

Prof. Yen-Chieh Huang
Dept of Electrical Engineering
National Tsing-Hua University
Hsinchu, Taiwan 30013

tel: 886-3-5162340
office: HOPE 301, Delta 856
email: ychuang@ee.nthu.edu.tw
EE214000 Electromagnetics, Fall, 2015

Last update Oct. 18, 2015

EE 214000 Electromagnetics

國立清華大學電機工程科學系
Fall 2015

Prof. 黃衍介

Class location: Delta 210
Class schedule: M3M4W2

Office hours @ Delta 515: 10:30 am - noon, Wednesday.

Teaching Assistants (TAs): 廖宸樑 jhs710041@gmail.com, 林孟緯
jimmymilky@gmail.com x 62333

General Information

This course is to introduce the basic concepts on electromagnetics, covering topics of transmission line, electrostatics, magnetostatics, time-varying field, plane waves etc. To be consistent with the modern trend of electrical engineering, I bring forward the transmission line to beginning of the lecture. The content of transmission line is mostly adopted from the textbook by Ulaby. However, the same concepts are also given in the textbook by Cheng.

This course will be lectured mostly in English and slightly in Chinese for clarity.

Textbook

David K. Cheng, Field and Wave Electromagnetics 2nd Ed., Addison Wesley, 1989.

Reference book

Fawwaz T. Ulaby, Fundamentals of Applied Electromagnetics 6th Ed., PEARSON Prentice Hall, 2007. (新月圖書，東華書局代理)

Grading Policy:

Homework	20% (late homework not accepted)
Weekly quiz (open books/notes)* (scope of quiz in the READING ASSIGNMENT)	20% (will become the weighting factor for final score adjustment)
Two midterm exams	20% x 2
One final exam	20%

* weekly quiz includes those lectured, to be lectured, or assigned in homework.

Course Handouts: Bound copies will be available at 水木書苑 in the first week of class .
Updates can be found on <http://www.hope.nthu.edu.tw/?p=427> (passcode: EM_2015) .

Course Contents

Prof. Yen-Chieh Huang
Dept of Electrical Engineering
National Tsing-Hua University
Hsinchu, Taiwan 30013

tel: 886-3-5162340
office: HOPE 301, Delta 856
email: ychuang@ee.nthu.edu.tw
EE214000 Electromagnetics, Fall, 2015

Introduction, transmission line, vector calculus, electrostatics, magnetostatics, time-varying field, electromagnetic waves, EM wave at boundaries, radiation and antenna (if time allows).

Handout Reading Assignments (scope of in-class quiz)

- Week 0 (Sep. 14): up to page 19
- Week 1 (Sep. 21) : up to page 35
- Week 2 (Sep. 28): up to page 46 (no class on Sep. 28)
- Week 3 (Oct. 5): up to page 67
- Week 4 (Oct. 12): up to page 81
- Week 5 (Oct. 19) –up to page 102
- Week 6 (Oct. 26): first midterm exam
- Week 7 (Nov. 2): up to page 118
- Week 8 (Nov. 9): up to page 134
- Week 9 (Nov. 16): up to page 150
- Week 10 (Nov. 23) : up to page 166
- Week 11 (Nov. 30): up to page 188
- Week 12 (Dec. 7): midterm exam 2
- Week 13 (Dec. 14): up to page 206
- Week 14 (Dec. 21): up to page 222
- Week 15 (Dec. 28): up to page 237
- Week 16 (Jan. 4): up to page 252
- Week 17 (Jan. 11) – Final Exam