

Electricity and Magnetism II (Phys 470/570)

Syllabus

Fall 2018

Monday, Wednesday and Friday, 5:00-5:50 pm, Faraday 237

Instructor : Dr. Vishnu Zutshi

Email: vzutshi@niu.edu

Office: Faraday, Room 221

Phone: (815) 753-3080

Office Hours: by appointment

Catalog description:

Maxwell's equations; propagation, reflection and transmission of electromagnetic waves; wave guides; dipole radiation; radiation by point charges; electrodynamics in special relativity.

Prerequisites : Phys 370

Textbook(s): Introduction to Electrodynamics, D. J. Griffiths (4th Edition).

Tentative Schedule:

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| Brief Review of Phys 370 Electrodynamics | August-September |
| Conservation Laws Electromagnetic Waves | September-October |
| Potentials and Fields Radiation | October-November |
| Electrodynamics and Special Relativity | November-December |

Intended learning outcomes:

Comfort with techniques and concepts of classical electrodynamics.

Class participation:

Full attendance at all class meetings is expected. Tardiness or leaving early must be avoided in order for the class to be productive for all. Students are strongly encouraged to participate in class discussion and ask questions during class. Students should expect some classes to be devoted to group problem-solving.

In-class electronic communications:

I ask that you do not take phone calls, text, email, update your status, or tweet during lectures.

Reading assignments:

To familiarize yourself with the material covered in class, reading in advance of what is going to be covered is highly recommended.

Homework:

There will be weekly homework assignments. Please show your work and intermediate steps. Written assignments must be handed in by the due date: beginning of class on Fridays. Students may discuss homework concepts with each other. However, each student must submit his or her own work, i.e., he or she must formulate the results using his or her own words. The same rule applies when a book or other sources are used as a "source of inspiration". Do not turn in anything that you have copied, or anything that you do not truly understand. Note that in the exams you are on your own, and the home assignments should get you prepared for the exams.

Exams:

There will be four exams. The exams will be towards the end of each month. The fourth exam will be comprehensive while the others will only cover the new material.

Grading:

Homeworks and exams will each be given point values and the course grade will be based on the sum of points earned. The table below gives the weighting of points earned in homework and exams;

Homework: 40%; Exams: 60%

All homework assignments and three best of the four exams will be included in your grade.

Academic Integrity:

Good academic work must be based on honesty. The attempt of any student to present as his or her own work that which he or she has not produced is regarded by the faculty and administration as a serious offense. Students are considered to have cheated if they copy the work of another during an examination or turn in a paper or an assignment written, in whole or in part, by someone else. Students are responsible for plagiarism, intentional or not, if they copy material from books, magazines, or other sources without identifying and acknowledging those sources or if they paraphrase ideas from such sources without acknowledging them. Students responsible for, or assisting others in, either cheating or plagiarism on an assignment, quiz, or examination may receive a grade of F for the course involved and may be suspended or dismissed from the university. (NIU UC)

Incomplete grades:

Incompletes will only be given under extraordinary circumstances such as extended illness or call-up to active military duty.

Receiving assistance:

Students are urged to contact me should they have questions concerning course materials and procedures. If you need an accommodation for this class, please contact the Disability Resource Center as soon as possible. The DRC coordinates accommodations for students with disabilities. It is located on the 4th floor of the Health Services Building, and can be reached at 815-753-1303 or drc@niu.edu.

Also, please contact me privately as soon as possible so we can discuss your accommodations. Please note that you will not be required to disclose your disability, only your accommodations. The sooner you let me know your needs, the sooner I can assist you in achieving your learning goals in this course.