Math 119 - Integral Calculus Spring 2016

Instructor:	Prof. Jan Minton	461 Trexler Hall

Office Hours: Mon & Wed: 2:30-4:30
Tue & Thur: 1:30-2:30
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 Materials

Text: *Calculus: Early Transcendental Functions*, Smith and Minton, 4th Edition
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%				

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

Date	Topic	Mathematica
M- Jan 18	Intro	
W- Jan 20	3.3 on [a,b]	
F - Jan 22	3.3 on (a,b), (a,b], [a,b)	P1: Local max & min
M - Jan 25	3.4	
W - Jan 27	3.4/3.5	
F - Jan 29	3.5	
M - Feb 1	3.6 w/ Mathematica	P2: Graphing with f', and f''
W - Feb 3	3.7	
F - Feb 5	3.7	P3: Elvis pt 1
M - Feb 8	Review	
W - Feb 10	**Test 1**	
F - Feb 12	3.8	
M - Feb 15	3.8/3.9	P4: Elvis pt 2
W - Feb 17	4.1	
F - Feb 19	4.1/4.2	
M-Feb 22	4.2	
W - Feb 24	4.3	P5: Areas and Distributions
F- Feb 26	4.3/4.4	
M - Feb 29	4.4	
W-Mar 2	Review	
F - Mar 4	**Test 2**	
	Spring Break	
M - Mar 14	4.5	
W - Mar 16	4.5	P6: Integration
F - Mar 18	4.6	
M - Mar 21	4.6	
W - Mar 23	4.7	P7: Numerical Integration
Good Friday	No Class	
M -Mar 28	5.1	
W -Mar 30	5.1	
F- Apr 1	Review	
M - Apr 4	**Test 3**	
W - Apr 6	5.2	
F - Apr 8	5.2/5.4	P8: Solids of Revolution
M - Apr 11	5.4/6.2	
W - Apr13	6.2	
F- Apr 15	6.6 w/ review of L'Hopital's Rule	
		P9: Gabriel's
M - Apr 18	6.6	Horn
W - Apr 20	Review	
F - Apr 22	**Test 4**	
M - Apr 25	Review	
Th - Apr 28	**Final Exam 2:00-5:00**	