



كلية العلوم Faculty of Science

دائرة الفيزياء Department of Physics

PHYS331: Electromagnetic Theory I

Second Semester 2020/2021

Instructor: Abdallah Sayyed-Ahmad.

Office: Science Building, Room 229.

Classroom: Science Building, Room 115.

Class meeting time: Monday and Wednesday 8:30-9:45.

Office hours: Monday and Wednesday 10:00-11:00 (or by appointment).

Email: asayyeda@birzeit.edu

Prerequisites: Phys132 and Math 331

Textbook: Griffiths, D "Introduction to Electrodynamics", 4th edition, Pearson, 2014.

- Additional References:**
- JD Jackson, JD "Classical Electrodynamics", 3rd edition, John-Wiley and Sons, 1999.
 - Greiner W, "Classical Electrodynamics", 1st edition, Springer, 1998.
 - Panofsky, WKH and Phillips, M "Classical Electricity and magnetism", 2nd edition, Dover Publications, 2005.
 - Arfken, GB and Weber, HJ "Mathematical Methods for Physicists", 6th edition, Elsevier, 2005.

Course Description: Phys331 is a course that focuses on presenting the basic principles of electromagnetism and some of its applications. Main topics that will be covered in this course are listed below.

- Course Topics:**
- Review of vector analysis (Chapter 1)
 - Electrostatics and special techniques to solve electrostatic problems. (Chapters 2&3)
 - Electric field in macroscopic media and dielectrics (Chapter 4)
 - Magnetostatics and magnetic field in matter (Chapter 5&6)

- Grading:**
- Homework assignments (approximately 1 every two weeks) 25%
 - Mid-term exam 30%
 - Final exam 45%