

MATH 3705 - Differential Equations

Fall 2026 Syllabus, Section 02, CRN 43312,

Credit hours: 3

Instructor

Thomas Smotzer

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Public Instructor Information

Instructor Title: Doctor Smotzer

Instructor Professional Qualifications: Ph. D., Mathematics, Indiana University, 1995, BM, Piano Performance, Baldwin Wallace College, 1988

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Course Description

3705. Differential Equations. Methods and theory of solving differential equations with applications. Existence, uniqueness. First order equations. Higher order linear equations. Introduction to partial differential equations and boundary value problems, including Laplace's equation. Prereq.: C or better in one of MATH 2673, MATH 2673H, or MATH 2686H. 3 s.h.

Course Readings

Group	Title	Author	ISBN
	Elementary Differential Equations with Boundary Value Problems	Trench	

The e-book and homework are in Blackboard

The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.

Schedule of Topics and Assignments

Week of	Reading(s)	Proposed Topic	Due/To Prepare for Class
8/24	1.1-1.3	Introduction	
8/31	2.1-2.3	First Order Differential Equations	
9/7	2.4, 4.1	Linear Second Order Equations	
9/14	4.2, 4.3, 4.4	Linear Second Order Equations	
9/21	4.5, 4.6	Linear Second Order Equations	
9/28	6.1, 6.2	Higher Order Differential Equations	
10/5	6.3, 6.4	Higher Order Differential Equations	
10/12	7.2, 7.3	Laplace Transforms	
10/19	7.4, 7.5	Laplace Transforms	
10/26	7.6, 9.1	Laplace Transforms	
11/2	9.2, 9.3	Matrix Methods for Linear Systems	
11/9	9.4, 9.5	Matrix Methods for Linear Systems	
11/16	9.6, 9.7	Matrix Methods for Linear Systems	
11/23	10.2	Partial Differential Equations	

11/30	review	Review
12/7	finals week	

The course schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or to ensure better learning.