

<u>Date</u>	<u>Lecture Topic</u>
	<ul style="list-style-type: none"> • I. Prerequisite Material (Will Not Be Covered) <ul style="list-style-type: none"> • Infinite Series <ul style="list-style-type: none"> • Reading: §§ 1.1 – 1.9 (pp. 1 – 20) • Complex Numbers and Series <ul style="list-style-type: none"> • Reading: §§ 2.1 – 2.6 (pp. 46 – 57) • Vectors, Matrices and Determinants <ul style="list-style-type: none"> • Reading: §§ 3.1 – 3.6 (pp. 82 – 123) • Partial Derivatives <ul style="list-style-type: none"> • Reading: §§ 4.1 – 4.11 (pp. 188 – 233) • Multiple Integrals <ul style="list-style-type: none"> • Reading: §§ 5.1 – 5.5 (pp. 241 – 273) • Vector Analysis <ul style="list-style-type: none"> • Reading: §§ 6.1 – 6.8 (pp. 276 – 308) • II. Fourier Analysis (3 Weeks) <ul style="list-style-type: none"> • Methods from Elementary Calculus <ul style="list-style-type: none"> • Reading: §§ 1.10 – 1.15 and § 4.12 (pp. 20 – 43, 233 – 238 = 30) • Finite-Dimensional Hilbert Spaces <ul style="list-style-type: none"> • Reading: §§ 3.7 – 3.10 and § 3.14 (pp. 124 – 148, 179 – 184 = 31) • Eigenvalues and Eigenvectors <ul style="list-style-type: none"> • Reading: §§ 3.11 – 12 (pp. 148 – 172 = 25) • Introduction to Fourier Series <ul style="list-style-type: none"> • Reading: §§ 7.1 – 7.6 (pp. 340 – 358 = 19) • Applications of Fourier Series <ul style="list-style-type: none"> • Reading: §§ 7.6 – 7.11 (pp. 358 – 378 = 21) • Fourier Transforms <ul style="list-style-type: none"> • Reading: § 7.12 (pp. 378 – 386 = 9) • III. Complex Variables (3 Weeks) <ul style="list-style-type: none"> • Integral Theorems of Vector Calculus <ul style="list-style-type: none"> • Reading: §§ 6.9 – 6.11 (pp. 309 – 336 = 28) • Elementary Functions in the Complex Plane <ul style="list-style-type: none"> • Reading: §§ 2.7 – 2.16 (pp. 58 – 80 = 23) • Derivatives and Integrals in the Complex Plane <ul style="list-style-type: none"> • Reading: §§ 14.1 – 14.3 (pp. 666 – 678 = 13) • Laurent Series and the Calculus of Residues <ul style="list-style-type: none"> • Reading: §§ 14.4 – 14.6 and 14.8 (pp. 678 – 687, 702 – 705 = 14)
Tue 24 Aug	
Thu 26 Aug	
Tue 31 Aug	
Thu 02 Sep	
Tue 07 Sep	
Thu 09 Sep	
Tue 14 Sep	
Thu 16 Sep	
Tue 21 Sep	
Thu 23 Sep	

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Tue 28 Sep	<ul style="list-style-type: none"> • Evaluation of Definite Integrals <ul style="list-style-type: none"> • Reading: § 14.7 (pp. 687 – 702 = 16)
Thu 30 Sep	<ul style="list-style-type: none"> • Conformal Mapping <ul style="list-style-type: none"> • Reading: §§ 14.9 – 14.10 (pp. 705 – 718 = 14)
Tue 05 Oct	<ul style="list-style-type: none"> • IV. Differential Equations (3½ Weeks) <ul style="list-style-type: none"> • First-Order Ordinary Differential Equations <ul style="list-style-type: none"> • Reading: §§ 8.1 – 8.4 (pp. 390 – 408 = 19)
Thu 07 Oct	<ul style="list-style-type: none"> • Second-Order Ordinary Differential Equations <ul style="list-style-type: none"> • Reading: §§ 8.5 and 8.7 (pp. 408 – 416, 430 – 436 = 16) • Mid-Term Exam Available <ul style="list-style-type: none"> • Fourier Analysis • Complex Variables
Tue 12 Oct	<ul style="list-style-type: none"> • The Damped, Driven, Harmonic Oscillator <ul style="list-style-type: none"> • Reading: § 8.6 (pp. 417 – 430 = 14) • Mid-Term Exam Due
Thu 14 Oct	<ul style="list-style-type: none"> • The Laplace Transform Method <ul style="list-style-type: none"> • Reading: §§ 8.8 – 8.10 (437 – 449 = 13)
Tue 19 Oct	<ul style="list-style-type: none"> • The Green Function Method <ul style="list-style-type: none"> • Reading: §§ 8.11 – 8.12 (pp. 449 – 466 = 18)
Thu 21 Oct	<ul style="list-style-type: none"> • The Laplace Equation and Its Relatives <ul style="list-style-type: none"> • Reading: §§ 13.1 – 13.2 (pp. 619 – 628 = 10)
Tue 26 Oct	<ul style="list-style-type: none"> • The Heat and Wave Equations <ul style="list-style-type: none"> • Reading: §§ 13.3 – 13.4 (pp. 628 – 638 = 11)
Thu 28 Oct	<ul style="list-style-type: none"> • V. Special Functions (3½ Weeks) <ul style="list-style-type: none"> • Tabulated Integrals and Their Approximations <ul style="list-style-type: none"> • Reading: §§ 11.1 – 11.11 (pp. 537 – 554 = 18)
Tue 02 Nov	<ul style="list-style-type: none"> • Legendre Polynomials <ul style="list-style-type: none"> • Reading: §§ 12.1 – 12.5 (pp. 562 – 575 = 14)
Thu 04 Nov	<ul style="list-style-type: none"> • Associated Legendre Functions <ul style="list-style-type: none"> • Reading: §§ 12.6 – 12.11 (pp. 575 – 587 = 13)
Tue 09 Nov	<ul style="list-style-type: none"> • Bessel Functions <ul style="list-style-type: none"> • Reading: §§ 12.12 – 12.18 (pp. 587 – 600 = 14)
Thu 11 Nov	• (No Class due to Veteran's Day)
Tue 16 Nov	<ul style="list-style-type: none"> • Orthogonal Expansions <ul style="list-style-type: none"> • Reading: §§ 12.19 – 12.22 (pp. 601 – 614 = 14)
Thu 18 Nov	<ul style="list-style-type: none"> • Cylinder and Sphere Problems <ul style="list-style-type: none"> • Reading: §§ 13.5 – 13.7 (pp. 638 – 652 = 15)
Tue 23 Nov	<ul style="list-style-type: none"> • The Principle of Superposition

Date**Lecture Topic**

- Reading: §§ 13.8 – 13.9 (pp. 652 – 663 = 12)

Thu 25 Nov

- **(No Class due to Thanksgiving Recess)**

Tue 30 Nov

- **Review Session for Final Exam**

- Final Exam Available
 - Differential Equations
 - Special Functions