



National Taiwan University of Science and Technology

2021 Summer Program

MATH 122 Calculus 2

Course Outline

Term: June 14-July 09, 2021

Class Hours: 14:00-15:50 (Monday through Friday)

Course Code: MATH 122

Instructor: Professor Mark Sepanski

Home Institution: Baylor University

Office Hours: TBA and by appointment

Email: Mark.Sepanski@baylor.edu

Credit: 4

Course Description:

Calculus is the study of continuous change. This course concludes the development of single variable calculus. Topics to be covered include applications of the integral, techniques of integration, differential equations, and infinite series.

Required Textbooks:

Calculus: Early Transcendentals, 4th Ed., by J. Rogawski, C. Adams, & R. Franzosa, W. H. Freeman, 2018, ISBN-10: 1319050743, ISBN-13: 978-1319050740.

Grading & Evaluation:

Homework

Homework will be assigned daily in class and is due at the beginning of the next class. Only a



subset of homework problems will be graded. For its contribution to your overall course average, each homework assignment will be weighted equally and the lowest homework score will be dropped.

Course Grade

Your overall course average will be calculated with the weights as displayed in the table below.

Overall Course Average Weights

Homework	20%
Midterm	40%
Final	40%

There is no curving and no extra credit. Your course grade will be calculated as shown in the table below.

Course Grade

Overall Course Average	Letter Grade
90-100	A
80-89	B
72-79	C
50-71	D
0-49	F



Course Schedule:

Week	Chapter	Sections
	5	Summary: Definition of Integral Fundamental Theorem of Calculus Substitution
1	6	6.1 Area Between Two Curves 6.2 Setting Up Integrals: Volume, Density, Average
	6	6.3 Volumes of Revolution: Disks and Washers 6.4 Volumes of Revolution: Cylindrical Shells
	7	7.1 Integration by Parts 7.2 Trigonometric Integrals
	7	7.3 Trigonometric Substitution 7.4 Integrals Involving Hyperbolic and Inverse Functions
2	7	7.5 Method of Partial Fractions 7.7 Improper Integrals
		Overview 6 & 7
		Midterm
	8 & 9	8.2 Arc Length and Surface Area 9.1 Solving Differential Equations and Separation of Variables
3	10	10.1 Sequences 10.2 Summing an Infinite Series
	10	10.3 Convergence of Series with Positive Terms 10.4 Absolute and Conditional Convergence
	10	10.5 The Ratio and Root Tests 10.6 Power Series
	10	10.7 Taylor Polynomials 10.8 Taylor Series
4		Overview 8, 9, & 10
		Final Exam
		Discussion of Final Exam