will be assigned regularly from the textbook. For the most part these will not be graded, but it is important that you do these exercises in a timely fashion so that you can monitor your own progress.

Tests/Exams:	There will be four tests and a final exam as indicated on the day by day course schedule. Make-up tests will be given only under *very* extenuating circumstances that prohibit you from physically appearing in the classroom.
Co-curricular Involvement:	The Math, Computer Science and Physics department offers a series of discussions that appeal to a broad range of interests related to these fields of study. These co-curricular sessions will engage the community to think about ongoing research, novel applications and other issues that face our discipline. There is a link to the dates and times for these sessions on *Inquire*.
	Members of this class are invited to attend all appropriate meetings; however participation in **at least two** of these sessions is mandatory. A response form is available on Inquire. Within one week of attendance, students must submit this completed form to the instructor. These two scores will count in the Preparation Quiz category.
Inquire **Policy**	Students are required to be knowledgeable of all postings on Inquire. It is each student's responsibility to consistently (at least daily) monitor Inquire for course information. Any assignment that requires an Inquire upload will not be accepted in any other form. Also, to receive credit for uploads, the file must be immediately readable on the instructor's college computer. It is the student's responsibility to make successful submissions. It is the student's responsibility to resolve technology problems through the college's IT department.
Academic Integrity And Electronic Devices:	The college policy is fully supported. All tests and quizzes will be closed book and closed notes unless otherwise indicated.
	The use of any electronic device during a quiz or exam is strictly prohibited. Exceptions may be made regarding the use of calculators or computers. Cell phones are never permitted. **Any use of a non-approved device during a quiz or exam will be considered a breach of academic integrity.**
Grading:	Weights for the various components of the course and final course letter grade assignments are given below:

"Weekly" Quizzes	15%	A 93-100	B- 80-82	D+ 67-69
Preparation Quizzes	10%	A- 90-92	C+ 77-79	D 63-66
Mathematica Projects	15%	B+ 87-89	C 73-76	D- 60-62
Tests (10% each)	40%	B 83-86	C- 70-72	F below 60
Final Exam	20%			

IMPORTANT TO NOTE:

The Inquire gradebook will be used for grade STORAGE only. Inquire will not be used to calculate your official course average. Any averages you might see in Inquire for this course should not be trusted.

Material, content, and scheduling are subject to change if deemed appropriate or   necessary by the instructor.

Date	Topic	Mathematica
M- Jan 16	Intro	
W- Jan 18	3.3 on [a,b]	
F - Jan 20	3.3 on (a,b), (a,b], [a,b)	P1: Local max & min
M - Jan 23	3.4	
W - Jan 25	3.4/3.5	
F - Jan 27	3.5	
M - Jan 30	3.6 w/ Mathematica	P2: Graphing with f',
W - Feb 1	3.7	
F - Feb 3	3.7	P3: Elvis pt 1
M - Feb 6	Review	
W - Feb 8	**Test 1**	
F - Feb 10	3.8	
M - Feb 13	3.8/3.9	P4: Elvis pt 2
W - Feb 15	4.1	
F - Feb 17	4.1/4.2	
M-Feb 20	4.2	
W - Feb 22	4.3	P5: Areas and Distrib
F- Feb 24	4.3/4.4 M - Feb 27 4.4	
W-Mar 1	Review F - Mar 3 **Test 2**	

Spring Break

Date	Topic	Mathematica
M - Mar 13	4.5	
W - Mar 15	4.5	P6: Integration
F - Mar 17	4.6	
M - Mar 20	4.6	
W - Mar 22	4.7	P7: Numerical Integr
F - Mar 24	5.1	
M -Mar 27	5.1	
W -Mar 29	Review	
F- Mar 31	**Test 3**	
M - Apr 3	**5.2**	
W - Apr 5	5.2/5.4	P8: Solids of Revoluti
F - Apr 7	5.4/6.2	
M - Apr 10	6.2	
W - Apr 12	6.6 w/ review of L'Hopital's Rule	
F- Apr 14	No Class - Good Friday	
M - Apr 17	6.6	P9: Gabriel's Horn
W - Apr 19	Review	
F - Apr 21	**Test 4**	
M - Apr 24	Review	