

T6. Course Specification (CS)

Institution	Najran University	Date	1/5/2018
College/Department	College of Science and Arts, Physics Department		

A. Course Identification and General Information:

1. Course title and code : Electricity (221 Phys-3)			
2. Credit hours 3Hours			
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs) Physics program			
4. Name of faculty member responsible for the course Dr/ Tayseer Al-Naggar& Dr/ Ehab Abdelatif			
5. Level/year at which this course is offered : second level			
6. Pre-requisites for this course (if any) Introduction To physics (101 Phys-4)			
7. Co-requisites for this course (if any) NO			
8. Location if not on main campus : Male and female division in New University location			
9. Mode of Instruction (mark all that apply)			
a. Traditional classroom	<input type="checkbox"/>	What percentage?	<input type="checkbox"/>
b. Blended (traditional and online)	<input checked="" type="checkbox"/>	What percentage?	100%
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="checkbox"/>
d. Correspondence	<input type="checkbox"/>	What percentage?	<input type="checkbox"/>
f. Other	<input type="checkbox"/>	What percentage?	<input type="checkbox"/>
Comments NO Comments			

B. Objectives

1. What is the main purpose for this course ?

This course includes the main concepts of electricity, and magnetism, which aim to study the two types of electricity (static electricity ,and current electricity) , magnetism, and electric , and magnetic field. This course also produces a processing for electric forces, electric potential ,and electric energy.

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

- Using IT to develop students skills in calculations
- Encourage students to take a tour through other institutions courses.
- Use Black board system
- Increasing the use of modern techniques for studying (Smart board- Overhead projector)
- Design new experiments to apply most laws and theories which included in the course
- Convert course to the electronic form and put it on a page of professor on the site of the university.

C. Course Description (Note: General description in the form used in the Bulletin or handbook should be attached).

Course Description :

This course includes the basic principles of electricity and magnetism, It deals with:

- Static and Dynamic electricity, electrical field,
- Electrical power, electric potential and electrical energy,
- Capacitors, types, applications, electrical circuits and their laws,
- The magnetic flux and movement of charged objects in the magnetic field and their applications, as well as the magnetic properties of the materials,
- AC circuits

1. Topics to be Covered :		
List of Topics	No. of Weeks	Contact Hours
Static Electricity: Electrostatic charge- Coulomb's law - electric field – electric force lines - electric flux - Gaussian theory and its applications- Electric potential - The equipotential surface - electrical potential energy - the relation between electric field and electric potential - the movement of charged objects in the electric field Electric capacity: capacitors - connected capacitors -energy stored in the capacitor	5	15
Dynamic Electricity: D.C electric current: change of resistance with temperature - Ohm's Law - resistivity - emf - Kirchhoff's laws - power - connected resistances.	3	9
Magnetism and magnetic field: the intensity of the magnetic field - flux and flux density - the movement of charged objects in a magnetic field - Biot – Savarat law – Ampere's law and its applications- Self-inductance - mutual inductance - applications.	4	12
-AC circuits : resistor in an AC circuit, inductor in an AC circuit, capacitor in an AC circuit - Resonance	3	9

1.Course components (total contact hours and credits per semester):						
	Lecture	Tutorial	Laboratory or studio	Practical	Other:	Total
Contact Hours	45	-----	-----	-----	-----	45
Credit	3	-----	-----	-----	-----	3

3-Additional private study/learning hours expected for students per week	3 Hours
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4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy.

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Define some terms related to Electricity and Magnetism.	-Lecture amended - Brainstorming	First semester exam Second semester exam Final exam
1.2	Explain some laws related to Electricity and Magnetism.		
2.0	Cognitive Skills		
2.1	Interpret some issues concerned with Electricity and Magnetism	-Lecture amended - Brainstorming	First semester exam Second semester exam Final exam
2.2	Estimate the mathematical problems concerned with Electricity and Magnetism		
2.2	Deduce some laws related to Electricity and Magnetism.		
3.0	Interpersonal Skills & Responsibility		
3.1	Express his opinion and accept the opinions of others objectively	-Cooperative learning	Observation card
3.2	Take responsibility and participate effectively as a team member	- Cooperative learning	Observation card
4.0	Communication, Information Technology, Numerical		
4.1	Use the computer to write reports and scientific research	-Cooperative learning	Observation card
4.2	Employ modern technology in scientific research and communicate with others.	- Self-learning	Observation card
5.0	Psychomotor		
5.1	Not exist		

5. Schedule of Assessment Tasks for Students During the Semester			
	Assessment task (e.g. essay, test, Quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Observation card (activities of students in the course)	During semester	20%
2	First semester exam	6 -7	20%
3	Second semester exam	11-12	10%
4	Final exam	16-18	50%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)
 - Two office hours per a week
 - Students communicate with course instructor through blackboard page.

E. Learning Resources

List Required Textbooks :
1- Jewett & Serway, Physics for Scientists and Engineers with Modern Physics_8ed.2000.
2- Halliday and Resnick , Fundamentals of Physics.
2. List Essential References Materials (Journals, Reports, etc.)
3. List Electronic Materials Web Sites, Facebook, Twitter, etc. http://sciencebooksonline.info/physics.html
4. Other learning material such as computer-based programs/CD, professional standards or regulations and software. Not exist

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access etc.)
1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.) Class room (40 seats) with viewers, data show and computer

2. Computing resources (AV, data show, Smart Board, software, etc.) Data show, sound communication system.
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list) Not exist

G. Course Evaluation and Improvement Processes:

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching 1.Course evaluate by online questionnaires was filled by students . 2- Questionnaire evaluate Effectiveness of E-learning .
2. Other Strategies for Evaluation of Teaching by the Instructor or by the department. 1.Course report at the end of semester 2. Evaluation of Peer teaching observation 3.Evaluation of Course file
3. Processes for Improvement of Teaching: -Attending workshops to facilitate the exchange of experiences. -Discussing the challenges in the classroom with colleagues and members of the Department Counsel. -Encouraging faculty members to attend conferences on professional development. -Setting goals for achieving excellence in teaching at the beginning of each new semester after reviewing previous semester's teaching strategies and results and after considering students' feedback. -Keeping up to date with refereed articles and books related to the topics of the course.
4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution) -Review all exam papers after assignments from faculty member in the program -Review a set of random answer papers from a peer program committee.
5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement : -Studying the questioners and staff remarks and student marks to improve the plan. -Updating annually the course topics. -Compare syllabus and course description to those found in other universities (including those on the Internet) -Try to contact other professors in different universities who are teaching similar courses

(including well-known institutions) to exchange views regarding the optimal ways to improve the course.

Name of instructor : Dr/ Tayseer Al-Naggar& Dr/ Ehab Abdelatif

Signature :

Date Report Completed 1/5/2018

Name of field experience teaching staff:

Program coordinator : Dr. Hussein Youssef Hassan Ammar

Signature:

Date received: 1/5/2018