MATH 201: Calculus I

Spring 2012 **Section 001** **4 credit hours**

Instructor: **Dr. Kristen Abernathy**

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Course Meeting Schedule: MWF 9:30-10:45 Owens G07

Office Hours: MW: 1:30 – 2:30
TR: 10: 00 – 11:00
And by appointment

The instructor reserves the right to make modifications to this syllabus. Students will be notified in class & by email.

Winthrop University is dedicated to providing access to education. If you have a disability and require specific accommodations to complete this course, contact the Office of Disability Services (ODS) at 323-3290. Once you have your official notice of accommodations from the Office of Disability Services, please inform me as early as possible in the semester.

Texts, Materials, and Resources

- Calculus by Anton, Bivens and Davis Edwards (ninth edition)
- MATH201 students are expected to have a graphing calculator.
- The Mathematics Tutorial Center information is available at: www.winthrop.edu/mtc .
- Winthrop's Academic Success Center (ASC) is a free resource for all undergraduate students seeking to perform their best academically. Information is available at www.winthrop.edu/success.

Determination of Grade

Write-ups (10%) Regular homework will be assigned for each section. Homework will not be graded, but you will be asked to write-up a solution to a different homework problem on a weekly basis. In addition to correctness, these write-ups will focus on writing a clear and logically sound argument.

Quizzes (10%) There will be ten in-class quizzes as listed on the attached schedule. You are expected to take the quizzes at the scheduled time. Make-up quizzes are not given. Your two lowest quiz grades will be dropped. Quizzes are based on the material covered in class and the assigned homework.

Projects (10%) To supplement the material on derivatives and integrals, there will be a project associated with each topic. You may work in groups of two or three and you will be given two weeks to complete each project. The first project will be assigned at the conclusion of chapter 2 (around 2/17) and the second project will be assigned at the conclusion of chapter 4 (around 4/2). Each group will receive a handout describing the expectations for each project.

Tests (50%) There will be five in-class tests as listed on the attached schedule. You are expected to take the tests and the final exam at the scheduled time. Make-up tests are not given. An unexcused absence will result in the grade of zero for any missed test. Excused absences from tests will be dealt with at the end of the term and may depend on individual circumstances. Anticipated absences should be reported and verified in advance; emergency absences must be verified within one week after returning to class. Any questions concerning grading of tests must also be resolved within one week after the tests are returned.

Final Exam (20%) The cumulative final exam is scheduled for Tuesday, May 1, 2012, 3:00 PM.

Letter Grade Determination:

92-100 A	90-91.99 A-	87-89.99 B+	82-86.99 B	80-81.99 B-	
77-79.99 C+	72-76.99 C	70-71.99 C-	67-69.99 D+	62-66.99 D	60-61.99 D-

Policies

1. Review the student code of conduct for university polices on academic misconduct. Academic misconduct will not be tolerated and will result in a failing grade on the assignment and/or in the course. The full handbook is available online at: (http://www2.winthrop.edu/studentaffairs/handbook/StudentHandbook.pdf)
2. All electronic devises (including cell phones) other than a calculator should be on silent and kept in your book bag or purse throughout class time unless otherwise instructed. (Note if you have some educational, health, or physical reason for an electronic device you must work with your professor to inform them of the accommodation.)
3. A grade of C or better in MATH 201 is required for admittance into MATH 202
4. Students required to take MATH104 as a co-requisite, must drop MATH201 if MATH104 is dropped.

SU Deadline: 1/24 **Course Withdraw Date:** 3/7

Spring Break: 3/12 – 3/16 **Final Exam:** 5/1 3:00 pm

Attendance Policy

The University Attendance policy as stated in the 2011-2012 catalog (http://www.winthrop.edu/uploadedFiles/recandreg/Catalogs/11-12/Academic_Regulations.pdf): if a student's absences in a course total 25 percent or more of the class meetings for the course, the student will receive a grade of N if the student withdraws from the course before the withdrawal deadline; after that date, unless warranted by documented extenuating circumstances as described in the previous section, a grade of F or U shall be assigned.

Course Content
Calculus is the mathematics of change that has enabled scientists, engineers, economists, and others to model real-life situations. In this course, we'll frequently reformulate precalculus ideas through the use of a limit process, which is fundamental to the study of calculus. When possible, we'll make intuitive and geometric observations about such concepts, and relate them to applicable situations in the world around us. Specific topics include: Limits, continuity, and the definition of the derivative; techniques of differentiation, graphing, maximum/minimum and related problems; definite integrals and the fundamental theorem of calculus; integration and differentiation of transcendental functions.

Prerequisites: A grade of C or better in MATH 101 or satisfactory score on Mathematics placement exam. **Corequisites**: Math 104 or satisfactory score on Mathematics placement exam. A grade of C or better in MATH 101 replaces these corequisites. **Notes**: Lab Fee: $10. Credit will not be allowed for MATH 105 and MATH 201.

Course Goals and Alignment with the General Education Goals

The course meets the Quantitavive Reasoning requirement through the following goal alignment. Further when not used as the QR requirement, this course meets the Logic, Language, and Semiotics requirement through activities and requirements that require students to: (1) use logic and mathematical information to draw reasonable conclusions and (2) use the symbols and language of mathematics to communicate about problems and present solutions.

Dprt	Course Goals	General Education Goals
Students apply fundamental mathematical concepts and techniques to solve problems and evaluate results.	Apply derivatives and integrations to real life problems	2.1 Solve mathematical problems of the type necessary for living in today's and tomorrow's world.
		2.3 Understand that quantitative analysis is important to almost every endeavor of humankind.
		3.2 Analyze and use a variety of information gathering techniques
	Use calculus to analyze graphs of functions and to determine extreme values of functions.	2.1 Solve mathematical problems of the type necessary for living in today's and tomorrow's world.
		2.2 Make valid inferences from data.
		2.3 Understand that quantitative analysis is important to almost every endeavor of humankind.
		2.4 Understand the concept and application of quantitative relationships.
		3.1 Identify sound and unsound reasoning.
		3.2 Analyze and use a variety of information gathering techniques
	Use derivatives to solve optimization problems and problems involving rates of change.	2.1 Solve mathematical problems of the type necessary for living in today's and tomorrow's world.
		2.2 Make valid inferences from data.
		2.3 Understand that quantitative analysis is important to almost every endeavor of humankind.
		2.4 Understand the concept and application of quantitative relationships.
		3.1 Identify sound and unsound reasoning.
		3.2 Analyze and use a variety of information gathering techniques
	Demonstrate an understanding of what calculus is and how it compares with pre-calculus.	2.2 Make valid inferences from data.
	Use limits to investigate the concept of derivatives via slopes of tangent lines to graphs.	2.2 Make valid inferences from data.
		2.4 Understand the concept and application of quantitative relationships.
		3.2 Analyze and use a variety of information gathering techniques
	Use limits to investigate the concept of integration.	2.2 Make valid inferences from data.
		2.4 Understand the concept and application of quantitative relationships.
		3.2 Analyze and use a variety of information gathering techniques

For purposes of departmental and touchstone program assessment of student learning in this course, sections of the final exam will be tabulated for all students and cover the goals listed above. Individual tests and course grades may also be used as an indication of progress toward the above goals.

SCHEDULE

Date	In Class	HW
M 1/9	1.1	1-9 (odd), 13,14,17-25 (odd)
W 1/11	1.2	1,2,3-43 (odd)
F 1/13	1.3 QUIZ 1	1-35 odd, 39,43,51-55,57
W 1/18	1.5-1.6	1.5: 5,7,9,11-21 (odd),29,31,47,52 1.6: 11-31 (odd) 33,53a
F 1/20	2.1 QUIZ 2	1a,3,5,7,9,11-18,23ab,25abc,27
M 1/23	2.2	1,5,7,9,13,23,25,27-30,41,47
W 1/25	REVIEW	
F 1/27	TEST 1	
M 1/30	2.3	2.3: 1-23(odd),29,31,33,35,41,43,45,61
W 2/1	2.4	2.4: 1-21(odd)25,27,39,40
F 2/3	2.5 QUIZ 3	1-25 (odd),31-37,39,40,49
M 2/6	2.6	1-19 (odd) 27,31,33,35,37,39,51,57,65a,67,68,69,75,76,77,78,82,83
W 2/8	2.7	1-19 (odd) 27,29,31,32b
F 2/10	2.8 QUIZ 4	1-15 (odd) 25,27,29,32,43,44,47
M 2/13	2.9	1ac,3a,5,7,17-27(odd),28,31,37,39,41,43,44
W 2/15	REVIEW	
F 2/17	TEST 2	
M 2/20	3.1	1,3,5,7,11-27(odd),31,33,49,55,57
W 2/22	3.2	1-17(odd),25,27,33-41(odd),67
F 2/24	3.4 QUIZ 5	1,7-23(odd),27,33,37,41,49
M 2/27	3.5	3,5,9,11,13,19,21,23,31,43,53,55,57
W 2/29	3.7	3,7,11,13,15,17,25,35
F 3/2	3.8 QUIZ 6	1,3,5,7,11,15,19,20,21
M 3/5	REVIEW	
W 3/7	TEST 3	
F 3/9	4.2	5-29(odd),39,41,43,45,67
M 3/19	4.3	1,3,5,7,11-33(odd),34,35,41
W 3/21	4.5	9a,13,14,15acd,17,21,23,25,27
F 3/23	4.6 QUIZ 7	5,7,11-21(odd),25,35,37,47,49,51,53,55,59
M 3/26	4.7	5-15 (odd), 31-41 (odd)
W 3/28	4.8	1-11(odd),27,28
F 3/30	REVIEW QUIZ 8	
M 4/2	TEST 4	
W 4/4	6.2	1-25(odd),35,37,39,57-71(odd)
F 4/6	6.3 QUIZ 9	15-29(odd),55-73(odd)
M 4/9	6.4	9-23 (odd),33,37,38
W 4/11	6.5	7-21(odd),25,27,31,33,43,45,55,56
F 4/13	6.7 QUIZ 10	13-45(odd),65,67
M 4/16	REVIEW	
W 4/18	TEST 5	
F 4/20	REVIEW FOR FINAL	
M 4/23	REVIEW FOR FINAL	