CALCULUS

CALC100 — Calculus I, 3.0 hours

PROFESSOR

Lauren graduated from Marietta College with a Bachelor of Science in Mathematics and a minor in Philosophy. She received her Master of Science from The University of Akron in Applied Mathematics. While completing her Masters research, she worked as a Statistician at American Greetings in Cleveland, Ohio. She also has completed coursework and research towards a Ph.D. in Engineering Applied Mathematics at The University of Akron. While going to school at UA, she was employed as a Graduate Assistant and taught many courses in the Mathematics department Her daughter is almost two years old and Lauren enjoys spending time with family, attending Cleveland Cavaliers games, running, yoga, cooking, gardening, and reading.

CONTACT INFORMATION

E-mail: lbrubaker@lakewood.edu
Cell Phone: 800-517-0857 X 723

ONLINE SUPPORT (IT) AND MOODLE NAVIGATION:

All members of the Lakewood University community who use the University's computing, information or communication resources must act responsibly. Support is accessible by calling 1-800-517-0857 option 2 or by emailing info@lakewood.edu

BOOKS AND RESOURCES

Larson, Ron. Calculus. 11th Ed. Cengage, 2018.

EVALUATION METHOD

Graded work will receive a numeric score reflecting the quality of performance.
Course Requirement Summary

- **Assignments - Total of 100 Points**
- **Weekly discussion forums-Total of 80 Points**
- **Final Exam - 50 Points**

GRADING SCALE

Graded work will receive a numeric score reflecting the quality of performance as given above in evaluation methods. The maximum number of points a student may earn is 230. To determine the final grade, the student's earned points are divided by 230.

Your overall course grade will be determined according to the following scale:

A = (90% -100%)
B = (80% - 89%)
C = (70% - 79%)
F < (Below 70%)

ACADEMIC INTEGRITY/ PLAGIARISM:

Cheating (dishonestly taking the knowledge of another person whether on a test or an assignment and presenting it as your work) and plagiarism (to take and pass off as one's own the ideas or writing of another) are a serious issue. While it is legitimate to talk to others about your assignments and incorporate suggestions, do not let others "write" your assignments in the name of peer review or "borrow" sections or whole assignments written by others. We do get ideas from life experiences and what we read but be careful that you interpret these ideas and make them your own.

I am aware that many types of assignments are available on the internet and will check these sources when there is legitimate suspicion.

Penalty is a zero on the assignment. In cases where there is a major or continuous breach of trust, further discipline, such as an "F" in the course, may be necessary.

The major consequence of any form of cheating is damage to your character and the result of trust and respect.

DISABILITY ACCOMMODATIONS

Students who may have a disability meriting an academic accommodation should contact Jim Gepperth, the Disabilities Services Coordinator and Academic Dean. For accommodations to be awarded, a student must complete a form and provide documentation of the disability to the Disability Services Coordinator. Any accommodations for disabilities must be re-certified each year by the Disability Services Coordinator before course adjustments are made by individual instructors. Additional information on disability accommodations may be found in the Lakewood University Catalog.

SUPPLEMENTAL TEXTS

You can use the following resources to assist you with proper source citation.

American Psychological Association Style Guide- https://www.mylakewoodu.com/pluginfile.php/118179/mod_resource/content/1/APA%20Style%20Guide%207th%20edition.pdf

The Purdue OWL website is also a helpful resource for students. Here is a link to the OWL website: https://owl.purdue.edu/owl/research_and_citation/apa_style/apa_formatting_and_style_guide/general_format.html

LIBRARY

Mary O'Dell is the Librarian on staff at Lakewood University

She is available by appointment. You can make an appointment with her by emailing her at modell@lakewood.edu or call at 1-800-517-0857 X 730

You may also schedule a meeting at this link: https://my.setmore.com/calendar#monthly/r3a761583354923270/01032020

She can assist you with navigating LIRN, research, citations etc.

SUPPORT

Each student at Lakewood University is assigned a Success Coach. Your Success Coach exists to assist you with academic and supportive services as you navigate your program. They will reach out to you, often, to check-in. Please use the resources they offer.

Student Services is available to assist with technical questions regarding Lakewood University and all services available to you.

1-800-517-0857 option 2
info@lakewood.edu
studentservices@lakewood.edu

CAREER SERVICES

Students are offered Career Services at any point as they journey their academics at Lakewood University.

1-800-517-0857 option 2
careerservices@lakewood.edu

LESSONS

TITLE	COURSE TOPIC	READINGS/ASSIGNMENTS	DUE	OBJECTIVES
Lesson #1	• A Preview of Calculus • Finding Limits Graphically and Numerically • Evaluating Limits Analytically Continuity and One-Sided Limits	Study Course Syllabus Read Chapters 1.1- 1.4 Participate in the Discussion Forum Complete Assignment 1 Lesson Evaluation	Assignment 1 upon completion of the lesson	Objective 2
TITLE	**COURSE TOPIC**	**READINGS/ASSIGNMENTS**	**DUE**	**OBJECTIVES**
Lesson #2	• Infinite Limits • The Derivative and the Tangent Line Problem • Basic Differentiation Rules and Rates of Change • Product and Quotient Rules and Higher-Order Derivatives	Read Chapters 1.5 & 2.1-2.3 Participate in the Discussion Forum Lesson Evaluation		Objective 2 Objective 5
TITLE	**COURSE TOPIC**	**READINGS/ASSIGNMENTS**	**DUE**	**OBJECTIVES**
Lesson #3	• The Chain Rule • Implicit Differentiation • Related Rates	Read Chapters 2.4-2.6 Participate in the Discussion Forum Complete Assignment 2 Lesson Evaluation	Assignment 2 upon completion of the lesson	Objective 5 Objective 8
TITLE	**COURSE TOPIC**	**READINGS/ASSIGNMENTS**	**DUE**	**OBJECTIVES**
Lesson #4				Objective 5

	• Extrema on an Interval • Rolle's Theorem and the Mean Value Theorem • Increasing and Decreasing Functions and the First Derivative Test • Concavity and the Second Derivative Test	Read Chapters 3.1-3.4 Participate in the Discussion Forum Lesson Evaluation		
TITLE Lesson #5	**COURSE TOPIC** • Limits at Infinity • A Summary of Curve Sketching • Optimization Problems • Newton's Method • Differentials	**READINGS/ASSIGNMENTS** Read Chapters 3.5-3.9 Participate in the Discussion Forum Complete Assignment 3	**DUE** Assignment 3 upon completion of the lesson	**OBJECTIVES** Objective 4 Objective 5 Objective 8
TITLE Lesson #6	**COURSE TOPIC** • Antiderivatives and Indefinite Integration • Area • Riemann Sums and Definite Integrals • The Fundamental Theorem of Calculus • Integration by Substitution	**READINGS/ASSIGNMENTS** Read Chapters 4.1-4.5 Participate in the Discussion Forum Complete Assignment 4 Lesson Evaluation	**DUE** Assignment 4 upon completion of the lesson	**OBJECTIVES** Objective 8
TITLE Lesson #7	**COURSE TOPIC** • The Natural Logarithmic Function: Differentiation • The Natural Logarithmic Function: Integration • Inverse Functions • Exponential Functions: Differentiation and Integration • Bases Other Than e and Applications	**READINGS/ASSIGNMENTS** Read Chapters 5.1-5.5 Participate in the Discussion Forum Lesson Evaluation	**DUE**	
TITLE Lesson #8	**COURSE TOPIC** • Indeterminate Forms and L'Hôpital's Rule • Inverse Trigonometric Functions: Differentiation • Inverse Trigonometric Functions: Integration • Hyperbolic Functions	**READINGS/ASSIGNMENTS** Read Chapter 5.6-5.9 Participate in the Discussion Forum Complete Assignment 5 Complete the Final Exam Request the Next Course Lesson Evaluation THANKS FOR A GREAT CLASS	**DUE** Assignment 5 and Final exam upon completion of the lesson	

DESCRIPTION

This primary course on Calculus is designed for students intending to continue to advance courses in calculus, and mathematics in general. Topics include a detailed study of differential calculus and its applications and are introduced to antiderivatives.

Programs Objectives

1. **Find limits of functions of one variable**
2. **Determine where a function is continuous**
3. **Evaluate derivatives of elementary functions of one variable**
4. **Analyze the behavior of functions and use the analysis to graph them**
5. **Solve application problems involving derivatives**
6. **Evaluate elementary integrals**
7. **Evaluate derivatives and integrals of transcendental functions**
8. **Utilize various differentiation and integration techniques**

OBJECTIVES

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