# UNIVERSITY ☺F P☺RTLAND
# Sch☺☺l ☺f Engineering

## EE 301 – Electromagnetic Fields – 3 cr. hrs.
## Spring 2004

Tentative Course Outline Sheet

Course Purpose: The purpose of this course is to introduce the students to the basic definitions, concepts and laws that are essential in understanding the characteristics and propagation of electromagnetic waves.

Learning Objectives: At the successful completion of this course, the student will
--understand the fundamental differences between lumped- versus distributed-circuit analysis
--understand transmission-line fundamentals
--understand the Smith chart and its applications
--analyze and design impedance-matching networks
--become familiar with Maxwell's equations
--understand the properties of uniform plane EM waves

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Lecture Hours: MWF 11:25-12:20 (Location: ENGR 301)

Office Hours: **M 12:30-13:30 & 15:35-16:30**
**T* 12:00-13:30, W 15:35-17:30**
**F 15:35-16:30 (*Not all weeks!)**

***"I prefer death to lassitude. I never tire of serving others,"***
**by Leonardo da Vinci (1452- 1519)**

Textbook: **Engineering Electromagnetics** by $(Inan)^2$
(Addison Wesley, 1999, ISBN 0-8053-4423-3)

Course Content: Lumped vs Distributed Electrical Circuits (Chapter 1)
Digital Signals on Transmission Lines (Chapter 2)
Steady-state waves on Transmission Lines (Chapter 3)
Smith Chart and Impedance Matching (Chapter 3)
Maxwell's Equations (Chapter 7)
Electromagnetic Waves (Chapter 8)

Prerequisites: EE 261, MTH 301, and PHY 205.

Grading Policy: The total numerical grade is computed based on the following percentages: **10% for homeworks, 50% for the two midterms,** and **40% for the final exam.**

The final letter grade in the course is tentatively assigned based on the following total numerical grade intervals out of a total of **100 points:**

| | | |
|---|---|---|
| **90 - 100** | **A** | **(Excellent Performance)** |
| **80 - 89** | **B** | **(Good Performance)** |
| **70 - 79** | **C** | **(Average Performance)** |
| **60 - 69** | **D** | **(Poor Performance)** |
| **<60** | **F** | **(Inadequate Performance)** |

Typically, the average of the total numerical grade distribution corresponds to a $\mathbf{B^-}$ letter grade.

Exam Dates: The exam dates are tentatively set as follows:

**Midterm #1---Friday, February 27, 2004**
**Midterm #2---Wednesday, April 14, 2004**
**Final exam*---Thursday, April 29, 2004, 8:00-10:00**
(*****Comprehensive exam and mandatory for all students.)

No-class dates: Monday through Friday, March 8 through 12, 2004 (Spring Break)
Tuesday, April 13, 2004 (Founder's Day)
Friday, April 9, 2004 (Good Friday)

Homeworks: Weekly homeworks will be assigned. Solutions for these homeworks will be provided on the due dates. These homeworks are mandatory, that is, in addition to the other requirements, every student is expected to turn in these homeworks on time to qualify to pass the course.

Sorry, but, **no late homeworks will be accepted!!**☹
Therefore, **no late homeworks will be expected!!**☺