



المركز الوطني للتقويم والاعتماد الأكاديمي  
National Center for Academic Accreditation and Evaluation

## **ATTACHMENT 5.**

### **T6. COURSE SPECIFICATIONS (CS)**

## Course Specifications

Institution: <b>University of Tabuk</b>	Date: 19-4-2019
College/Department : Faculty of Sciences/Physics Department	

### A. Course Identification and General Information

1. Course title and code: <b>Electromagnetism 1, PHY331</b>			
2. Credit hours: 45 hours			
3. Program(s) in which the course is offered. <b>Physics</b> (If general elective available in many programs indicate this rather than list programs)			
4. Name of faculty member responsible for the course: <b>Pr. Dr. Belkacem-Toufik BADECHE</b>			
5. Level/year at which this course is offered: <b>Bachelors</b>			
6. Pre-requisites for this course (if any): <b>PHYS 202 and MATH 200</b>			
7. Co-requisites for this course (if any):			
8. Location if not on main campus:			
9. Mode of Instruction (mark all that apply):			
a. Traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="100"/>
b. Blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. Correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. Other	<input type="checkbox"/>	What percentage?	<input type="text"/>
Comments:			

## B Objectives

1. What is the main purpose for this course?

The main purpose is to prepare the students to step on to the next level of learning electrodynamics 1 and 2.

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)

The course is well designed but requires small further changes in my view (formalism and deeper theoretical approaches, applications etc.).

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

Course Description:

### 1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
Basic properties of vectors, scalar and vector products, vector identities, vectors analysis, examples and problems	2	6
Line integrals, surface integrals, volume integrals, examples and problems	2	6
Gradient, divergence, curl, Gauss's divergence theorem, examples and problems	2	6
Coulomb's Law, concept of electric field, Gauss's Law (integral and differential forms), examples and problems	2	6
Electric potential, work done on charges in electrostatic field, work done on a system of discrete charges, work done on a continuous charge distribution of charges, energy stored in electric field, examples and problems	3	9
The method of images to find electric potential, Laplace equation, solution of Laplace equation to find the electric potential, examples and problems	2	6
Polarization, displacement vector, linear dielectrics, examples and problems	2	6

2. Course components (total contact hours and credits per semester): 45

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned						
	Actual						
Credit	Planned						
	Actual						

3. Additional private study/learning hours expected for students per week.

5

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

**On the table below are the five NQF Learning Domains, numbered in the left column.**

**First**, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
<b>1.0</b>	<b>Knowledge</b>		
1.1	Understanding the fundamental concepts of electrostatics.	Lectures and practical examples	Exam/Quiz/HW
1.2	Introduce practicality in the fields of telecommunications, information, industry, medicines etc. petroleum	<ul style="list-style-type: none"> <li>- Introductory lecture about the significance of the course and the topics to be covered</li> <li>- Learn to use the library in the self-learning fashion</li> <li>- Students are assigned home work problems</li> <li>- Classroom tutorial discussions in solving selected home assigned problems from each text book chapter.</li> <li>- On-line web-based learning</li> </ul>	Exam/Quiz/HW

<b>2.0</b>	<b>Cognitive Skills</b>		
2.1	<ul style="list-style-type: none"> <li>- To solve problems</li> <li>- Using discussion, Lessons, examples and illustrations to demonstrate the difference among topics</li> <li>- Improve scientific English of students</li> <li>- Importance of electromagnetism and its uses in our daily lives</li> <li>- Relation between electromagnetism and other physics courses</li> <li>- Encourage students to use online library</li> <li>- Urge students for self-learning</li> </ul>	<ul style="list-style-type: none"> <li>- Encourage students to use computer technology and internet to get access to the course material.</li> <li>- Link between theoretical and applied knowledge.</li> <li>- Open discussion amongst students under the supervision of the instructor</li> <li>- Communicate and make discussions with students in English language.</li> <li>- Encouraging group discussion related to the subject matter.</li> <li>- Students are encouraged to read of the assigned materials before each class.</li> <li>- Taking feedback after completion of every chapter to identify the weak areas.</li> </ul>	Exam/Quiz/HW
2.2	<ul style="list-style-type: none"> <li>- Individual home work problems and assignment tasks</li> <li>- Performance in the class and in the exams</li> <li>- Regular attendance in the class</li> </ul>	<ul style="list-style-type: none"> <li>- Group and individual assignment tasks</li> <li>- Students are encouraged to understand problems rather than just memorizing various problem type.</li> </ul>	Exam/Quiz/HW
<b>3.0</b>	<b>Interpersonal Skills &amp; Responsibility</b>		
3.1	<p>Description of the interpersonal skills and capacity to carry responsibility to be developed</p> <ul style="list-style-type: none"> <li>- Directing the student to self-learning and greater knowledge in the field of course</li> <li>- Tutorial Classes.</li> <li>- Encourage students to think critically and involve in discussions with the instructor in classroom.</li> <li>- Oral presentations on related topics will be held in class weekly</li> <li>- Work independently and as part of a team.</li> </ul>	<p>Teaching strategies to be used to develop these skills and abilities</p> <ul style="list-style-type: none"> <li>- Solving problems in groups during tutorial</li> <li>- Give students projects on topics related to the subject</li> <li>- Give students critical thinking questions</li> </ul>	<ul style="list-style-type: none"> <li>- Quizzes and exams</li> <li>- Grading homework assignments</li> <li>- Regular attendance</li> </ul>

	<ul style="list-style-type: none"> <li>- Encourage peer discussion and offer one to one discussion</li> <li>- Building up a friendly relationship between instructor and students, so that students can understand more on the subject</li> <li>- Giving consultation</li> </ul>	<ul style="list-style-type: none"> <li>- Encouraging students to communicate among themselves under instructor guidance.</li> <li>- Encouraging students to perform a collaborative projects on topics related to the subject</li> <li>- Developing self-study skills by encouraging students to use internet and library recourses</li> <li>- Showing patience in teaching and answering questions</li> <li>- Building up trust between students and instructor, so that goals can be achieved</li> </ul>	
3.2			
<b>4.0</b>	<b>Communication, Information Technology, Numerical</b>		
4.1		<b>NOT APPLICABLE</b>	
4.2			
<b>5.0</b>	<b>Psychomotor</b>		
5.1		<b>NOT APPLICABLE</b>	
5.2			

5. Schedule of Assessment Tasks for Students During the Semester			
	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Effective participation in class room, attendance, Participation and Homeworks	All the semester	10%
2	Quizzes	All the semester	10%
3	1 <sup>st</sup> exam	6	20%
4	2 <sup>nd</sup> Exam	11	20%
5	Final exam	16	40%
6	Total		100

## 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)

- Students can approach during the office hours for the faculty member to ask questions to clarify some points missed during the lecture.
- Students can communicate with the teaching staff through the website and ask questions related to all aspects of the lesson. The students will get written answers as soon as possible. The teaching staff are available during all the day in the faculty and are ready to clarify any points related to the course.
- The teaching staff are available during all the day, where they are ready to clarify any points related to the course.

## E Learning Resources

1. List Required Textbooks

- **David J. Griffiths: Introduction to Electrodynamics**

2. List Essential References Materials (Journals, Reports, etc.)

- **Halliday, Resnick and Walker: Fundamentals of Physics, 6th Edition**

3. List Electronic Materials, Web Sites, Facebook, Twitter, etc.

<http://en.wikipedia.org/wiki/Website>

4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

**NOT APPLICABLE**

## 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.)
<ul style="list-style-type: none"> <li>- Classrooms ready and equipped with educational media</li> </ul>
2. Technology resources (AV, data show, Smart Board, software, etc.)
<ul style="list-style-type: none"> <li>- Data show and internet.</li> <li>- Computer and microphone in Lecture rooms</li> </ul>
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)
<b>NOT APPLICABLE</b>

## G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching
<ul style="list-style-type: none"> <li>- Regular evaluation of the theoretical and practical parts of the course to identify the weak areas</li> <li>- Performance appraisal form filled up by each student to show level of fulfilment</li> <li>- Confidential completion of standard course evaluation questionnaire</li> </ul>
2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department
<ul style="list-style-type: none"> <li>- A statistical regular review and analysis of the students' achievement in the department.</li> <li>- Prepare a questionnaire which should be filled by the students at the end of the term. The questionnaire should be analyzed and carefully studied.</li> </ul>
3. Processes for Improvement of Teaching
<ul style="list-style-type: none"> <li>- Provide training and workshop opportunities for the teaching staff to improve their teaching strategies.</li> <li>- Form committees to follow up progress and work on improvement.</li> <li>- Provide opportunities to improve academic courses and research through conferences.</li> <li>- Provide the teaching staff members with all the references and electronic resources.</li> <li>- Updating through reading more books and articles related to the course</li> </ul>



- Improve relations between instructor and students

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

- Student's feedback on the quality of the course.
- Consulting other faculty members or collaborators in overseas universities for their views on the method of quality of improvement
- Check other universities web sites to compare our lectures with them
- Compare the syllabus with the syllabus of standard universities.
- Form a specialized committee from the department to review the progress of teaching and update the resources
- Consult distinguished students and discuss with them positive and negative points in Lectures

Name of Course Instructor: **Pr. Dr. Belkacem-Toufik BADECHE**

Signature: **Belkacem-Toufik** Date Specification Completed: 19-4-2019

Program Coordinator: Dr. Fahad Alharbi

Signature: *Dr. Fahad Alharbi* Date Received: 19/4/2019