

MATH225 16

STUDENT WARNING: This course syllabus is from a previous semester archive and serves only as a preparatory reference. Please use this syllabus as a reference only until the professor opens the classroom and you have access to the updated course syllabus. Please do NOT purchase any books or start any work based on this syllabus; this syllabus may NOT be the one that your individual instructor uses for a course that has not yet started. If you need to verify course textbooks, please refer to the online course description through your student portal. This syllabus is proprietary material of APUS.

Course Summary

Course : LC525 **Title :** Calculus

Length of Course : 16 Heath Twichell

Prerequisites : **Credit Hours :** 3

Description

Course Description: This is the first course of a three part Calculus sequence to prepare students for advanced work in mathematical fields including, but not limited to the engineering, computer science and economics fields. It introduces the student to the basic concepts and techniques of differential calculus. Topics include a pre-Calculus review (functions, graphing), limits, derivatives, computations (Power rule, Product Rule, Quotient Rule and Chain Rule), special functions (trigonometric, exponential and logarithmic), implicit differentiation, applications of differentiation (approximations, optimization and related rates), and curve sketching. It is highly recommended that the student has taken MATH 200 Analytical Geometry or a similar course. (Prerequisite: MATH111)

Course Scope:

This course is presented on-line through a combination of the APUS/Sakai and the THINKWELL websites. It uses a specially developed on-line system of video lectures, notes, and transcripts which cover each of the key mathematical skills needed to succeed in the course. Exercises are included there and are a required part of the course. The main objective of this first course is to introduce the basic concepts of differential calculus and the techniques for analyzing and solving problems using its techniques. The course is organized into several distinct parts. The first part of the course introduces two key motivational questions in Calculus then reviews the concept of functions and graphing. The second part of the course introduces the concepts of limits and continuity and then leads into the development of derivatives and needed computational techniques. This is followed by how the derivative is applied to special non polynomial functions. Implicit differentiation is then introduced. The next part of the course focuses on applications of the derivative. Finally, many uses of calculus in curve sketching are then explored. Practical applications of differential calculus are emphasized throughout the course.

Objectives

After successfully completing this course, you will be able to

1. Identify limits of functions analytically, graphically and numerically.
2. Analyze continuity and differentiability of functions.
3. State the derivative of a function by using the power, chain, product and quotient rules.

4. Extrapolate the methods and rules of differentiation to special non-polynomial functions.
 5. Examine the derivative when y is not explicitly defined in terms of x .
 6. Recognize the use of differentiation in problems with position, velocity and acceleration.
 7. Apply differentiation to solve problems in approximation, optimization and related rates.
 8. List the uses of differentiation to analyze the graphs of functions.
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Outline

Week 1: The Basics

Learning Objectives

Course Objective 1

1.1 Introduction and Overview

Understand the course and textbook resources

Describe applications of differential and integral calculus

Calculate average rate of change algebraically; Explain why algebra cannot be used to calculate instantaneous rate of change.

*Understand the importance of working problems in learning mathematics

1.2 Pre-Calculus Review

Evaluate a function algebraically and graphically; Determine the domain and range of a function

Write and solve equations of lines; Interpret graphs of lines

Graph and interpret equations of parabolas;

Calculate distance between two points

*Describe non-Euclidean geometry

Reading and Videos

Sections 1.1.1 – 1.1.3 with videos

[An Introduction to Thinkwell's Calculus](#)

Blue ink is a direct link to these sites

[The Two Questions of Calculus](#)

[Average Rates of Change](#)

*Optional section and video 1.1.4 [How to Do Math](#)

Sections 1.2.1 – 1.2.3 with videos.

[Functions](#)

[Graphing Lines](#)

[Parabolas](#)

*Optional section & video 1.2.4
[Some Non-Euclidean Geometry](#)

92 minutes of video time this week

Assignments

Week 1 Forums (2) :

Introductory Forum & Forum Week 1 Quadratic Functions

Watch assigned videos, read transcript, study notes and worked problems in Thinkwell.

Complete the practice problems in Thinkwell.

Review Summary Week 1 Forum

Week 2: Limits

Learning Objectives

Course Objective 1

2.1 The Concept of the limit

Find time or position from a position function; Calculate an average rate of change on an interval

Describe the limit of a function graphically

Explain the formal definition of a limit

Apply limit laws

Find limits of functions by substitution

Evaluate one-sided limits of functions

Reading and Videos

Sections 2.1.1 – 2.1.6 with videos:

[Finding Rate of Change over an Interval](#)

[Finding Limits Graphically](#)

[The Formal Definition of a Limit](#)

[The Limit Laws, Part I](#)

[The Limit Laws, Part II](#)

One-Sided Limits

61 minutes of video time this week

Assignments

Forum Week 2: Linear Equations

Watch assigned videos, read transcript, study notes and worked problems in Thinkwell.

Complete ALL exercises in Thinkwell

Review Summary Week 2 Forum

Week 3: Evaluating Limits

Learning Objectives

Course Objectives 1, 2

2.1 The Concept of the limit

Approximate an unknown limit; Use the Squeeze Theorem to determine a limit

Describe the conditions for continuity of a function; Identify forms of discontinuity of functions

2.2 Evaluating Limits

Evaluate limits of functions by direct substitution; Evaluate limits

of functions that produce indeterminate forms by canceling

Identify indeterminate forms; Evaluate limits that produce indeterminate forms

Evaluate limits of compound fractions; Evaluate limits of binomials with radicals

Identify and use different approaches to evaluate limits;

Identify forms of discontinuity of functions

Reading and Videos

Sections 2.1.7 – 2.1.8 with videos:

[The Squeeze Theorem](#)

[Continuity and Discontinuity](#)

Sections 2.2.1-2.2.4 with videos:

[Evaluating Limits](#)

[Limits and Indeterminate Forms](#)

[Two Techniques for Evaluating Limits](#)

[An Overview of Limits](#)

87 minutes of video time this week

Assignments

Forum Week 3: *Complex Number Applications

Watch assigned videos, read transcript, study notes and worked problems in Thinkwell.

Complete ALL exercises in Thinkwell

Review Summary Week 3 Forum

Submit

Assignment 1 before Sunday 11:55 pm EST

Complete

Test 1 on Chapter 1 The Basics and Chapter 2 Limits in Thinkwell before Sunday 11:55 pm EST

Week 4: An Introduction to Derivatives

Learning Objectives

Course Objectives 1, 2

3.1 Understanding the Derivative

Find slopes and equations of secant lines to curves; Define instantaneous rate of change as the slope of a tangent to a curve

Find instantaneous rate of change using limits

Define the derivative of a function

Determine the differentiability of functions

3.2 Using the Derivative

Find the slope of a tangent line by evaluating the derivative of a function

Reading and Videos

Sections 3.1.1 – 3.1.4 with videos

[Rates of Change, Secants, and Tangents](#)

[Finding Instantaneous Velocity](#)

[The Derivative Differentiability](#)

Section 3.2.1 with video

[The Slope of a Tangent Line](#)

64 minutes of video time this week

Assignments

Forum Week 4: Difference Quotient

Submit

“Test 1 Critique” before Wednesday 11:55 pm EST

Watch videos and study in Thinkwell.

Complete ALL exercises in Thinkwell

Review Summary Week 4 Forum

Week 5: An introduction to Derivatives

Learning Objectives

Course Objectives 1, 2

3.2 Using the Derivative

Find instantaneous rate from a position function using a derivative

Determine the equation of a tangent line using the derivative; Locate the tangent line with slope zero

Apply the derivative to solve for rates

3.3 Some Special Derivatives

Find and apply the derivative for the reciprocal function

Find and apply the derivative for the square root function

Reading and Videos

Sections 3.2.2 – 3.2.4 with videos

[Instantaneous Rate](#)

[The Equation of a Tangent Line](#)

[More on Instantaneous Rate](#)

Sections 3.3.1 – 3.3.2 with videos

[The Derivative of the Reciprocal Function](#)

[The Derivative of the Square Root Function](#)

85 minutes of video time this week

Assignments

Forum Week 5: Average Rate of Change

Watch videos and study in Thinkwell.

Complete ALL exercises in Thinkwell

Review Summary Week 5 Forum

Week 6: Computational Techniques

Learning Objectives

Course Objective 3

4.1 The Power Rule

Apply the power rule to find derivatives

Explain the proof of the power rule

Apply the constant multiple rule to find derivatives;

Apply the sum rule to find derivatives

4.2 The Product and Quotient Rule

Apply the product rule to find derivatives

Apply the quotient rule to find derivatives

Reading and Videos

Sections 4.1.1– 4.1.3 with videos

[A Shortcut for Finding Derivatives](#)

[A Quick Proof of the Power Rule](#)

[Uses of the Power Rule](#)

Sections 4.2.1-4.2.2 With videos

[The Product Rule](#)

[The Quotient Rule](#)

78 minutes of video time this weeks

Assignments

Forum Week 6: Slopes and Tangents

Watch videos and study in Thinkwell.

Complete ALL exercises in Thinkwell

Review Summary Week 6 Forum

Week 7: Computational Technique and Special Functions

Learning Objectives

Course Objectives 3, 4

4.3 The Chain Rule

Apply the chain rule to find derivatives

Apply combinations of rules to find derivatives

Write a derivative in Leibniz notation;

Apply combinations of rules to find derivatives

5.1 Trigonometric Functions

Apply trigonometric identities

Convert degree measures to radian measures;

Recognize graphs of trigonometric functions

Find derivatives of trigonometric functions

*Find derivatives of trigonometric functions involving π

Reading and Videos

Sections 4.3.1– 4.3.3 with videos

[An Introduction to the Chain Rule](#)

[Using the Chain Rule](#)

[Combining Computational Techniques](#)

Sections 5.1.1-5.1.3 with videos

[A Review of Trigonometry](#)

[Graphing Trigonometric Functions](#)

[The Derivatives of Trigonometric Functions](#)

*Optional section & video 5.1.4

[The Number Pi](#)

88 minutes of video time this week

Assignments

Forum Week 7: *Shortcut hints for memorizing

Watch videos and study in Thinkwell.

Complete ALL exercises in Thinkwell

Review Summary Week 7 Forum

Submit

Assignment 2 before Sunday 11:55 pm EST

Complete

Test 2 on Chapter 3 Derivatives and Chapter 4 Computations in Thinkwell before Sunday 11:55 pm EST

Week 8: Special Functions

Learning Objectives

Course Objective 4

5.2 Exponential Functions

Evaluate exponential functions

Find derivatives of exponential functions

5.3 Logarithmic Functions

Evaluate logarithmic functions

Find derivatives of logarithmic functions

Apply combinations of rules to find derivatives involving transcendental functions

Reading and Videos

Sections 5.2.1– 5.2.2 with videos

[Graphing Exponential Functions](#)

[Derivatives of Exponential Functions](#)

*Optional section & video 5.2.3

[The Music of Math](#)

Sections 5.3.1-5.3.3 with videos

[Evaluating Logarithmic Functions](#)

[The Derivative of the Natural Log Function](#)

[Using the Derivative Rules with Transcendental Functions](#)

81 minutes of video time this week

Assignments

Forum Week 8: Rate of Change WITHOUT derivatives

Submit

“Test 2 Critique” before Wednesday 11:55 pm EST

Watch videos and study in Thinkwell.

Complete ALL exercises in Thinkwell

Forum: Your Personal Final Exam Time, please respond via message.

Review Summary Week 8 Forum

Week 9: Implicit Differentiation and Applications of Differentiation

Learning Objectives

Course Objectives 5, 6

6.1 Implicit Differentiation Basics

Use Leibniz notation to describe derivatives

Use implicit differentiation

6.2 Applying Implicit Differentiation

Use implicit differentiation

Apply implicit differentiation

7.1 Position and Velocity

Find acceleration from a velocity function using a derivative; Identify applications of derivatives in approximation and optimization

[Jump to Beginning of Weekly Course Outline](#)

Reading and Videos

Sections 6.1.1– 6.1.2 with videos

[An Introduction to Implicit Differentiation](#)

[Finding the Derivative Implicitly](#)

Sections 6.2.1– 6.2.2 with videos

[Using Implicit Differentiation](#)

[Applying Implicit Differentiation](#)

Section 7.1.1 with videos

[Acceleration and the Derivative](#)

78 minutes of video time this week

Assignments

Forum Week 9: *Equation of the tangent line

Watch videos and study in Thinkwell.

Complete ALL exercises in Thinkwell

Review Summary Week 9 Forum

Submit

Assignment 3 before Sunday 11:55 pm EST

Complete

Test 3 on Chapter 5 Special Functions and Chapter 6 Implicit Differentiation in Thinkwell before Sunday 11:55 pm EST

Week 10: Applications of Differentiation

Learning Objectives

Course Objectives 6, 7

7.1 Position and Velocity

Find distance, time, speed, and acceleration using derivatives;

Find a maximum using a derivative

7.2. Linear Approximation

Find higher order derivatives; Estimate a value using a linear approximation

Use the linear approximation formula

Approximate the solution of a function using Newton's method

7.3. Optimization

Find a maximum or minimum of a function; Determine whether a function is increasing or decreasing at a point

Find the maximum of an area function

Reading and Videos

Section 7.1.2 with video

[Solving Word Problems Involving Distance and Velocity](#)

Sections 7.2.1-7.2.3 with videos

[Higher-Order Derivatives and Linear Approximation](#)

[Using the Tangent Line Approximation Formula](#)

[Newton's Method](#)

Sections 7.3.1-7.3.2 with videos

[The Connection Between Slope and Optimization](#)

[The Fence Problem](#)

131 minutes of video time this week

Assignments

Forum Week 10: Newton's Root Approximation

Submit

"Test 3 Critique" before Wednesday 11:55 pm EST

Watch videos and study in Thinkwell.

Complete ALL exercises in Thinkwell

Review Summary Week 10 Forum

Week 11: Applications of Differentiation

Learning Objectives

Course Objective 6

7.3. Optimization

Find the maximum of a volume function; Verify that a point is a maximum

Find the maximum of a cylindrical volume function

*Find the minimum of an area function

7.4 Related Rates

Find a related rate of increase in area using implicit differentiation

Find a related rate of increase in distance using implicit differentiation

Find a related rate of increase in distance using implicit differentiation

*Find a related rate of increase in distance using implicit differentiation

*Overcome common math fears and learn how to excel in Calculus

Reading and Videos

Sections 7.3.3-7.3.4 with videos

[The Box Problem](#)

[The Can Problem](#)

*Optional section with video 7.3.5

[The Wire-Cutting Problem](#)

Sections 7.4.1-7.4.3 with videos

[The Pebble Problem](#)

[The Ladder Problem](#)

[The Baseball Problem](#)

*Optional sections and videos 7.4.4-7.4.5

[The Blimp Problem Math Anxiety](#)

90 minutes of video time this week

Assignments

Forum Week 11: *A video on Newton's Method

Watch videos and study in Thinkwell.

Complete ALL exercises in Thinkwell

Review Summary Week 11 Forum

Submit

Assignment 4 before Sunday 11:55 pm EST

Complete

Test 4 on Chapter 7 Applications of Differentiation in Thinkwell before Sunday 11:55 pm EST

Week 12: Curve Sketching

Learning Objectives

Course Objective 8

8.1 Introduction

Use the derivative to characterize a curve

Explain the intermediate value, Rolle's, and the mean value theorems

*Reflect on the key learning's of Calculus

8.2 Critical Points

Find critical points using the derivative

Identify maxima and minima graphically

Use the closed interval method to identify extrema; Identify increasing or decreasing regions using the sign of the derivative

Apply the first derivative test

*Enjoy an excursion into the magic of math

Reading and Videos

Sections 8.1.1-8.1.2 with videos

[An Introduction to Curve Sketching](#)

[Three Big Theorems](#)

*Optional section & video 8.1.3

[Morale Moment](#)

Sections 8.2.1-8.2.4 with videos

[Critical Points](#)

[Maximum and Minimum](#)

[Regions Where a Function Increases or Decreases](#)

[The First Derivative Test](#)

*Optional section & video 8.2.5

[Math Magic](#)

82 minutes of video time this week

Assignments

Forum Week 12: Difference Quotient without derivatives

Submit

“Test 4 Critique” before Wednesday 11:55 pm EST

Watch videos and study in Thinkwell.

Complete ALL exercises in Thinkwell

Review Summary Week 12 Forum

Week 13: Curve Sketching

Learning Objectives

Course Objective 8

8.3 Concavity

Determine the direction of concavity; Find inflection points

Find inflection points

*Uncover the secrets of the Mobius band

8.4 Graphing Using the Derivative

Graph functions using the first and second derivative

Locate cusp points using the first and second derivative

Graph functions with restricted domains using the first and second derivative

Apply the second derivative test

Reading and Videos

Sections 8.3.1-8.3.2 with videos

[Concavity and Inflection Points](#)

[Using the Second Derivative to Examine Concavity](#)

*Optional section & video 8.3.3

[The Möbius Band](#)

Sections 8.4.1-8.4.4 with videos

[Graphs of Polynomial Functions](#)

[Cusp Points and the Derivative](#)

[Domain-Restricted Functions and the Derivative](#)

[The Second Derivative Test](#)

69 minutes of video time this week

Assignments

Forum Week 13: Inflection and Concavity

Watch videos and study in Thinkwell.

Complete ALL exercises in Thinkwell

Review Summary Week 13 Forum

Week 14: Curve Sketching

Learning Objectives

Course Objective 8

8.5 Asymptotes

Find vertical asymptotes

Find horizontal asymptotes

Graph functions with asymptotes

Graph functions with asymptotes and point discontinuities

Graph functions with asymptotes and critical points

Reading and Videos

Sections 8.5.1-8.5.5 with videos

[Vertical Asymptotes](#)

[Horizontal Asymptotes and Infinite Limits](#)

[Graphing Functions with Asymptotes](#)

[Functions with Asymptotes and Holes](#)

[Functions with Asymptotes and Critical Points](#)

58 minutes of video time this week

Assignments

Forum Week 14: Metric Prefixes Exposed

Watch videos and study in Thinkwell.

Complete ALL exercises in Thinkwell

Review Summary Week 14 Forum

Submit

Assignment 5 before Sunday 11:55 pm EST

Complete

Test 5 on Chapter 7 Applications of Differentiation in Thinkwell before Sunday 11:55 pm EST

Week 15: Course review

Learning Objectives

12.1 Paradoxes

Understand and appreciate classic paradoxes

Understand and appreciate Newcomb's paradox

Understand and appreciate Zeno's paradox

Reading and Videos

*Optional sections & videos 12.1.1-12.14

Mathematical Fun

[An Introduction to Paradoxes](#)

[Paradoxes and Air Safety](#)

[Newcomb's Paradox](#)

[Zeno's Paradox](#)

1136 minutes of video total time for entire course

Assignments

Forum Week 15: Practice Final Exam information

Submit

“Test 5 Critique” before Wednesday 11:55 pm EST

Review all course material.

Complete practice final exam in Thinkwell

Week 16: Final Examination

Learning Objectives

Demonstrate your knowledge of calculus

Reading and Videos
Assignments

Forum Week 16: Final Exam preparation

Complete Final Examination Covering ALL topics in the course in Thinkwell before Sunday 11:55 pm EST

Evaluation

Staying on task and adhering to the published schedule are typically among the most challenging aspects of completing an academic course successfully. This is especially true for on-line and part-time non-resident programs. To avoid the pitfall of falling behind, students in this course should complete the assigned videos reading, and exercises in the Thinkwell environment. Students should complete all items as set forth in the schedule provided in the Course Outline of this syllabus.

Student grades for the course will be based on active, on time weekly forum entries, watching videos and completing Thinkwell exercises, completing Thinkwell tests, submitting Assignment #1-5, submitting Test Critiques #1-5 and one final examination. You must complete all items to successfully master all skills in this course.

Reading Assignments:

Before each test deadline, be sure to watch all required videos in Thinkwell. Teacher software tool allows your instructor to view your progress there. Only work done BEFORE each test deadline, done in Thinkwell, will count toward your assignment grade. There are 5 assignments, one for preparation for each test in Thinkwell. There are 5 test critiques, one for submission before the Wednesday following the test.

Forum Assignments:

[Introduce Yourself](#): During the first week of class each student must make a post to the Week 1 Introductory Forum. You are to use this forum to introduce yourself and state your goals and objectives as they relate to our course. You are required to make a post in order to complete your enrollment in the course. Your initial post should be at least 250 words, and be submitted by Thursday of the first week so others can reply to you. Your final post, including replies to at least two other students is due by Sunday of week 1. This is a university requirement. To make a post, click on the forum topic link, and then click Post New Conversation. In the title block of the dialog box that appears kindly insert your first and last name; compose your post in the message box; and then click post. Be sure to read the exact directions there which include posting a picture and posting a famous mathematical formula using the equation editor.

Besides completing your enrollment in the course, the Week 1 Introductory Forum is designed to 1) build peer-to-peer relationships by introducing oneself and one's background to the class; 2) to articulate individual student learning goals and/or expectations for the class; 3) develop the ability to include pictures in

your post; and 4) to develop the ability to use the equation editor for future complex formulas. Therefore, in your introduction be sure to include all requirements as stated in the view description.

Forum Week #: There is a forum for students to answer each week. This is a **REQUIRED** item to get full credit in this class. Also, this is for students to make their initial post, ask questions on course content for that week **BEFORE** Thursday evening. Late posts may only receive 50% credit after the instructor's solution is visible. Successful students find that this is an excellent resource.

Homework Assignments: In the assigned weekly Thinkwell sections, watch videos, read transcript and examples, then complete all exercises included.

Chapter Tests will cover two short or one long chapter as they are completed. These tests will be taken on-line in the Thinkwell classroom. They will be open book and open note tests. However, you may not receive help from any other person. These tests will be assigned near the beginning of the week and will be due by the end of the week. The exact dates are noted later in this student guide. These tests will represent 60 percent of the student's course grade.

There are practice exercises, some in Thinkwell and others in Sakai for each of the text chapters covered. These practice problems are focused on the reading and study material for each week. After completing your assigned reading and viewing the appropriate weekly videos, you should complete those problems in order to ensure you have mastered the material covered. They are graded as to being completed, and will be discussed through the weekly forums per student questions. If you do not feel that you have mastered the topics sufficiently, you are encouraged to visit web sites or textbook to analyze additional problems which you can also introduce into our weekly forums. You can also post your solutions on a weekly forum for input from other students and me.

The Cumulative Final Exam will be taken during the last week of the semester (20 points). It will be a three-hour exam. It will be open book and open notes and it will be on-line. It is highly recommended that you use a calculator. Unless the professor approves alternate arrangements, students should plan to take the final examination during the 16th week of the course.

Students' final grades will be posted as soon as the instructor receives and evaluates the final exam. Official grades will continue to be issued by the University on the grade report form. Professors have 5 days from the end of the semester to submit their grades to the University.

The points earned on the graded course assignments will determine the course grade. The final grade in the course will be based on total points. Grades will be assigned based on the following term composite scores:

Grading:

Name	Grade %
Forums	10.00 %
Introductory FORUM	0.71 %
Week 1 Forum	0.71 %
Week 2 Forum	0.71 %
Week 3 Forum	0.71 %
Week 4 Forum	0.71 %
Week 5 Forum	0.71 %
Week 6 Forum	0.71 %
Week 7 Forum	0.71 %
Week 8 Forum	0.71 %
Week 9 Forum	0.71 %
Week 10 Forum	0.71 %
Week 11 Forum	0.71 %
Week 12 Forum	0.71 %
Week 13 Forum	0.71 %

Week 14 Forum	0.71 %
Week 15 Forum	0.71 %
Week 16 Forum	0.71 %
Thinkwell	10.00 %
Honor Code and Pledge APUS	1.00 %
Assignment 1	2.00 %
Assignment 2	2.00 %
Assignment 3	2.00 %
Assignment 4	2.00 %
Assignment 5	2.00 %
Test Critiques	60.00 %
Test 1 Critique	12.00 %
Test 2 Critique	12.00 %
Test 3 Critique	12.00 %
Test 4 Critique	12.00 %
Test 5 Critique	12.00 %
Final Exam	20.00 %
Final Examination	20.00 %

Materials

Book Title: Thinkwell Calculus Online Materials - Thinkwell will send a user name and password to your primary email address. Instructions provided inside the classroom.

Author:

Publication Info: Thinkwell

ISBN: THINKWELL-CALC

Additional Resources

You will need, and are encouraged to use, a graphing calculator to successfully complete this course. At your discretion, you may use a scientific or graphing calculator or the calculator on your computer that is capable of performing these functions. Microsoft(2) has a free on-line calculator, as listed below. You may use these tools for all graded assignments and examinations during the course.

Tutorials3: These tutorials include 4-6 minute vignettes on all course topics, written by the course lead and are focused on the weekly course objectives. In addition, students have also found Khanacademy(4) and PatrickJMT(5) tutorials helpful. Students may access these videos by clicking on Cntrl+Click on the link.)

Web Sites

The following public domain web sites are useful. Please abide by the APUS University's academic honesty policy when using Internet sources, as well. Note web site addresses are subject to change.

<u>Site Name</u>	<u>Website URL/Address</u>
Thinkwell(1)	https://www.thinkwell.com/account/signin
On-line graphing calculator(2)	Microsoft Mathematics 4.0
APUS WV tutorials(3)	http://www.apus.edu/media/mathWV/calculus.htm
Khanacademy(4)	https://www.khanacademy.org/

Textbook

There is no required traditional or on-line textbook for this course. Any traditional introductory calculus textbook from the library or on-line should cover the topics for this class.

If you would feel more comfortable with an on-line textbook, one is available in the library at APUS. To access, simply follow the instructions below:

- 1 While in the classroom, from the left menu tab click APUS Library.
- 2 Type in ... "calculus", and then click Search.
- 3 Find the entry, "#1 Sarah Channon 2009", click on Full text on-line
- 4 Click on PDF full text. Using the page number blank at the top of the page, type in the desired section:

Introduction begins on page 3

Functions begins on page 6

Limits begins on page 23

Differentiation begins on page 39

Thinkwell does have a book available which is a compilation of problems. There are no lessons included in this book. All of the problems, plus additional problems are already available on-line in Thinkwell. You will need to contact Thinkwell directly to make this purchase.

Thinkwell's Calculus Exercises for Chapter's 1-8, Edited by Raymond W. Reinhardt, Copyright 2010 by Thinkwell Corporation.

Course Guidelines

Citation and Reference Style

- Attention Please: Students will follow the APA Format as the sole citation and reference style used in written work submitted as part of coursework to the University. Assignments completed in a narrative essay or composition format must follow the citation style cited in the APA Format.

Tutoring

- Tutor.com offers online homework help and learning resources by connecting students to certified tutors for one-on-one help. AMU and APU students are eligible for 10 free hours* of tutoring provided by APUS. Tutors are available 24/7 unless otherwise noted. Tutor.com also has a SkillCenter Resource Library offering educational resources, worksheets, videos, websites and career help. Accessing these resources does not count against tutoring hours and is also available 24/7. Please visit the APUS Library and search for 'Tutor' to create an account.

Late Assignments

- Students are expected to submit classroom assignments by the posted due date and to complete the course according to the published class schedule. The due date for each assignment is listed under each Assignment.
- Generally speaking, late work may result in a deduction up to 15% of the grade for each day late, not to exceed 5 days.
- As a working adult I know your time is limited and often out of your control. Faculty may be more flexible if they know ahead of time of any potential late assignments.

Turn It In

- Faculty may require assignments be submitted to Turnitin.com. Turnitin.com will analyze a paper and report instances of potential plagiarism for the student to edit before submitting it for a grade. In some cases professors may require students to use Turnitin.com. This is automatically processed through the Assignments area of the course.

Academic Dishonesty

- Academic Dishonesty incorporates more than plagiarism, which is using the work of others without citation. Academic dishonesty includes any use of content purchased or retrieved from web services such as CourseHero.com. Additionally, allowing your work to be placed on such web services is academic dishonesty, as it is enabling the dishonesty of others. The copy and pasting of content from any web page, without citation as a direct quote, is academic dishonesty. When in doubt, do not copy/paste, and always cite.

Submission Guidelines

- Some assignments may have very specific requirements for formatting (such as font, margins, etc) and submission file type (such as .docx, .pdf, etc) See the assignment instructions for details. In general, standard file types such as those associated with Microsoft Office are preferred, unless otherwise specified.

Disclaimer Statement

- Course content may vary from the outline to meet the needs of this particular group.

Communicating on the Forum

- Forums are the heart of the interaction in this course. The more engaged and lively the exchanges, the more interesting and fun the course will be. Only substantive comments will receive credit. Although there is a final posting time after which the instructor will grade comments, it is not sufficient to wait until the last day to contribute your comments/questions on the forum. The purpose of the forums is to actively participate in an on-going discussion about the assigned content.
- “Substantive” means comments that contribute something new and hopefully important to the discussion. Thus a message that simply says “I agree” is not substantive. A substantive comment contributes a new idea or perspective, a good follow-up question to a point made, offers a response to a question, provides an example or illustration of a key point, points out an inconsistency in an argument, etc.
- As a class, if we run into conflicting view points, we must respect each individual's own opinion. Hateful and hurtful comments towards other individuals, students, groups, peoples, and/or societies will not be tolerated.

University Policies

[Student Handbook](#)

- [Drop/Withdrawal policy](#)
- [Extension Requests](#)
- [Academic Probation](#)
- [Appeals](#)
- [Disability Accommodations](#)

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