

Text : Advanced Engineering Mathematics (10th ed.)

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CourseSmart online version - <http://www.coursesmart.com/IR/1780061/9780470458365>

Recommended Supplement: Maple 15 Student Edition

<https://webstore.maplesoft.com> Enter code: AP14792-300EC. The cost is approximately \$75.

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Outline : There will be 3 in-class exams and a final exam. The tentative dates for these exams are Mar. 1, Mar. 29, and May. 3. The lowest grade will be dropped and the other two grades will count 30% each. The final exam counts as 40% of your grade and is scheduled for Thursday, May 17 from 1:30 pm – 3:30 pm. **THERE WILL BE NO MAKE-UP EXAMS OR INDIVIDUAL EXTRA CREDIT ASSIGNMENTS.** If you miss one of the in-class exams **for any reason**, the other 2 in-class exams will be counted 30% each. Despite having emphasized my policy of not giving make-ups, often a student who has done poorly on an exam requests a makeup for a missed test due to an illness, an unfortunate family matter, or other emergency. Understand that the missed exam will be the dropped test, and the grade(s) from other exams will count. Please do not ask for a make-up. If more than one exam is missed then you must withdraw from the course. The last day to withdraw with a grade of "W" is Monday, April 16.

Grade:	94-100 A	86-89 B+	78-81 B-	70-73 C	64-66 D+
	90-93 A-	82-85 B	74-77 C+	67-69 C-	60-63 D

Please note: Anyone receiving a grade below 60 will not pass this course (i.e. will receive a grade of F). This includes, but is not limited to, graduating seniors, athletes, and students on scholarships

Plagiarism: Plagiarism is a serious ethical and professional infraction. Hofstra's policy on academic honesty reads: "The academic community assumes that work of any kind [...] is done, entirely, and without assistance, by and only for the individual(s) whose name(s) it bears." Please refer to the "Procedure for Handling Violations of Academic Honesty by Undergraduate Students at Hofstra University" to be found at http://www.hofstra.edu/PDF/Senate_FPS_11g.pdf, for details about what constitutes plagiarism, and Hofstra's procedures for handling violations. Any student caught cheating on an exam or on any assignment will be dealt with in a manner consistent with Hofstra's policy. **No such incident will be ignored.**

Learning Goals

Students will apply analytical reasoning across academic disciplines.

- Apply quantitative, inductive, and deductive reasoning.
 - Apply abstract thinking and conceptual modeling.
- Mathematics majors will learn and retain basic knowledge in the core branches of mathematics.
 Mathematics majors will be able to learn and explain mathematics on their own.

Disabilities Policy

If you have any concerns regarding a physical, psychological and/or learning disability that may have an impact upon your performance in this course, appropriate accommodations can be made on an individualized, as-needed basis after the needs, circumstances and documentation have been evaluated by the appropriate office on campus.

The Office of Services for Students with Disabilities is located in 212 Memorial Hall. Telephone: 516-463-7074. Please see the Hofstra Guide to Pride, or see their site: <http://www.hofstra.edu/StudentAffairs/stdis/index.html>.

All disability-related information will be kept confidential.

(over)

Assignments

[] denotes odd numbers only

Matrices, Solving Systems of Linear Equations, Eigenvectors and Eigenvalues

#	Sec	Page	Problems	
1.	7.1	261	[9-17], 18, 20	Matrices, Vectors: Addition and Scalar Multiplication
2.	7.2	270	3, [11-19], 30 (a-c)	Matrix Multiplication, Transpose, Symmetric
3.	7.3	280	2, [3-7], 8, [9-15], 24	Gauss Elimination
4.	7.7	300	[7-13], 21-24	Determinants, Cramer's Rule
5.	7.8	308	[1-5]	Inverse of a Matrix
6.	8.1	329	7, 9, 10, 11, 13, 17	Eigenvalues and Eigenvectors
7.	8.4	345	[9-13], 14	Eigenbases, Diagonalization

Vector Integral Calculus

#	Sec	Page	Problems	
8.	10.1	418	2-5, 9, 10, [15-19]	Line Integrals
9.	10.2	425	3-6, [13-19]	Line Integrals Independent of Path
10.	10.3	432	2-5, 8	Double Integrals (Review)
11.	10.4	438	1-3, 6-9, 14-19	Green's Theorem in the Plane
12.	10.5	442	[1-7], 8, 14, [15-19]	Parametric Rep. of Surfaces, Normal Vec's
13.	10.6	450	1, 2, 4, 5, 7, 13-15, 23	Surface Integrals
14.	10.7	457	2, 4, 5, 6, 11, 13, 14, 15	Triple Integrals, Divergence Theorem
15.	10.8	462	7-10	Consequences of the Divergence Theorem
16.	10.9	468	1-5, 11, [13-17]	Stokes's Theorem

Fourier Series and Partial Differential Equations

	Sec.	Page	Problems	Description
17.	11.1	482	1, 2, 6-9, [13-19]	Periodic Functions, Fourier Series for Period 2π Functions
18.	11.2	490	[1-17], 20, [25-29]	Fourier Series for Period $2L$ Functions, Even and Odd Functions, Half-Range Expansions
19.	12.1	542	[3-11], 16, 17, 19	Introduction to Partial Differential Equations (PDE's)
20.	12.3	551	[1-11]	Solution to the One-Dimensional Wave Equation Using Separation of Variables and Fourier Series
21.	12.6	567	5, 7, 8-10, 12, 13,	Heat Equation: Solution By Fourier Series Steady Two-Dimensional Heat Problems

Method of Least Squares

22.	20.5	875	[1-11]	Method of Least Squares
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