

This syllabus is **tentative**; elements such as scheduling of exams and coverage on each exam **may change**. All changes will be posted on the class web site.

Section numbers refer to *Advanced Engineering Mathematics* (2<sup>nd</sup> edition), by Michael, D. Greenberg.

Date	Sections	Topics
9/07–9/21	4.1–4.6	Power series solutions of ordinary differential equations
9/26–10/03	5.1–5.6	Laplace transforms and applications to ordinary differential equations
10/10	<b>EXAM 1</b>	<b>All covered material from Chapters 4 and 5.</b>
10/05–10/24	7.1–7.5	Systems of differential equations and the phase plane
10/26–10/31	9.6–9.10	Vector spaces of functions, inner products, and orthonormal bases
11/02–11/09	17.1–17.6, 18.1–18.3.1	Fourier series and applications to the diffusion equation on an interval
11/21	<b>EXAM 2</b>	<b>All covered material from Chapters 7 and 9 Sections 17.1–17.6 and 18.1–18.3.1</b>
11/14–11/28	17.7–17.8, 11.3, 18.1–18.3	Sturm-Liouville theory, applications to the diffusion equation on an interval
11/30–12/05	17.9, 17.10, 18.4	Fourier integrals and the Fourier transform, and the diffusion equation on infinite intervals
12/07–12/14	19.1, 19.2, 19.4, 20.1, 20.2	The wave equation and Laplace's equation
	<b>FINAL EXAM</b>	<b>Date and time to be determined</b>