EE 101 Fall 2005

Time              TR 2 – 3.50,

Location          Boelter 5249

Final Exam        Thursday Dec. 13, 2005, 3 – 6 PM

Instructor        Tatsuo Itoh
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Office Hours      TR 4 – 5 or by Appointment

Grading           HW 24%, Midterm 30%, Final 45%
                  Web Survey 1%

Prerequisite      EE 1 or Physics 1C, Math 32A/B or 33A/B

This is a required course for EE, CE and Biomed. The course deals with the fundamentals and applications of transmission line and plane waves

Advanced Courses Related to EE 101 are:
   EE 161 (Waveguide), EE 162A (Antennas)
   EE 163 A (Passive Components), EE 163 B (Devices)
   EE 163 C (Amplifiers), EE164L and D (Lab, Design)
   EE 172 (Lasers)
EE 101 is fundamental for Solid State, Communication, Signal Processing, VLSI Design, Wireless Electronics, etc.

**TOPICS COVERED**

1. Waves and Phasors

2. Transmission Lines
   - Theory and Examples
   - Reflection, Input Impedance
   - Standing Waves
   - Smith Chart
   - Impedance Matching
   - Transient Phenomena

3. Review of Vectors
   - Gradient, Divergence, Curl
   - Cylindrical and Spherical Coordinates

4. Electrostatics
5. Magnetostatics

6. Maxwell’s Equations
7. Plane Waves
8. Reflection and Transmission
9. Simple Antennas (time permitting)