



**Kingdom of Saudi Arabia**  
**The National Commission for Academic Accreditation &  
Assessment**

**T5. COURSE REPORT  
(CR)**

**Course title:** Course title: Electricity and Magnetism

**Course code:** (4032121-4)

**First Semester**

**Academic Year 1438-1439H -2017-2018**

**Associate Prof. El-Hadi, Ahmed**  
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A separate Course Report (CR) should be submitted for every course and for each section or campus location where the course is taught, even if the course is taught by the same



person. Each CR is to be completed by the course instructor at the end of each course and given to the program coordinator

A combined, comprehensive CR should be prepared by the course coordinator and the separate location reports are to be attached.



## Course Report

For guidance on the completion of this template refer to the NCAAA handbooks.

Institution	Umm Al-Qura University	Date of CR	4/1/2018
College/ Department: Applied Sciences College- Physics department			

### A Course Identification and General Information

1. Course <b>Electricity and Magnetism</b> Code # 4032121-4 Section #						
2. Name of course instructor Dr. Ahmed M El-hadi Location: Main campus- Al-Abdia						
3. Year and semester to which this report applies. 1438-1439 H- 1 <sup>st</sup> Semester						
4. Number of students starting the course? <input type="text" value="16"/> Students completing the course? <input type="text" value="16"/>						
5. Course components (actual total contact hours and credits per semester):						
	Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	45		30			75
Credit	3		1			4



B- Course Delivery

1 Topics to be Covered		
Topics	No of Weeks	Contact hours
<b>Electric charge and Coulomb's law</b> 1- Introduction. 2- Electric Charge 3- Conductors and Insulators 4- Coulomb's law 5- Charge is Quantized 6- Charge is Conserved	1	3
<b>The Electric Field</b> 1- Fields. 2- The Electric Field E 3- The Electric Field of a Point Charges and Lines of Force 4- The Electric Field of Continuous Charge Distributions 5- A Point Charge in an Electric Field 6- A Dipole in an Electric Field	1	3
<b>❖ Gauss Law</b> 1- IntroductionThe flux of a Vector Field 2- The Flux of the Electric Field 3- Gauss law 4- A Charged Insolated Conductor 5- Applications of Gauss law 6- Experimental Tests of Gauss law and Coulomb law	1	3
<b>❖ Electric Potential</b> 1- Electrostatic and Gravitational Forces 2- Electrical Potential Energy 3- Electric Potential 4- Calculating the Potential from the Field 5- Potential due to Point Charge 6- Potential due to a Collection of Point Charges 7- The Electric Potential of Continuous Charge distribution 8- Equipotential Surfaces 9- Calculating the Field from the Potential 10- An Insulated Conductor	2	6



<b>Capacitors and dielectrics</b> 1- Capacitance 2- Calculating the Capacitance 3- Capacitors in Series and Parallel 4- Energy Storage in an Electric Field 5- Capacitor with Dielectric 6- Dielectrics: an Atomic View 7- Dielectrics and Gauss law	<b>1.5</b>	<b>5</b>
<b>Current and Resistance</b> 1. Electric Current 2. Current Density 3. Resistance, Resistivity, and Conductivity 4. Ohm's law 5. Ohm's law: A Microscopic View 6. Energy Transfers in an Electric Circuit	<b>1.5</b>	<b>5</b>
<b>DC Circuits</b> 1. Electromotive Force 2. Calculating the Current in a Single Loop 3. Potential Differences 4. Resistors in Series and Parallel 5. Multiloop Circuits 6. RC Circuits	<b>1.5</b>	<b>5</b>
<b>The Magnetic Field</b> 1. The Magnetic Field B 2. The Magnetic Force on a Moving Charge 3. Circulating Charges 4. The Hall Effect. 5. The Magnetic Force on a Current 6. Torque on a Current Loop 7. The Magnetic Dipole	<b>2</b>	<b>6</b>
<b>Ampere's Law</b> 1. The Biot-Savart Law. 2. Applications of the Biot-Savart Law 3. Lines of Magnetic Field 4. Two Parallel Conductors 5. Ampere's Law 6. Solenoids and Toroids.	<b>2</b>	<b>6</b>



	<b>14 weeks</b>	<b>42hrs</b>
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## 2. Consequences of Non Coverage of Topics

For any topics where the topic was not taught or practically delivered, comment on how significant you believe the lack of coverage is for the course learning outcomes or for later courses in the program. Suggest possible compensating action.

Topics (if any) not Fully Covered	Effectuated Learning Outcomes	Possible Compensating Action
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## 3. Course learning outcome assessment.

	List course learning outcomes	List methods of assessment for each LO	Summary analysis of assessment results for each LO
1	<p>1. Learning fundamentals of Naturally Occurring Radioactivity and Types of exposure</p> <p>2. Learning operational radiation quantities</p> <p>3. Learning protection radiation quantities</p> <p>3. Understand Calibration of thermo luminescence dosimeters</p> <p>4. Understand students different methods of medical internal dosimetry</p> <p>7. Learning fundamentals of Decontamination concept and reduction factor</p> <p>8- understanding the importance of Skin equivalent dose calculation</p>	<ol style="list-style-type: none"> <li>1. Home work</li> <li>2. Interactive discussion</li> <li>3. Short exam1</li> <li>4. Short exam2</li> <li>5. Final exam</li> </ol>	<p>All pass in short exam 1, short exam2 and final exam</p>



2	<p>1. Analysis and explain natural variations of radiation background</p> <p>2. Develop ability to think creatively to find a relationship between operational radiation quantities and protection radiation quantities</p> <p>3. Develop ability to think creatively in the different methods of medical internal dosimetry.</p> <p>4. Develop decontamination procedures</p> <p>8- learning understanding the importance of Skin equivalent dose calculation</p> <p>5- Develop ability to think creatively in penetration of different types of radiations.</p>	<p>1. Oral questions</p> <p>2. Presentations</p> <p>3. Quizzes</p> <p>4. Problem solving</p>	Poster presentation
3	<p>1. Develop ability to work independently</p> <p>2. Develop ability to work productively with others</p> <p>3. Improve self study</p> <p>4. Develop leadership skills</p>	<p>1. Marking the home works</p> <p>2. Working closely with the different groups</p> <p>3. Evaluate the efforts of each student in preparing the report</p> <p>4. Evaluate the scientific values of reports</p> <p>5. Evaluate the work in team</p> <p>6.</p>	Poster presentation
4	<p>-</p> <p>1. Enhancement the ability of students to use computers and internet</p>	<p>1. Give the students research assignments</p> <p>2. Ask the student to search the internet for the solution</p>	



	<p>2. Know how to write a report 3. Perform effective communication with colleagues and faculty members 4. Ability to use programs designed for medical internal radiation dose software 5- Problem solving and ability to interpret the results.</p>	<p>of a specific problem 3. Evaluate of presentations and reports</p>	
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Summarize any actions you recommend for improving teaching strategies as a result of evaluations in table 3 above.

Encouraging students to prepare the next lecturer and introduce power point presentation

Initiating reactive learning

4. Effectiveness of Planned Teaching Strategies for Intended Learning Outcomes set out in the Course Specification. (Refer to planned teaching strategies in Course Specification and description of Domains of Learning Outcomes in the National Qualifications Framework)

List Teaching Methods set out in Course Specification	Were They Effective?		Difficulties Experienced (if any) in Using the Strategy and Suggested Action to Deal with Those Difficulties.
	No	Yes	
seminar presentation by the students and web-interactions.		Yes	The students need to gain more experience via sharing in national and international conference .
Students will be divided into groups for seminar presentation on important areas of the course to assess their understanding and comprehension of the course		Yes	





All students will be involved in on-line learning process and each student is required to create an E-mail address to facilitate student web interactions		Yes	
Encouraging students to collect the new information about what the new procedures in radiation measurements.		Yes	
Enable the reference books and scientific sites concerning radiology in internet		Yes	
<b>Lectures</b> <b>Discussion</b>		Yes	
Lab work Case Study Active learning Small group discussion Data presentation Learning methods: ,. Power point, . E-learning		Yes	

**Note:** In order to analyze the assessment of student achievement for each course learning outcome, student performance results can be measured and assessed using a KPI, a rubric, or some grading system that aligns student work, exam scores, or other demonstration of successful learning.



## C. Results

### Result Summary:

Passed: No 13 Percent 81 % Failed No Percent 19%

Did not complete No Percent

### . Distribution of Grades

Letter Grade	Number of Students	Student Percentage	Analysis of Distribution of Grades
A	--		Success percentage = 81% Because a few number of students
A	----		
B	1		
B <sup>+</sup>			
C	2		
C <sup>+</sup>	1		
D	7		
D <sup>+</sup>	2		
F	3		
F			
Denied Entry			
In Progress			
Incomplete			
Pass	13		
Fail	3		
Withdrawn	3		

### 2. Analyze special factors (if any) affecting the results

none



3. Variations from planned student assessment processes (if any) (see Course Specifications).	
a. Variations (if any) from planned assessment schedule (see Course Specifications)	
Variation	Reason
b. Variations (if any) from planned assessment processes in Domains of Learning (see Course Specifications)	
Variation	Reason

4. Student Grade Achievement Verification (eg. cross-check of grade validity by independent evaluator).	
Method(s) of Verification	Conclusion
The instructors of the course are checking together and put a unique process of evaluation	True
<b>Check marking of a sample of papers by others in the department</b>	Equal with the level of student in written tests
Feedback evaluation of teaching from independent organization	True

#### D Resources and Facilities

1. Difficulties in access to resources or facilities (if any) Shortage WEB rooms available for student to be useful at any time between lectures	2. Consequences of any difficulties experienced for student learning in the course.  All students must take all of the requirements before start in this course
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#### E. Administrative Issues

1 Organizational or administrative difficulties encountered (if any)	2. Consequences of any difficulties experienced for student learning in the course.
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#### F Course Evaluation

1 Student evaluation of the course (Attach summary of survey results)
a. List the most important recommendations for improvement and strengths
b. Response of instructor or course team to this evaluation
2. Other Evaluation (eg. by head of department, peer observations, accreditation review, other stakeholders)
a. List the most important recommendations for improvement and strengths
b. Response of instructor or course team to this evaluation

#### G Planning for Improvement

1. Progress on actions proposed for improving the course in previous course reports (if any).			
Actions recommended from the most recent course report(s)	Actions Taken	Action Results	Action Analysis
a. New lecture was added to cover the new of the direct and indirect doses assessment.		Was applied successfully	

2. List what other actions have been taken to improve the course (based on previous CR, surveys, independent opinion, or course evaluation).
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3. Action Plan for Next Semester/Year				
Actions Recommended for Further Improvement	Intended Action Points (should be measurable)	Start Date	Completion Date	Person Responsible
a. Updating the course according to the recent publications <ul style="list-style-type: none"><li>▪ Visit to Researches Lab.</li></ul>				

Name of Course Instructor: \_

Dr. Ahmed M El-hadi

Signature : \_

Date Report Completed:

9-1-2018

Program Coordinator:

Signature .....

...Date Received: