

Last update Sep. 14, 2020

## EE 214000 Electromagnetics

國立清華大學電機工程科學系  
Fall, 2020

Prof. 黃衍介

Class location: Delta 209  
Class schedule: M3M4W2

Office hours @ Delta 856: 10:10 ~ 11 am, Wednesday.

Teaching Assistants (TAs): 彭珞豪 [nick80123@gmail.com](mailto:nick80123@gmail.com) (head TA)、劉峰麒  
[alex851225@gmail.com](mailto:alex851225@gmail.com)、陳傑儒 [znqr85226@gmail.com](mailto:znqr85226@gmail.com), 03-5162333

### General Information

This course is the first part of the electromagnetics taught for electric engineers, covering topics of electrostatics, magnetostatics, circuits, and time-varying fields etc.

The textbook chosen for this course is Field and Wave Electromagnetics by D. K. Cheng. As electromagnetics is a well-established knowledge, most other textbooks also serve well for the purpose of this course.

In the NTHU classroom, this course will be lectured mostly in English and slightly in Chinese for clarity.

The teaching of this course is synchronized with my DELTAMOOCx course at <https://univ.deltamoox.net/> Before my lecture in English, students are required to view the recorded lectures on the web.

### How to view DELTAMOOCx Course Materials?

- Sign up at <https://univ.deltamoox.net/> to locate the on-line course



- If you have any question about accessing it, you can click “新手上路” on <https://univ.deltamoox.net/>

### Textbook

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

### Reference book

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

### Grading Policy:

Homework	10% (late homework not accepted)
Weekly quiz (open books/notes)*	30% (15% MOOCx and 15% in class)
One midterm exam	30%
One final exam	30%

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

\* Quiz is divided into two parts. (1) The MOOCx quiz will be distributed on or before each Tuesday and turned in in electronic form by 10 am on every Wednesday through **your email account** (sent to 劉峰麒 [alex851225@gmail.com](mailto:alex851225@gmail.com)). (2) The 2<sup>nd</sup> quiz will be distributed from time to time in every Monday class in paper form.

\* In case we need to adjust scores in the end of the semester, your performance in quiz, question asking/answering in the class, and pre-class homework will become the weighting factor for the adjustment.

\* Homework will be assigned every 1-2 weeks via emailing and/or IMLS

**Course Handouts:** Bound copies will be available at 利捷影印店 on the 2<sup>nd</sup> floor of 水木餐廳 in the first week of class . Updates can be found on <http://www.hope.nthu.edu.tw/Electromagnetics.html> ( passcode: EE21400 ) .

### Course Contents

Introduction, complex analysis, vector calculus, electrostatics, electric circuit, magnetostatics, magnetic circuit, time-varying field.

### DELTAMOOCx View Schedule

- Week 1 (Sep. 14, 16): Lecture 1 on Sep. 14 and Lecture 2 on Sep. 16
- Week 2 (Sep. 23): Lecture 3
- Week 3 (Sep. 30): Lecture 4 (no class on Monday, Sep. 28)
- Week 4 (Oct. 7): Lecture 5
- Week 5 (Oct. 14): Lecture 6
- Week 6 (Oct. 21): Lecture 7
- Week 7 (Oct. 28): Lecture 8
- Week 8 (Nov. 4): Lecture 9
- Week 9 (Nov. 11, no class): (Midterm Exam on Monday Nov. 9)
- Week 10 (Nov. 18): Lecture 10
- Week 11 (Nov. 25): Lecture 11
- Week 12 (Dec. 2): Lecture 12
- Week 13 (Dec. 9): Lecture 13

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Week 14 (Dec. 16): Lecture 14  
Week 15 (Dec. 23): Lecture 15  
Week 16 (Dec. 30): Lecture 16  
Week 17 (Jan. 6): Lecture 17  
Week 18 (Jan. 11) – Final Exam