

- Develop the ability to read and comprehend mathematical information independently.
- Develop a strong graphic, numeric, and analytic understanding of calculus.

Expected Learning Outcomes:

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

- Graph functions with and without using mathematical software
- Define and illustrate the ideas of limits, continuity and differentiation
- Estimate derivatives from numerical or graphical data
- Calculate derivatives of algebraic and transcendental functions involving sums, products, and quotients
- Calculate derivatives and integrals of functions using mathematical software
- Use implicit differentiation
- Apply derivatives to problems involving tangent lines, velocity and acceleration, related rates, optimization, increasing and decreasing functions, concavity and points of inflection
- State the Intermediate Value and illustrate its practical use for solving equations
- Model physical, biological, business and social science applications using derivatives
- Define and illustrate the ideas of anti-differentiation
- Define the definite integral, and state and apply the Fundamental Theorem of Calculus
- Use calculus to calculate various areas

Grade Policy: The semester grade for this course will be calculated according to the following portions:

Attendance and Class Participation:	5%
Weekly quizzes	25%
4 in-class exams (15% each-lowest grade dropped)	45%
Final Exam	25%

Course Grading Scale:

A → 93-100	B+ → 86-89	C+ → 76-79	D+ → 63-65
A- → 90-92	B → 83-85	C → 70-75	D → 60-62
	B- → 80-82	C- → 66-69	F → Below 60

Attendance: Each class lecture is built on the material covered in the previous class meeting. Hence, it is very important that you attend the lectures. If you have to miss a lecture due to unavoidable reasons, **it is your responsibility to catch up on the concepts covered.** While I will not formally record your attendance, I will definitely get to know you and your rate of presence over time. Students missing two weeks of class may be administratively withdrawn from the course.

Class Participation: Each student is required to present at least 2* HW problems to the class during the semester. Also, students are encouraged to ask questions and respond to comments during the class. *May be changed based on the course progression.

Quizzes: There will a 10-minute weekly quiz designed to evaluate your understanding of the current focus of the class. It will **strongly** mimic current HW assignments. These

quizzes will generally be given on Friday at the end of class, unless otherwise mentioned. **The will be no make-ups on quizzes.** Depending on the number of quizzes given over the semester, I will drop some of the lowest scores (including zeroes).

Homework: Homework problem sets will be offered for each section covered in the class. These sets will not in general be collected. However, I may ask for specific sets of problems from time to time. These will be graded and count as a quiz grade. Homework that is collected is due at the **BEGINNING** of class. **NO homework will be accepted after the first 5 minutes of class.** Homework will only be accepted if all pages are **stapled** or clipped together, not folded, prior to class. Also, I will ask that you keep your HW in a single **binder/hw notebook**. I will ask to see this notebook a couple of times during the semester. It will also be graded and counted as a quiz grade. **The HW notebook grade cannot be dropped and will be counted in the final quiz grade.** I strongly encourage you to work with other students when solving homework problems. I only ask that you write up your problem solutions individually.

Exams: There will be 4 in-class exams given over the course of the semester. **NO make-ups will be given.**

Final Exam: It will be held on **Tuesday, December 10th, 1:00pm-3:00pm.**

Technology Usage Policy: Students are **REQUIRED** to turn **OFF** all cell phones before entering the classroom. **Students will be asked to leave the class if their cell phone is to ring or they are texting in class.** Laptops, tablets and other electronic devices are not to be used during class. If you have an electronic textbook, or need the use of other technologies during class, it must be approved by the professor **prior to use.** Personal calculators cannot be used for exams, however, department issued calculators will be provided when needed.

Additional Help: There is a Mathematics Tutoring Lab that will be in operation in Tapley Hall Room 301. It is staffed with or undergraduate math majors to offer help to students of this course, as well as others. Check the Math Lab door for hours of operation. My office hours can be used for individualized assistance and/or problem solving sessions.

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Student Access Statement: Spelman College is committed to ensuring the full participation of all students in its programs. If you have a documented disability (or think

you may have a disability) and, as a result, need a reasonable accommodation to participate to participate in class, complete course assignments, or benefit from the College's programs or services, you should contact the Student Access Center (SAC) as soon as possible. For further information about services for students with disabilities, please contact the SAC at 404-270-5289, located in MacVicar Hall, Room 106.

Enjoy and Good Luck!!!

Course Outline

I. Limits

Limits: A Numerical and Graphical Approach

Basic Limit Laws

Evaluating Limits Algebraically

Limits and Continuity

Trigonometric Limits

Limits at Infinity

The Intermediate Value Theorem

Formal Definition of a Limit

II. Differentiation

Definition of the Derivative

The Power Rule

The Product and Quotient Rules

Rates of Change and Higher Derivatives

Derivatives of Trigonometric Functions

The Chain Rule

Derivatives of Exponential and Logarithmic Functions

Implicit Differentiation

Related Rates

III. Applications of the Derivative

Linear Approximation and Applications

Extreme Values

The Mean Value Theorem and Monotonicity

The Shape of a Graph

Graph Sketching and Asymptotes

Applied Optimization

Antiderivatives

IV. The Integral

Approximating and Computing Area

The Definite Integral

The Fundamental Theorem of Calculus

Integration by Substitution Method

Area Between Two Curves

Volumes of Revolution

Math 231 Calculus I Tentative Weekly Schedule and Homework

	Schedule	Homework
8/21-8/23	Review	Chapter Review Page 56-58 (optional)
8/26-8/30	Sections 2.1 and 2.2	2.1 1-7 (all), 9-18 (3s), 20, 24, 25 2.2 1,2,5,6,18-36(3s),38,42,50,51,53
9/2-9/6	Labor Day 9/2 ; Sections 2.3, 2.4 and 2.5	2.3 3-30(3s) 2.4 1,2,3,4,5,6,6-27(3s), 36-42(3s), 49,51, 69-78(3s) 2.5 3-33 (3s)
9/9-9/13	Sections 2.6, 2.7, and 2.8	2.6 1-5(all), 7-15(odd), 18-48(3s) 2.7 1,2,7-15(odd),17,18,21,24,25,26,30 2.8 1-4(all), 17, 19
9/16-9/20	Sections 2.9 and 3.1 Exam 1 (Chapter 2)	2.9 1-4(all) 3.1 1,3,6,9,11,12,13,16,17,27-42(3s)
9/23-9/27	Sections 3.2, 3.3, and 3.4	3.2 3-39(3s), 43,45,50,51,66,67 3.3 3-33(3s) 3.4 1-5(odd), 11,15,23,43,44
9/30-10/4	Sections 3.5, 3.6 and 3.7	3.5 3-24(3s),39,40 3.6 3-30(3s) 3.7 3-69(3s)
10/7-10/11	Sections 3.8, 3.9 and 3.10	3.8 3-12 (3s), 21-33 (3s) 3.9 3-24 (3s), 40,44,45,51,55,57,65,67,68,74 3.10 3-24 (3s), 31, 33
10/14-10/18	Fall Break 10/7-8 ; Sections 3.11 and 4.1, Exam 2 (Chapter 3)	3.11 1,3,5,9,21 4.1
10/21-10/25	Sections 4.2, 4.3, and 4.4	4.2 1,2,3-21(3s), 30-39(3s), 48,51,55,65,66 4.3 11-18(all), 20,21,24-51(3s) 4.4 3-18 (3s), 23, 39-48(3s), 54, 55
10/28-11/1	Sections 4.5, 4.6 and 4.9	4.5 1, 2,3,8,9,11,13,16,17-29(odd),40 4.6 1,14,17,22,29,31,44,51,52,54,66 4.9 1-7(odd), 9-39(3s), 48-60(3s), omit 54
11/4-11/8	Exam 3 (Chapter 4) ; Sections 5.1 and 5.2	5.1 11,13,14,15 5.2 1,3,4,6,13,29,30-39(3s),55-58(all)
11/11-11/15	Sections 5.3, and 5.4,	5.3 3-42(3s) 5.4 7,8,9,10,11,21,23
11/18-11/22	Sections 5.6, 6.1 and 6.3	5.6 3-21(3s), 27-33(3s), 79-85 (odd) 6.1 6.3
11/25-11/28	Thanksgiving Break 11/27-29 ; Exam 4 (4.9 and Chapter 5 and 6)	
12/2-12/4	Review	
12/9-12/13	Final Exam Tuesday, December 10th 1:00pm-3:00pm	

Instructor: Dr. Anisah Nu'Man

Office: Tapley 309

Email: anisah.numan@spelman.edu

Office Phone: (404)-270-5827

Class Information: MWF 12:00-12:50 pm., Tapley 306

Office Hours: MWR 1:30-3:00 and by appointment.

Prerequisite(s): Grade of "C" or higher in MATH 211 or 231 or equivalent.

Text: *Linear Algebra and its Applications* by David C. Lay, 5th edition.

Course Description: This course will begin with a discussion of linear equations and how to solve them in an algorithmic way. This will lead us to study fundamental concepts of linear algebra considered from three perspectives—abstract algebraic (definitions and theorems), computational (numerical algorithms) and geometric (vectors and subspaces in high-dimensional space). We will cover vectors and matrices, systems of linear equations, determinants, vector spaces, linear transformations, eigenvalues and eigenvectors, orthogonality, and applications, with emphasis on using computers.

4th-Credit Justification: This course has three 50-minute meetings per week, which corresponds to three semester credit hours. The fourth credit hour is given for special work outside the classroom. This may include group projects or special assignments using mathematical software such as MATLAB or MAPLE.

Moodle: This course will make extensive use of Moodle. Course assignments outside of MyMathLab, exam study materials, and project materials will be posted to the course Moodle page. Students are responsible for accessing Moodle daily to keep abreast of material for the course.

Important Dates: Below are a list of important college-wide dates to note:

- End of Add/Drop—August 30th
- Mid-Semester Grades Due— October 18th
- Last Day to Withdraw— October 26th

Student Learning Outcomes: This course will meet the following objectives:

- To provide an understanding of the basic concepts of linear algebra techniques and to introduce the basic language of linear algebra.
- To develop skill in performing computations involving vectors, matrices and systems of linear equations.
- To provide practice in applying the techniques of linear algebra to real world problems.
- To learn to use computer algebra systems to solve linear algebra problems.

In addition to the above course objectives, **YOU WILL**

- Understand the basic language of linear algebra.
- Understand basic concepts of linear algebra techniques.
- Communicate (orally and in writing) an understanding of when and how to apply linear algebra tools.

- Appreciate the vital role that linear algebra plays in many areas of life.
- Perform computations involving vectors, matrices, and systems of linear equations.
- Apply the techniques of linear algebra to various types of problems.
- Use mathematical software to solve linear algebra problems.

Attendance Policy: Each class lecture is built on the material covered in the previous class meeting. Hence, it is very important that you attend the lectures. If you have to miss a lecture due to unavoidable reasons, it is your responsibility to catch up on the concepts covered. Attendance will be taken daily and students missing two weeks of class may be administratively withdrawn from the course.

Respect Policy: In this class we will work to promote an environment where everyone feels safe and welcome, even during uncomfortable conversations. Every voice in the classroom has something of value to contribute to class discussion. In this class we will respect the diversity of individual beliefs, backgrounds, and experiences and every member of this class must show respect for every other member of this class. You are encouraged to not only take advantage of opportunities to express your own ideas, but also, learn from the information and ideas shared by other students.

Test Dates: You will have three in-class midterm exams that is each worth 15% of your grade and a comprehensive final exam that is worth 25%. Tentative dates for the exams are given in Table 1. *No make up exams will be given.* However, for verified emergencies, arrangements can be made ahead of the scheduled exam time. Please make note of the exam dates immediately.

Exam 1	September 13, 2019
Exam 2	October 4, 2019
Exam 3	November 8, 2019
Final Exam	Wednesday, December 11, 2019 1:00-3:00 pm

Table 1: Tentative dates for exams and group presentations.

Quizzes: There will be a number of weekly individual quizzes throughout the semester. The quizzes will cover material from MyMathLab (MML) assignments and class work. Quizzes are meant to provide students with checkpoints for their understanding of course material before the midsemester exams.

Homework: There will be approximately eleven (11) online homework assignments through MyMathLab.

Grading Policy: Conventional grading without curves. I reserve the right to alter your final grade within a reasonable deviation when your **class attendance** and **participation** are considered. The distribution of each category for which your performance will be graded is given in Table 2.

The grading scale for the course will be no worse than the following:

	B+ 86-89	C+ 76-79	D+ 63-65
A 93-100	B 83-85	C 70-75	D 60-62
A- 90-92	B- 80-82	C- 66-69	F 0-59

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Category	Percentage
Class Participation & Reading Guides	10%
MyMathLab Homework	10%
Quizzes	10%
Midterm Exams	45%
Final Exam	25%

Table 2: Grade distribution

All member of the academic community of Spelman College are expected to understand and follow the basic standards of honesty and integrity, upholding a commitment to high ethical standards. Students are expected to read and abide by the Spelman College Code of Conduct (see the current Spelman College Handbook) and are expected to behave as mature and responsible members of the Spelman College academic community. Students are expected to follow ethical standards in their personal conduct and in their behavior towards other members of the community. They are expected to observe basic honesty in their work, words, ideas, and actions. Failure to do so is a violation of the Spelman College Academic Integrity Policy. Violators will be subject to the sanctions outlined in the Spelman College Bulletin.

Accommodations Policy: Spelman College is sensitive to the special needs of students with disabilities. Any student who feels she may need an accommodation based on the impact of a disability should go to the Student Access Center (MacVicar Hall, Room 106) to privately discuss her specific needs. Please contact the Office of Disability at 404-270-5289 in MacVicar Hall to coordinate reasonable accommodations.

Student Resources: Students needing tutorial services should be referred to the Student Success Center, Milligan Building, 2nd Floor. In addition to Student Success Center the Math Lab is located in Tapley 301.

Inclement Weather Policy: Students will be emailed in the event that class is cancelled due to inclement weather.

This syllabus is meant to serve as a general overview of the course. I reserve the right to make adjustments to the syllabus as necessary. Any changes will be announced in class and on Canvas.

Topics Covered with Dates The following table shows the material expected to be covered. Note that what is shown here is approximate; please be alert for changes throughout the semester. *Pre-Class Tasks* are to be complete for the indicated class date, *In-Class Tasks* will done during the indicated class period, and *Post-Class Tasks* should be done after class to support in class discussion.

Class Day	Pre-Class Tasks	In-Class Tasks	Post-Class Tasks
W 8/21		Syllabus, Section 1.1	Register for MML MML 1 Assigned
F 8/23	RG 1	Section 1.2	
M 8/26		Section 1.2 Continued	
W 8/28	RG 2	Section 1.3	MML 1 Due, MML 2 Assigned
F 8/30		Quiz 1, Section 1.3 Continued	
M 9/2	RG 3	Labor Day—No Classes	
W 9/4		Section 1.4	MML 2 Due, MML 3 Assigned
F 9/ 6	RG 4	Quiz 2, Section Section 1.5	
M 9/9		Section 1.5 Continues	
W 9/11		Group Work, Exam 1 Review	MML 3 Due
F 9/ 13		Exam 1 [Sections 1.1-1.5]	
M 9/16	RG 5	Section 1.7	
W 9/18	RG 6	Section 1.8	MML 4 Assigned
F 9/20		Quiz 3, Section 1.9	
M 9/23	RG 7	Section 2.1	
W 9/25		Section 2.1, Section 2.2	MML 4 Due, MML 5 Assigned
F 9/27		Quiz 4, Section 2.2 Continued	

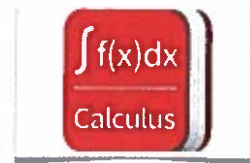
Class Day	Pre-Class Tasks	In-Class Tasks	Post-Class Tasks
M 9/30		Section 2.3	
W 10/2		Group Work, Exam 2 Review	MML 5 Due
F 10/4		Exam 2 [Section 1.7-1.8, 2.1-2.3]	
M 10/7	Fall Break	No Class	
W 10/9	RG 8	Section 3.1	MML 6 Assigned
F 10/11		Quiz 5, Section 3.1	
M 10/14		Section 3.2	
W 10/16		Section 3.2, Section 3.3	MML 6 Due, MML 7 Assigned
F 10/18		Quiz 6, Section 3.3	
M 10/21	RG 9	Section 4.1	
W 10/23		Section 4.2	MML 7 Due, MML 8 Assigned
F 10/25		Quiz 7, Section 4.2	
M 10/28	RG 10	Section 4.3	
W 10/30		Section 4.3, Section 4.5	MML 8 Due, MML 9 Assigned
F 11/1		Quiz 8, Section 4.5	
M 11/4	RG 11	Section 4.6	
W 11/6		Section 4.6, Exam 3 Review	MML 9 Due
F 11/8		Exam 3 [Sections 3.1-3.3, 4.1-4.3, 4.5-4.6]	
M 11/11	RG 12	Section 5.1	
W 11/13		Section 5.1, Section 5.2	MML 10 Assigned
F 11/15		Quiz 9, Section 5.2	
M 11/18	RG 12	Section 5.3	
W 11/20		Section 5.3, Section 5.4	MML 11 Assigned
F 11/22		Quiz 10, Section 5.4	
M 11/25	RG 13	Section 6.1	MML 11 Due
W 11/27		Thanksgiving Break–No Class	
F 11/29		Thanksgiving Break–No Class	

Class Day	Pre-Class Tasks	In-Class Tasks	Post-Class Tasks
M 12/2		Section 6.1, Section 6.2	
W 12/4		Section 6.2	
F 12/6		Reading Period–No Class	

Final Exam Wednesday December 11, 2019 1:00 -3:00 pm

This syllabus is meant to serve as a general overview of the course. I reserve the right to make adjustments to the syllabus as necessary. Any changes will be announced in class, via email, and on Moodle.

CALCULUS-2



4 cr. hrs. | MWF 9:00-9:50 Tapley 313 & R 9:25 -10:15 | Sci 337

Dr. Mohammed Tesemma | Office: Science 322 | Phone: 404-270-5840
Email: mtesemma@spelman.edu

Office Hours: MWF: 11:00-12:00 noon & 1:00-2:00PM. Other times by appointment.

Prerequisites: Grade of C or better in Calculus I (Math 231) or AP Calculus credit.

Course Description

We cover techniques of integration, definite integrals, improper integrals, L'Hopital's rule, Infinite sequences and series, power series, Taylor series, polar coordinates.

Course Rationale

The Calculus sequence (MAT 231, 232, and 324) is intended to provide the student with a skill on differential calculus of one or more variables and to acquaint her with its applications in the natural and social sciences.

Learning Objectives and Outcomes

Objective 1: Develop a strong geometric intuition.

Outcomes: Be able to apply the definite integral to compute area, volume, work, etc.; Be able to draw polar graphs.

Objective 2: Integrate writing and mathematical language in calculus in order to solve integrals using various methods and follow mathematical proofs.

Outcomes: Understand (effectively and efficiently) various integration techniques; Be able to recognize and use L'Hopital's Rule; Analyze proofs of basic theorems of calculus, and construct mathematical proofs.

Objective 3: Provide a catalog of the tools of calculus and demonstrate the uses of calculus in various scientific areas.

Outcomes: Be able to understand and prove convergence and divergence of sequences and series and know various tests of convergence and work with improper integrals.

Objective 4: Develop a strong graphical, numerical, and symbolic understanding of the material.

Outcomes: Know power series representations (focusing on Taylor and Maclaurin series).

Course Outline

Chapter 5: Integration

Section 5.6 - Integration by Substitution

Chapter 7: Integration Techniques

Section 7.1 - Integration by Parts

Section 7.2 - Trigonometric Integrals

Section 7.3 - Trigonometric Substitution

Section 7.5 - Partial Fractions

Section 7.6 - Improper Integrals

Section 7.6 (and Review) Indeterminate Forms and L' Hopital's Rule

Chapter 10: Infinite Series

Section 10.1 - Sequences and their Limits

Section 10.2 - Summing up and Infinite Series

Section 10.3 - Convergence of series with positive terms

Section 10.4 - Absolute and conditional convergence

Section 10.5 - The Ratio and Root test

Section 10.6 - Power Series

Section 10.7 - Taylor Series/Maclaurin Series

Chapter 11: Arc length and Polar coordinates

Section 11.2 - Arc Length

Section 11.3 - Polar Coordinates

Chapter 6: Applications of Integration

Section 6.1 - Area between two curves

Section 6.2 – Volume: Volume of revolution, method of cylindrical shells

Textbook: **Calculus – 2nd edition** Early Transcendentals. By Jon Rogawski.

Reference: Calculus College Outline Series. By Scott Farrad & Nancy Jim Poxon.

Additional Assistance

Directed Supplemental Instructor (TBA)

Math Lab (Rm. Tapley 301)

Center for Academic Planning and Success (CAPS) **Website:** www.spelman.edu/academics/caps

Evaluation

Tests (45%): There will be four tests. One lowest test score will be dropped. No make-up test will be given. Students who miss a test and have a documented excuse *may* replace the missed exam with the final exam score.

Quizzes (15%): Quizzes will be given every Friday with exception of test week. No make-up quizzes will be given. The two lowest quizzes will be dropped at the end of the semester.

Homework (10%): Homework will be assigned and due via WebAssign. It is up to you to check it daily and submit HW before due date. Webassign class key: **spelman 2509 9460**

Class Participation (5%): Mathematics is **NOT** a spectator sport. You must practice and do problems in order to be successful. Participating consists of: regular class attendance, asking questions, answering questions. All students are expected and encouraged to participate in class lecture daily.

Final Exam (25%): There will be a cumulative final exam at the end of the semester. The final exam date is scheduled by the college.

Grading:

Test. 1 = Sept. 13 | Test 2 = Oct. 4 | Test 3 = Nov. 1 | Test 4 = Dec. 2 |

Final exam = Dec. 11. Time. 10:30-12:30 am

	A → 93 – 100	A- → 90 – 92
B+ → 86 – 89	B → 83 – 85	B- → 80 – 82
C+ → 76 – 79	C → 70 – 75	C- → 66 – 69
D+ → 63 – 65	D → 60 – 62	F → Below 60

Student Expectations

- Read the assigned sections regularly and ask questions.
- Try each of the assigned homework problems.
- Keep and study a set of note cards consisting of definitions, key examples, and integration techniques.
- Spend a minimum of 6-8 hours/week studying Calculus 2.

Class Policies

- Students arriving more than 10 minutes late after the beginning of class will not be permitted to enter and will be counted absent for that day.
- Any student missing two weeks or more of class may be administratively withdrawn from the course.
- Students are not permitted to use graphing calculators or cell phone on quizzes or tests. Scientific calculators will be provided for tests.
- Unless needed for a class assignment, cell phone use is prohibited. Make sure cellphones are placed on silent or off before entering class (no vibrate). No texting during class. Students who are caught texting or using their phones may be asked to leave class for the day.

Incomplete Policy

An incomplete (IP) is assigned to a student when extenuating circumstances (e.g. illness, death of an immediate family member, or an emergence) prevents a student who is passing a course from completing the final exam or final assignment(s) by the end of the semester. In consultation with a Dean, the faculty member determines if an IP is appropriate and completes the necessary paperwork. The faculty member determines the date for completion of all work. An IP must be changed by the deadline specified on the College academic calendar. A student who cannot complete the IP by the specified deadline must request an extension from the professor, who notifies the Dean. If the required work is not complete by the established deadline, the IP automatically changes to an F.

Statement on Academic Honesty

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Math 234 Discrete Mathematics Spring 2018 Course Syllabus

Instructor: Joycelyn Wilson

Class Time and Location: Monday, Wednesday, Friday 1:00pm-1:50pm , Tapley 306

Contact Information:

Email: jwilso20@spelman.edu

Office Location: Science Center Room 152

Office Phone: 404-270-5825

Office Hours: Monday, Wednesday, Friday 10:00-10:50am,
Tuesday 1:00-2:00pm, or by appointment

Important Dates:

March 30, 2018 – Last day to withdraw from a course with a “W”

May 2, 2018 – Last day of formal class

May 7, 2018 – Final Exam, Monday, 10:30am-12:30pm

Course Textbooks:

Discrete Mathematics and Its Applications, Kenneth Rosen 7th edition, McGraw Hill.

Calculator: In addition to the text, a scientific, non-graphing calculator is required for this course. Calculators on cell phones or other electronic devices cannot be used in class.

Course Description: This course consists of materials on logic, sets, algorithms/algorithmic analysis, mathematical induction, counting methods, elementary probability, recurrence relations and graph theory.

Prerequisite: Grade of “C” or higher in CIS 121.

Expected Learning Outcomes:

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

- Understand the nature of sets and their importance for the language of Mathematics.
- Understand basic number theory.
- Understand the concept of mathematical induction.
- Identify when mathematical induction is an appropriate method of proof.
- Apply mathematical induction to prove a hypothesis.
- Understand basic concepts of counting.
- Apply basic concepts of counting appropriately to various problems.
- Understand concepts in elementary probability.
- Extend basic counting concepts to solve elementary probability problems.
- Solve recurrence relations.
- Understand relations and their properties.
- Understand the basic concepts of graph theory and trees.

Grade Policy: The semester grade for this course will be calculated according to the following portions:

Attendance and Class Participation:	5%
Special Assignments/Projects	10%
Weekly quizzes	20%
3 in-class exams (15% each)	45%
Final Exam	20%

Course Grading Scale:

A → 93-100	B+ → 86-89	C+ → 76-79	D+ → 63-65
A- → 90-92	B → 83-85	C → 70-75	D → 60-62
	B- → 80-82	C- → 66-69	F → Below 60

Attendance: Each class lecture is built on the material covered in the previous class meeting. Hence, it is very important that you attend the lectures. If you have to miss a lecture due to unavoidable reasons, **it is your responsibility to catch up on the concepts covered.** While I will not formally record your attendance, I will definitely get to know you and your rate of presence over time. Students missing two weeks of class may be administratively withdrawn from the course.

Class Participation: Each student is required to present at least 5* HW problems to the class during the semester. Also, students are encouraged to ask questions and respond to comments during the class. *May be changed based on the course progression.

Quizzes: There will be a 10-minute weekly quiz designed to evaluate your understanding of the current focus of the class. It will **strongly** mimic current HW assignments. These quizzes will generally be given on Friday at the end of class, unless otherwise mentioned. **The will be no make-ups on quizzes.** Depending on the number of quizzes given over the semester, I will drop the two lowest scores (including zeroes).

Homework: Homework problem sets will be offered for each section covered in the class. These sets will not in general be collected. However, I may ask for specific sets of problems from time to time. These will be graded and count as a quiz grade. Homework that is collected is due at the **BEGINNING** of class. **NO homework will be accepted after the first 5 minutes of class.** Homework will only be accepted if all pages are **stapled** or clipped together, not folded, prior to class. Also, I will ask that you keep your HW in a single **binder/HW notebook.** I will ask to see this notebook a couple of times during the semester. It will also be graded and counted as a quiz grade. **The HW notebook grade can not be dropped and will be counted in the final quiz grade.** I strongly encourage you to work with other students when solving homework problems. I only ask that you write up your problem solutions individually.

Exams: There will be 3 in-class exams given over the course of the semester. Make-ups will only be given if you have a valid, unavoidable excuse. Details of make-ups will be handled on a case-by-case basis.

Final Exam: It will be held on **Monday, May 7th, 10:30am-12:30pm.**

Technology Usage Policy: Students are **REQUIRED** to turn **OFF** all cell phones before entering the classroom. **Students will be asked to leave the class if their cell phone is to ring or they are texting in class.** Laptops, tablets and other electronic devices are not to be used during class. If you have an electronic textbook, or need the use of other technologies during class, it must be approved by the professor **prior to use.** Personal calculators cannot be used for exams, however, department issued calculators will be provided when needed.

Additional Help: There is a Mathematics Tutoring Lab that will be in operation in Tapley Hall Room 301. It is staffed with or undergraduate math majors to offer help to students of this course, as well as others. Check the Math Lab door for hours of operation. My office hours can be used for individualized assistance and/or problem solving sessions.

Academic Integrity: At the heart of Spelman College's mission is academic excellence, along with the development of intellectual, ethical and leadership qualities. These goals can only flourish in an institutional environment where every member of the College affirms honesty, trust, and mutual respect. All member of the academic community of Spelman College are expected to understand and follow the basic standards of honesty and integrity, upholding a commitment to high ethical standards. Students are expected to read and abide by the Spelman College Code of Conduct (see the current Spelman College Handbook) and are expected to behave as mature and responsible members of the Spelman College academic community. Students are expected to follow ethical standards in their personal conduct and in their behavior towards other members of the community. They are expected to observe basic honesty in their work, words, ideas, and actions. Failure to do so is a violation of the Spelman College Academic Integrity Policy. Violators will be subject to the sanctions outlined in the Spelman College Bulletin.

Disability Statement: Spelman College is sensitive to the special needs of students with disabilities. Any student who feels she may need an accommodation based on the impact of a disability should go to the Office of Disability Services (MacVicar Hall, Room 106) to privately discuss her specific needs. Please contact the Office of Disability at 404-270-5289 in MacVicar Hall to coordinate reasonable accommodations.

Enjoy and Good Luck!!!

Course Outline:

Logic and Sets

- Truth Tables
- Set Operations

Algorithms and Integers

- Algorithms
- Complexity of Algorithms
- The Integers and Division
- Integers and Algorithms
- Matrices

Methods of Proof

- Proof Strategy
- Mathematics Induction
- Recursive Definition
- Recursive Algorithms

Counting

- The Basics of Counting
- The Pigeonhole Principle
- Permutations and Combinations
- Binomial Coefficients

Discrete Probability

- Introduction
- Probability Theory
- Expected Value and Variance

Advanced Counting Techniques

- Recurrence Relations
- Solving Recurrence Relations

Time Permitting:

Relations

- Relations and Their Properties
- n-ary Relations and Their Applications

Graph Theory

- Introduction to Graphs
- Graph Terminology
- Graphs and Graph Isomorphism

Trees

- Introduction to Trees
- Applications of Trees

Math 234 Discrete Mathematics Tentative Weekly Schedule and HW

Week	Schedule	Homework
1/17-1/19	Overview	
1/22-1/26	Sections 1.1 and 1.2	1.1 - 2,3,6,11,12,16,18,19,21, 23(a-e),27,31(a,c,e),32(a,c,e) 1.2 - 1-7 (all)
1/29-2/2	Sections 1.3 and 1.4	1.3-1-9(all),16,17,18 1.4 - 1-25(odd),33,35,39
2/5-2/9	Sections 1.5 and 1.6	1.5 - 2,3,4,7,8,9,11,16,19,24,26,31 1.6 - 1-9(odd),13-31(odd)
2/12-2/16	Sections 1.7 and 1.8	1.7 - 3-27(3's) 1.8 - 1-15(odd), 40-43(all)
2/19-2/23	Sections 2.1 and 2.2; Exam 1 (Chapters 1 and 2)	2.1 - 1-9(all),12-15(all), 19-21(all),23,29,32,34,41,43 2.2 - 1-19(odd),25,26,32,33,34,47,48
2/26-3/2	Sections 3.1 and 4.1	3.1 - 1,2,3,7,11,13,34,41,47,52,54,57 4.1 - 1,3,4,5,9,12,13,20,22,25,28,30
3/5-3/9	Sections 4.2 and 4.6	4.2 - 2,4,5,6,7,8,10,17,21,22 4.6 1-5 (all)
3/12-3/16	Spring Break	
3/19-3/23	Sections 5.1 and 6.1	5.1 - 1,4,5,6,10,16,23,32,76 6.1 - 1-11(all), 16,18,21,29,31,34,45,47,54,59,64,68
3/26-3/30	Sections 6.2 and 6.3, Good Friday 3/30	6.2 - 1-5(all),9,14,17,18,33-35(all) 6.3 - 3-33(3's)
4/2-4/6	Sections 6.4 and 7.1, Exam 2 (Chapter 3 - 6.2)	6.4 - 1-9(all), 12, 13 7.1 - 1-7(all),9,12,22,23,24,29,35
4/9-4/13	Sections 7.2	7.2 - 1,2,3,5,7,9,18-20(all),23,27,28,29,35
4/16-4/20	Sections 10.1 and 10.2; Research Day 4/20	
4/23-4/26	Sections 10.6; Exam 3 (6.3 - 10.6)	
4/30-5/7	Presentations	
5/7-5/11	Final Exam Monday, May 7th, 10:30am-12:30pm	

Calculus III

Dr. Monica Stephens ♦ Tapley 323 ♦ Phone 404.270.5835 ♦ mstephens@spelman.edu
♦ Office hrs: M,W 9:00AM – 10:30AM ♦ T 2PM – 3:30PM ♦ Other times by appointment.

Course Description An introduction to multivariable calculus, covering parametric equations, vectors, functions of several variables, partial derivatives, vector calculus, multiple integrals, line integrals, Green's Theorem.

Prerequisites: Grade of "C" or higher in Math 232 (Calculus II) or equivalent.

Textbook and Other Resources:

Calculus (Early Transcendentals), by Jon Rogawski. 2nd Edition. (W. H. Freeman 2012). ISBN: 978-1-4292-0838-3.

WebAssign: WebAssign for this text is mandatory. You may purchase access to WebAssign online at www.webassign.net or at the College Bookstore. The WebAssign contains access to the course e-book and online homework assignments. The class key is spelman 9728 5394.

Goals and Objectives: The objectives of this course are to:

- Develop a strong geometric intuition.
- Develop the use of precise mathematical language and the ability to construct and follow mathematical proofs.
- Provide a complete catalog of the tools of calculus.
- Demonstrate the main uses of calculus in various scientific areas.
- Develop a strong graphical, numerical and symbolic understanding of the material.

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

- Demonstrate knowledge of the calculus of several variables.
- Demonstrate an understanding of vector algebra.
- Evaluate double and triple integrals in various coordinate systems.

- Evaluate line integrals.
- Understand the relationship between line integrals and double integrals.
- Be familiar with the several kinds of applications of calculus of several variables.

Moodle: This course will make extensive use of Moodle. Course assignments, assignment and project due dates, and test dates will be posted to Moodle. Students are responsible for accessing Moodle **daily** to keep abreast of material for the course.

Evaluation: Tests, homework, quizzes and projects and assignments will receive the following weights:

Exams*	45%	Assignments & Projects	10%
Quizzes	10%	Attendance & Participation	5%
Online Homework	10%	Final Exam	20%

*There will be four in-class exams. The highest three scores will count 15% each. The lowest test score will be dropped.

Grade Scale: The final grade in the course will be assigned with the following percentage scale:

93 – 100	A
90 – 92	A-
88 – 89	B+
83 – 87	B
80 – 82	B-
78 – 79	C+
70 – 77	C
70 – 72	C-
68 – 69	D+
60 – 67	D
Below 60	F

Grading Policies:

Tests and Quizzes

- No open book quizzes or tests will be given.
- No makeup hourly exams will be given. Students who miss an exam and have a **documented excused absence (family or medical emergency)** may replace the missed exam score with the grade received on the final exam.
- A student who will be absent for a college-sanctioned event **may be granted permission** to take an exam prior to the scheduled date of the exam. It is the responsibility of the student to make arrangements with me to schedule the exam prior to their departure.
- No makeup quizzes will be given for any reason. Several quiz grades will be dropped at the end of the semester.
- All exams and quizzes must be taken in pencil. You will receive an automatic 5% penalty on tests and quizzes that are not taken in pencil.

Assignments

- Most homework will be assigned and graded in WebAssign. Students should check WebAssign regularly for assignments and due dates. Some homework problems will require that you show work and turn in the work in-class (see instructions below).
- "Show Your Work" problems are due at the beginning of the next class following the due date & time for the WebAssign homework assignment. For example, "Show Your Work" for an assignment that is due by Monday at 10AM should be turned in at the beginning of class on Monday. "Show Your Work" for an assignment that is due Monday at 5PM should be turned in no later than Wednesday at the beginning of class.
- The first page of all assignments should contain your name, the name of the assignment and the date the assignment is turned in. All pages should be stapled and any frayed edges should be removed. Failure to turn in a neat assignment may result in the assignment being returned to you and counted as late.
- Projects must be typed.
- You may request an extension on incomplete or missed homework assignments. However, late assignments will receive an automatic 30% penalty in score. Homework can be made up at any time during the semester. However, the request must be made in person

and you must bring evidence that you have been working on the assignment.

- The grade for late projects and special assignments will be reduced by 10% for every day they are late. An assignment that is more than 4 days late will receive an automatic grade of "F" (59% or lower).
- All assignments that are turned in more than five minutes after the scheduled deadline will be considered late.

Participation & Attendance

- Your participation score will be given for work that you do in preparation for class. This may include outlining sections of the text, viewing video lectures, preparing homework problems to be shared on the board, researching a topic for class, etc.

Class Policies:

Attendance and tardiness

Daily attendance is required. Students missing more than 3 unexcused course meetings may be dropped from the course. Students arriving more than 10 minutes after the beginning of class are not permitted to enter and will be counted absent for that day. Students are responsible for ALL missed material due to absence. Please ask your classmates about missed material. You should also check Moodle and WebAssign daily to keep abreast of course material.

Please refrain from leaving the classroom once class has started. Take care of all personal business before entering the classroom.

Calculators, Cell Phones, and Computers

Use of computers in this class is allowed at designated times. However, computers are not to be used for personal reasons including accessing facebook, twitter, email, and the internet (unless use of the internet is class related). **Absolutely no texting in class!! All cell phones must be turned off or placed in silent mode during the class period.**

Other

Absolutely NO eating or drinking is allowed in the classroom.

Habits of the Successful Math Student: The academic classroom should be a dynamic and engaging environment. It requires an exchange of ideas that flow from professor to student, from student to professor, and among the students themselves.

1. Read the text BEFORE class meetings
2. Spend time solving difficult problems. Answers are not meant to be immediate. The harder you work, the more you will learn.
3. Review notes for at least one-half hour the same day that you hear the lecture. Ask questions during class about material that was unclear in the notes.
4. Work problems. Then, work more problems. Then work a few more problems for good measure.
5. Work with a study group. A study group consists of two to three students who are committed to helping one another. Study groups should remain small and should have a regular scheduled meeting.

Course Outline:

Vector Geometry

1. Vectors in the Plane
2. Vectors in Three Dimensions, Parametric Equations
3. Dot Product and the Angle Between Two Vectors
4. The Cross Product
5. Planes in Three-Space
6. A Survey of Quadric Surfaces
7. Polar Coordinates, Cylindrical and Spherical Coordinates

Calculus of Vector-Valued Functions

1. Vector-Valued Functions
2. Calculus of Vector-Valued Functions
3. Arc Length and Speed
4. Curvature
5. Motion in Three-Space

Differentiation in Several Variables

1. Functions of Two or more Variables
2. Limits and Continuity in Several Variables
3. Partial Derivatives
4. Differentiability and Tangent Planes
5. The Gradient and Directional Derivatives
6. The Chain Rule
7. Optimization in Several Variables
8. Lagrange Multipliers: Optimizing with a Constraint

Multiple Integration

1. Integration in Two Variables
2. Double Integrals over More General Regions
3. Triple Integrals
4. Integration in Polar, Cylindrical, and Spherical Coordinates
5. Applications of Multiple Integrals
6. Change of Variables

Line and Surface Integrals

1. Vector Fields
2. Line Integrals
3. Conservative Vector Fields

Fundamental Theorem of Vector Analysis

1. Green's Theorem
2. Stoke's Theorem
3. Divergence Theorem

Statement on Academic Honesty: At the heart of Spelman College's mission is academic excellence, along with the development of intellectual, ethical and leadership qualities. These goals can only flourish in an institutional environment where every member of the College affirms honesty, trust, and mutual respect. All members of the academic community of Spelman College are expected to understand and follow the basic standards of honesty and integrity, upholding a commitment to high ethical standards. Students are expected to read and abide by the Spelman College Code of Conduct (see the current Spelman College Student Handbook) and are expected to behave as mature and responsible members of the Spelman College academic community. Students are expected to follow ethical standards in their personal conduct and in their behavior towards other members of the community. They are expected to observe basic honesty in their work, words, ideas, and actions. Failure to do so is a violation of the Spelman College Academic Integrity Policy. Violators will be subject to the sanctions outlined in the Spelman College Bulletin.

Student Access Statement: Spelman College is committed to ensuring the full participation of all students in its programs. If you have a documented disability (or think you may have a disability) and, as a result, need a reasonable accommodation to participate in class, complete course requirements, or benefit from the College's programs or services, you should contact Student Access Center (SAC) as soon as possible. To receive any academic accommodation, you must be appropriately registered with SAC. The SAC works with students confidentially and does not disclose any disability-related information without their permission. SAC serves as a clearinghouse on disability issues and works in partnership with faculty and all other student service offices. For further information about services for students with disabilities, please contact the SAC at 404-270-5289 (voice), located in MacVicar Hall, Room 106.

IMPORTANT DATES:

Last day to Add/Drop	August 30
Labor Day Holiday (no class)	September 2
Mid-Semester Exams	October 3 – 4
Fall Break (no class)	October 7 – 8
Last day to withdraw w/ "W"	October 26
Thanksgiving Holiday	November 27 – 29
Last day of classes	December 4
Final Exam	December 9 10:30AM

MATH 365: Differential Equations

Fall Semester 2019
Spelman College
4 credit hours
313 Tapley
11:00am – 11:50am MWF

COURSE DESCRIPTION: (Prerequisite(s): C or better in MATH 232) A study of the solution to differential equations, primarily linear equations. Solutions to first-order separable and exact equations will also be covered. Both analytical, qualitative, and numerical solutions to differential equations will be discussed.

INSTRUCTOR:

Dr. Viveka Brown

Office: Rm. 320 Science, (404) 270-5883

Email: vborum@spelman.edu

Office Hours: M: 2:00-3:00pm; W: 5:00-6:00pm; R: 11:00-12:00pm and F: 12:00-1:00pm
(or by appointment)

TEXT: Differential Equations with Boundary-Value Problems, 8th Edition with WebAssign
Authors: Zill & Wright; Brooks/Cole Cengage Learning; **WebAssign key: 4407 4891**

RATIONALE: Differential Equations is one of the most important and fascinating branches of mathematics. Many important problems in science, economics, political science, and engineering can be translated into a mathematical statement using differential equations. This course is designed to give students an introduction to the theory, analytical solution, and numerical solution of differential equations. Upon completing this course, the student should have a better appreciation of the application of mathematics to a variety of different fields through the understanding of differential equations and the interpretation of the solutions to those differential equations.

GOALS & OBJECTIVES: This course will introduce the student to the basic theory and solution of differential equations. The primary goals and objectives are the following:

- To classify equations as to order and degree and indicate whether they are ordinary or partial, linear or nonlinear
- To solve some of the special first-order equations, e.g. exact equations, separable equations, equations with homogeneous coefficients
- To solve the homogeneous n^{th} order linear equations with constant coefficients
- To solve the nonhomogeneous linear equations via the method of undetermined coefficients and variation of parameters
- To use Laplace Transforms to solve linear equations with constant coefficients and piecewise forcing using the heavy-side function.
- To apply techniques of solving differential equations to problems from mechanics, biology, economics, and chemistry
- To analyze linear systems using eigenvalues
- To obtain a numerical solution to differential equations
- To demonstrate familiarity with some of the theory behind and the techniques involved in obtaining solutions of differential equations
- To solve nonhomogeneous linear systems by variation of parameters
- To solve equations via power series and the method of Frobenius

STUDENT COMPETENCIES: Upon successful completion of the course, the student should be familiar with the following topics:

- Elementary theory of differential equations and their classification
- Techniques for solving first-order equations, linear nth-order equations with constant coefficients, nonhomogeneous linear equations with constant coefficients, and certain nonlinear equations
- Numerical solutions to first-order differential equations using several numerical techniques
- Applications of differential equations to other fields of interest

GRADING: This course will make extensive use of Moodle. Course assignments, assignment and project due dates, and test dates will be posted to Moodle. Periodically, there may be video lectures posted to Moodle as well. Students are responsible for accessing Moodle on a **daily basis** to keep abreast of pertinent material for the course. There will be three tests, several quizzes, special assignments (special problems, etc.), and two group projects. A comprehensive final exam will be given as scheduled by the college. Tests, quizzes, special assignments, projects, and the final exam will receive the following weights:

Tests **	45%
Quizzes	15%
Homework (via WebAssign) & Special Assignments	10%
Projects	10%
Final Exam	20%

(**Note: There will be a total of three in-class exams. Two exam scores will count for 18% each. The lowest exam score counts 9%.)

The final grade in the course will be assigned with the following scale:

93 -100	A
90 - 92	A-
88 - 89	B+
83 - 87	B
80 - 82	B-
78 - 79	C+
73 - 77	C
70 - 72	C-
60 - 69	D
Below 60	F

GRADING POLICIES:

- No make-up exams will be given. Students who miss an exam and have a **documented excused** absence may replace the missed exam with the final exam score.
- A student **may be** granted permission to take an exam prior to the scheduled date of the exam if the student is away due to a College-sanctioned event. It is the student's responsibility to make arrangements **with the instructor** to take the exam prior to her/his departure.
- No make-up quizzes will be given. Two quizzes will be dropped at the end of the semester.

- Assigned section outlines are due at the beginning of class. The purpose of the outlines is to encourage students to familiarize themselves with course material prior to the lecture. Outlines that are turned in more than five minutes after the start of class will be reduced in score by one point. Outlines are not accepted once class is over. Outline grades are part of homework and special assignments and are worth five points each.
- Late assignments and projects will be reduced in score by 10% for every day they are late. An assignment that is more than 4 days late will receive an automatic grade of "F".
- Assignments that are turned in more than five minutes after the scheduled deadline will be considered a day late.

FOURTH HOUR JUSTIFICATION: This course has three 50-minute meetings per week, which corresponds to three semester credit hours. The fourth credit hour is given for special work outside the classroom. Additional work includes graded computer assignments (via MAPLE or MATLAB) and two group projects.

CLASS POLICIES:

- All exams and quizzes must be taken in pencil.
- All projects must be typed.
- Cell phones are to be turned off or in silent mode before entering the class (not on vibrate). Any student whose phone is heard during class may be asked to leave and will be counted absent for that day.
- **Classroom computers are not to be used for personal use during class.**
- NO open food or drink is allowed in the classroom.

ATTENDANCE:

- Excessive absences and tardiness will adversely affect your grade.
- Tardiness is unacceptable. Please **DO NOT** enter the classroom if you are more than 15 minutes late. If you are late (within the 15-minute grace period) please discretely find a seat without interrupting the class.
- **Students are responsible for all missed material due to absence or tardiness. You may ask your classmates and Moodle to keep updated with class assignments.**

ACADEMIC INTEGRITY: Students are expected to uphold the highest standards of academic integrity. Students who violate the college policy regarding academic integrity will be sanctioned according to the Spelman College Code of Conduct (see the Spelman College Student Handbook for specific details concerning the policy on academic integrity). Academic dishonesty includes, but is not limited to cheating, plagiarism, or knowingly helping others to violate the college policy.

DISABILITY CLAUSE: Spelman College is committed to ensuring the full participation of all students in its programs. If you have a documented disability (or think you may have a disability) and, as a result, need a reasonable accommodation to participate in class, complete course requirements, or benefit from the College's programs or services, you should contact the Student Access Center (SAC) as soon as possible to request such accommodations. For further information, contact SAC at (404)270-5289 located in Mac Vicar Hall, Room 106.

GENERAL REMARKS: The following are suggestions to help you progress towards your degree with the highest standard of excellence:

- **Seek help when needed.** There are many resources available to you if you require assistance. The Math Lab, located in Tapley 301, provides tutoring for all levels of mathematics courses. The Center for Academic Planning and Success (CAPS) is available and have resources for your success. Faculty office hours are for your use. If you are unable to attend office hours, make arrangements to meet with faculty by appointment.
- Attend classes regularly and on time. Be timely for all appointments made with faculty.

MAT 365 - Content to Cover
Chapter 1: Introduction to Differential Equations
1.1 - Basic Definition and Terminology
1.2 - Initial Value Problems
Chapter 2: First-Order Differential Equations
2.2 - Separation of Variables
2.3 - Linear Equations
2.4 - Exact Equations
2.5 - Solutions by Substitutions: a. Homogeneous Coefficients; b. Bernoulli Equations; c. $G(ax + by)$
Chapter 3: Modeling with First-Order Differential Equations
3.1 - Linear Equations
3.2 - Nonlinear Equations
Chapter 4: Higher- Order Differential Equations
4.1 - Preliminary Theory
4.2 - Reduction of Order
4.3 - Homogeneous Linear Equations with Constant Coefficients
4.4 & 4.5 - Solutions via Undetermined Coefficients
4.6 - Solutions via Variation of Parameters
4.10 - Nonlinear Equations
Chapter 5: Modeling with Higher-Order Differential Equations
Chapter 6 (if time): Series Solutions of Linear Equations
6.1 - Review of Power Series/Power Series Solutions
6.2 - Solutions about Ordinary Points
6.3 - Nonhomogeneous Linear Systems
Chapter 7: The Laplace Transform
7.1 - Definition of the Laplace Transform
7.2 - Inverse Laplace Transform
7.3 - First Translation Theorem and Translation of the Unit Step Function
7.4 - Second Translation Theorem
Chapter 8: Systems of Linear First-Order Differential Equations
8.1 - Review or Introduction to matrices and eigenvalue problems
8.2 - Homogeneous Linear Systems
8.3 - Nonhomogeneous Linear Systems
Chapter 10: Systems of Nonlinear First-Order Differential Equations
10.1 - Autonomous Systems
10.2 - Stability of Linear Systems
10.3 - Linearization and Local Stability

MAT 365 REVISED SCHEDULE
FALL 2019

Week	Sections to be covered
Week 1: August 21 – 23 rd	Introductions, Section 1.1
Week 2: August 26 – 30 th <i>August 30 - Add/drop period ends</i>	Section (s): 1.1, 1.2
Week 3: September 2 - 6 th <i>Sept. 2 – No classes Labor Day</i>	Section(s): 2.1, 2.2
Week 4: September 9 - 13 th	Section(s): 2.2, 2.3, 2.4
	Section(s): 2.5
Week 5: September 16 - 20 th	Exam 1 (Wednesday, September 18th)
Week 6: September 23 - 27 th	Section(s): 3.1 and 3.2
Week 7: September 30 – October 4 th	Section(s): 4.1 and 4.2
Week 8: October 7 – 11 th <i>Fall Break – No class Mon. & Tues.</i>	Section(s): 4.3, 4.4 & 4.5
Week 9: October 14 – 18 th	Section(s): 4.6, 4.10
	Section(s): 5.1, 5.2
Week 10: October 21 – 25 th <i>Oct. 26th – Last day to withdraw</i>	Exam 2 (Wednesday, October 16th)
Week 11: October 28 – November 1 st	Section(s): 5.3, 7.1, 7.2
Week 12: November 4 – 8 th	Section(s): 7.2 & 7.3
Week 13: November 11 – 15 th	Section(s): 7.4, 8.1, 8.2
	Section(s): 8.2 & 8.3
Week 14: November 18 – 22 nd	Exam 3 (Friday, November 22nd)
Week 15: November 25 – 29 th <i>Thanksgiving: no classes Wed-Fri</i>	Section(s): 10.1
Week 16: December 2 – 4 th <i>December 4 - last day of classes</i>	Section(s): 10.2 & 10.3
December 5 - 6, 2019: Reading Period	
Final Exam Date and Time: Monday, December 9, 2019 1:00pm – 3:00pm	