

List of Lectures PHY 424/ELE 324 Fall/2009

Lecture #1, Monday, August 31st, Syllabus PHY 424/ELE 324; 1.1. Vector Algebra

Lecture #2, Wednesday, September 2nd, 1.2. Differential calculus

Monday, September 7th, Labor Day - No Classes and University offices closed

Lecture #3, Wednesday, September 9th, 1.3. Integral calculus

Lecture #4, Monday, September 14th, 1.4. Curvilinear coordinates
1.6. The Theory of Vector Fields

Lecture #5, Wednesday, September 16th, 1.6. Continuation- Curvilinear coordinates

Monday, September 21st, Eid-UI FITR - No Classes and University offices open

Lecture #6, Wednesday, September 23rd, 2.1. The electric field

Monday, September 28th, Yom Kippur - No Classes and University offices open

Lecture #7, Wednesday, September 30th, 2.2. Divergence and Curl of electrostatic fields

Lecture #8, Monday, October 5th, 2.3. Electric potential

Lecture #9, Wednesday, October 7th, 2.4. Work and energy in electrostatics

Lecture #10, Monday, October 12th, 2.5. Conductors

Lecture #11, Wednesday, October 14th, 3.1. Laplace's Equation

Lecture #12, Monday, October 19th, Review Meeting for Mid-term examination

Wednesday, October 21st, MID-TERM EXAMINATION

Lecture #14, Monday, October 26th, 3.2. Method of Images

Lecture #15, Wednesday, October 28th, 3.3. Separation of variables. Laplace's equation in Cartesian coordinates

Lecture #16, Monday, November 2nd, 3.4. Multipole expansion - part 1

Lecture #17, Wednesday, November 4th, 3.4. Multipole expansion - part 2

Lecture #18, Monday, November 9th, 4.1. Polarization

Lecture #19, Wednesday, November 11th, 4.2. The field of a polarized object; 4.3. The electric displacement

Lecture #20, Monday, November 16th, 4.4. Linear dielectrics

Lecture #21, Wednesday, November 18th, 5.1. The Lorentz force law

Lecture #22, Monday, November 23rd, 5.2. The Biot-Savart law

**Wednesday November 25th through Sunday, November 29th - Thanksgiving Break -
No Classes and University offices closed - Except Wednesday**

Lecture #23, Monday, November 30th, 5.3. The divergence and curl of \mathbf{B} ; 5.4. Magnetic vector potential

Lecture#24, Wednesday, December 2nd, 6.1. Magnetization;

Lecture #25, Monday, December 7th, 6.2. The field of a magnetized object

Lecture #26, Wednesday, December 9th, 6.3. The auxiliary field \mathbf{H}

Lecture #27, Monday, December 14th, 6.4. Linear and nonlinear media

Final Exam: Monday, December 18th, 12:30 - 2:30 P.M.