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EE214000 Electromagnetics, Fall, 2021

Last update Sep. 13th, 2021

EE 214000 Electromagnetics

國立清華大學電機工程科學系

Fall, 2021

Prof. 黃衍介

Class location: Delta 209
Class schedule: M3M4W2

Teaching Assistants (TAs):
Head TA: 高偉倫 alo98565@gapp.nthu.edu.tw (arranging Wednesday groups/sending out Google Meet links)
連芷瑩 debby0327@gapp.nthu.edu.tw (managing iLMS, MOOCx)
唐俊強 dirk880505@gapp.nthu.edu.tw (Collecting review sheet/quize)
溫宥翰 johnson6314@gapp.nthu.edu.tw (miscellaneous duties, including exam preparations)
陳文祺 wenchi1130@gapp.nthu.edu.tw

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. initially we will review some mathematics necessary for studying this subject.

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.

This course is synchronized with the pre-recorded DELTAMOOCx at https://univ.deltamoocx.net/courses/course-v1:AT+AT_031_1101+2021_09_13/about During the pandemic, whenever necessary, we might to use this set of video recording for distance learning.

Usually, I will give a 2-hour lecture in English in the Monday class. Before each lecture (likely to be on each Friday), you will receive a review sheet for you to fill up. After the class, you are encouraged to view the MOOCx course recordings by yourselves, which are lectured in Mandarin. In every Wednesday class, we will partition the class into a few groups to discuss the content of the review sheet. Each student will receive a notification on which group to join prior to the Wednesday class. Our teaching assistants will lead discussions on review questions. I will move around different groups to answer questions. You have to turn in review sheet electronically through the EECLASS by 11 pm on every Wednesday. Homework assignments will be given every 2-3 weeks.

How to view DELTAMOOCx Course Materials?

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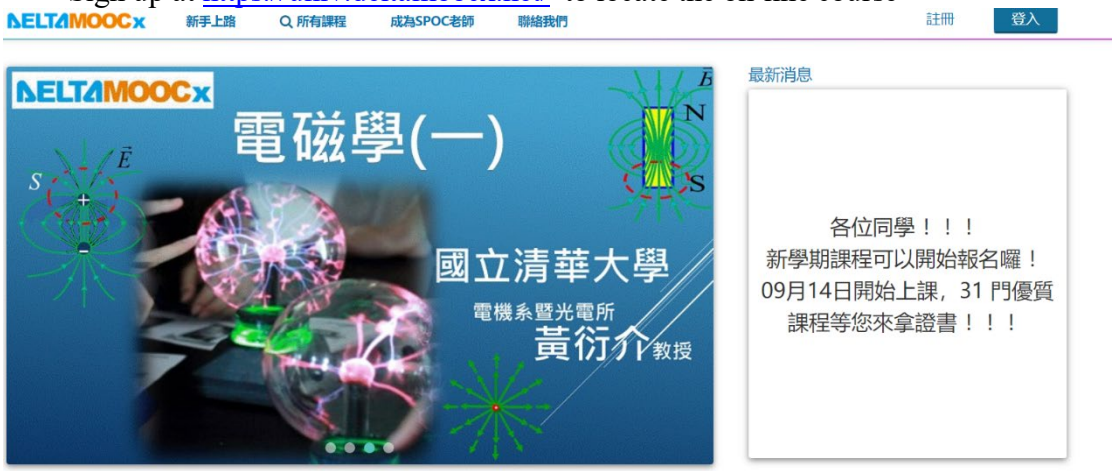
- Sign up at https://univ.deltamoocx.net/ to locate the on-line course



- If you have any question about accessing it, you can click "新手上路" on https://univ.deltamoocx.net/

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)

Course Handouts: Electronic files can be found on the EECLASS. If you would like to have bound copies of it, please print it out from the website by yourselves.

Grading Policy:

Homework	10% (late homework not accepted)
Weekly review/quiz (open books/notes)*	30%
One midterm exam	30%
One final exam	30%

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

* Review/Quiz (1) Review sheets will be distributed before Monday class and have to be turned in electronically by 11 pm on every Wednesday through the EECLASS. (2) Quiz will be distributed from time to time in a class in paper form.

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

* Homework will be assigned every few weeks via posting on the EECLASS

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

Course Schedule
Week 1 (Sep. 13, 15): Lecture 1
Week 2 (Sep. 20, 22): Lecture 2, 3 (students view the MOOCx tapes)
Week 2 (Sep. 27, 29): Lecture 4
Week 3 (Oct. 4, 6): Lecture 5
Week 4 (Oct. 11, 13): Lecture 6 (students view the MOOCx tape)
Week 5 (Oct. 18, 20): Lecture 7
Week 6 (Oct. 25, 27): Lecture 8
Week 7 (Nov. 1, 3): Lecture 9
Week 8 (Nov. 8, 10): Lecture 10
Week 9 (Nov. 15, 17): Midterm Exam
Week 10 (Nov. 22, 24): Lecture 11
Week 11 (Nov. 29, Dec. 1): Lecture 12
Week 12 (Dec. 6, 8): Lecture 13
Week 13 (Dec. 13, 15): Lecture 14
Week 14 (Dec. 20, 22): Lecture 15
Week 15 (Dec. 27, 29): Lecture 16
Week 16 (Jan. 3, 5): Lecture 17
Week 17 (Jan. 10): Final exam

* Lecture # is synchronized with the MOOCx tapes
* No class on Sep. 20, Oct. 11, and Nov. 17
* Your work on the review sheets will strictly follow this schedule, but the progress of the lectures might vary due to various reasons. Prof. Huang spent a tremendous effort in pre-cording this class. In any case, students can view thepre-recorded MOOCx tapes to learn, even though the lectures could fall behind the schedules.