SYLLABUS
MATH 142-Y05/Y06: SPRING 2018

ANN CLIFTON
UNIVERSITY OF SOUTH CAROLINA

Welcome to Math 142

Math 142: Calculus II is a continuation of Calculus I. The beginning of the course will review integration by substitution and introduce students to various other methods of integration. Techniques of integration will cover integration by parts, trigonometric substitutions, partial fractions, methods of numerical integration, and improper integrals. The second half of the course will concentrate primarily on sequences and series of real numbers. Emphasis will be on concepts of convergence and divergence of series, and the study of various tests for the modes (absolute, conditional,...) of convergence/divergence. Concepts will be extended to functions in the form of power series and Taylor's theorem. If time permits, we will introduce parametric equations and explore polar vs. rectangular coordinate systems.

Contact Information

E-mail:	aclifton@math.sc.edu;
	Please use your University email for correspondence. The spam system is very strict and I rarely receive emails from @gmail, @yahoo, or similar accounts.
	You should regularly check your university email as important announcements and materials are sent through email.
	You are welcome to email me any time with questions and I will do my best to respond within 24 hours (48 on weekends).
Office:	LeConte 400G.
Office Hours:	Monday-Wednesday 2:30-3:30pm
	These are open office hours/help sessions - Feel free to drop by with questions! Other times are available by appointment; email first, please.
	There may be some days that I will have to adjust my office hours. In that case, I will send an email announcement and make an announcement in class.

Course Information

Lectures:	Tuesday/Thursday, 4:25 pm - 5:40pm pm in LeConte, Room 113.
Recitations:	Section Y05: Monday, 4:40 pm - 5:30 pm in LeConte 310,
	Section Y06: Monday, 5:50 pm - 6:40 pm in LeConte 310.
Lab:	Section Y05: Wednesday, 4:40 pm - 5:30 pm in LeConte 303A,
	Section Y06: Wednesday, 5:50 pm - 6:40 pm in LeConte 303A.
Teaching Assistant:	Jack Dalton
Pre-Requisites:	Qualification through the Math Placement Test or a grade of **C** or better in MATH 141.

COURSE INFORMATION (CONT'D)

Learning Outcomes: Upon successful completion of this course, students should be able to:

1) Develop as an independent learner with the ability to approach problems from a conceptual viewpoint,

2) Utilize more than one idea in a single problem, and to apply appropriate calculus skills to problems in context,

3) Master concepts and gain skills needed to solve problems related to techniques of integration, sequences and series, Taylor polynomials and series, parametric and polar coordinate curves.

Required Text: *Thomas' Calculus: Early Transcendentals,* 13/e, Thomas, Weir, and Hass, Pearson, 2014. ISBN (for Value Pack MML code+Text from Pearson Store): 1323157131. **MyMathLab will NOT be used for this course.** If you have access to MML already, you do not have to purchase a hard copy of the text since MML includes an online version.

Course Website: The syllabus, course outline, notes, handouts, and course announcements will be posted on the course webpage: `http://people.math.sc.edu/aclifton/courses/142/Spring18/teaching.html`. Grades and homework solutions will be posted on Blackboard.

COURSEWORK

Homework: Homework from the book will be assigned at the end of every section and students are encouraged to complete (or at the very least attempt) every assignment. Homework assignments and solutions are posted on Blackboard under the Course Documents tab.

Quizzes: Quizzes will be given weekly and will be based on the homework for the most recent sections covered. Quizzes will generally be 2 problems and should take between 10-15 minutes at the end of class. Questions will be a combination of short answer questions, multiple choice questions, and applications. You will be graded based on a completely correct solution - not just the final answer. All steps must be correct for full credit. **No make-up quizzes will be given.**

**The lowest quiz grade will be dropped at the end of the semester. If you miss more than one quiz with a documented, excused absence, please come talk to me.

Exams: There will be three in class exams. **No make up exams will be given.** If you miss one exam, your final exam grade will replace the missing exam grade. Any further missed exams will receive a zero. This policy is intended only for exams missed due to illness, accidents, etc. It does **NOT** mean that your lowest exam grade will be dropped or replaced. **Phones and graphing calculators will not be allowed on exams.**

Exam 1: Tuesday, February 13

Exam 2: Thursday, March 8 (**Note:** This is the Thursday before Spring Break.)

Exam 3: Thursday, April 12

Final Exam: There will be a 2.5 hour cumulative final exam on **Tuesday, May 8 from 4:00-6:30pm**.

Grading

Scale: Grades will be assigned on the following scale:

A:	90-100%	C:	70-75.9%
B+:	86-89.9%,	D+:	66-69.9%
B:	80-85.9%,	D:	60-65.9%
C+:	76-79.9%,	F:	<60%

Weights: Final grades will be calculated with the following weights:

Maple Lab/Recitation:	75 points (12%)
Quizzes:	100 points (16%)
Exams:	100 pts each (16% each)
Final Exam:	150 points (24%)
Total:	625 points (100%)

Expectations

Academic Integrity: Students are expected to act in accordance with the *University of South Carolina Honor Code*, which can be found here: `https://www.sa.sc.edu/academicintegrity/honor-code-policy-information/`. **Any breach of the Honor Code will result in an F for the course.**

Attendance: Students are obligated to complete all assigned work promptly, to attend class regularly, and to participate in whatever class discussion may occur. The following events or circumstances are potentially excusable absences:

○ Participation in an authorized University activity (such as musical performances, academic competitions, or varsity athletic events in which the student plays a formal role in a University sanctioned event),

○ required participation in military duties,

○ mandatory admission interviews for professional or graduate school which cannot be rescheduled,

○ participation in legal proceedings or administrative duties that require a student's presence,

○ death or major illness in a student's immediate family,

○ illness of a dependent family member,

○ religious holy day if listed on `www.interfaithcalendar.org`,

○ illness that is too severe or contagious for the student to attend class,

○ weather-related emergencies.

See `http://bulletin.sc.edu/content.php?catoid=52&navoid=1280#Attendance_Policy`

FAQ: **How much time should I be spending on Math 142 each week?** A full-time job is considered 40 hours per week and a full-time student is considered to have a class schedule of 15 hours per week. If you subtract 15 hours of class time from the 40 hours, that leaves 25 hours of studying per week. 3/15=1/5 of 25 hours is 5 hours of studying Math 142, outside of class time per week.

Warning: If your last math class was several years ago or if your prerequisite math skills are weak, then you may need to spend considerably more time on this class in order to be successful! If you are spending much more than 5 hours per week on this course, please come see me during office hours.

EXPECTATIONS CONT'D

Additional Help: There are Teaching Assistants available to answer your questions in the Math Tutoring Center in LeConte College room 105. The hours will be posted on the door. This is an excellent resource! Try to form a study group to study and learn with; it really works for some people. We also have an SI Leader for this class! Our SI will be available to answer questions during their SI sessions. Please speak to them or visit `http://www.sc.edu/success/siforstudents.html` for more information. The TA for this class (Jack) will have weekly office hours and is available to answer your questions. Don't forget about me! I am available during office hours and by appointment to answer any question you may have. The Academic Success Center website has additional information on resources available to students.

Disclaimer: I will try not to make changes to the syllabus during the course of the semester. However, if changes are necessary, then they will be announced both in class and on Blackboard and the revised syllabus will be posted on Blackboard.

IMPORTANT DATES AND DEADLINES

Event	Date
Dr. Martin Luther King, Jr. Service Day (no classes)	Jan. 15, Monday
Classes Begin	Jan. 16, Tuesday
Last day to change/drop a course without a grade of "W" being recorded (Part of Term 30)	Jan. 22, Monday
Last day to apply for May graduation	**Graduation Application Deadline**
Last day to drop a course or withdraw without a grade of "WF" being recorded (Part of Term 30)	March 9, Friday
Midpoint in Semester	March 9, Friday
Spring Break (no classes)	March 11 – 18, Sunday – Sunday
Awards Day	April 19, Thursday
Last Day of Classes	April 30, Monday
Reading Day	May 1, Tuesday
Final Examinations (includes exams on Saturday)	May 2 – 9, Wednesday - Wednesday
Commencement Exercises in Columbia	May 11 – 12, Friday - Saturday

The Final Exam Schedule can be found here: `http://sc.edu/about/offices_and_divisions/registrar/final_exams/final-exams-spring-2018.php`.

The following is an outline of topics to be covered this semester. The sections covered for each exam are subject to change.

Lecture #	Text Sections	Topics
1	8.1	Using Integration Formulas
2	8.2	Integration by parts
3	8.3	Trig integrals
4	8.4	Trig substitution
5	8.5	Partial fractions
6	8.7	Numerical integration
7	8.8	Improper integrals
8	Review	
9	Exam 1	
10	10.1	Sequences
11	10.2	Series
12	10.3	Integral test
13	10.4	Comparison tests
14	10.5	Ratio and root tests
15	10.6	Alternating series
16	Review	
17	Exam 2	
18	10.7	Power series
19	10.8	Taylor and Maclaurin series
20	10.9	Remainder estimation
21	10.10	Applications of Taylor polynomials
22	11.1	Parameterized plane curves
23	11.2	Tangents and arc length
24	Review	
25	Exam 3	
26	11.3, 11.4	Polar coordinates
27	11.5	Area and arc length in polar coordinates
28	Review	