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

ATTACHMENT 5.

T6. COURSE SPECIFICATIONS (CS)

هيئة تقويم التعليم
Education Evaluation Commission

Course Specifications

Institution: **University of Tabuk**	Date**: May 8, 2019**
College/Department : **Faculty of Science / Physics Department**	

A. Course Identification and General Information

1. Course title and code: **General Physics (2**)

2. Credit hours: **03**

3. Program(s) in which the course is offered.
(If general elective available in many programs indicate this rather than list programs)
Bachelor of Science in Physics

4. Name of faculty member responsible for the course
Dr. Nacer Badi

5. Level/year at which this course is offered: **03**

6. Pre-requisites for this course (if any): **PHYS 101**

7. Co-requisites for this course (if any): **MATH 101**

8. Location if not on main campus:

9. Mode of Instruction (mark all that apply):

a. traditional classroom	**X**	What percentage?	**100**
b. blended (traditional and online)		What percentage?	
c. e-learning		What percentage?	
d. correspondence		What percentage?	
f. other		What percentage?	

Comments:

B Objectives

1. What is the main purpose for this course?
The course enables the students to understand the principles of electricity.

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)
It is intended in this course to:
1. Update the content periodically.
4. Add new experiments in the laboratory that covers the topic of energy.

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

Course Description: **The course has been designed to explain the basic principles of electricity. The student realizes, at the beginning, the meaning of the electric charges and their reaction with each other as well as their effect on the surrounding space throughout their electric field. After that, the electric potential, due to the electric field, and the electric stored energy in the capacitors are introduced to connect the topic of electricity with other topics in physics. Furthermore, the concept of the direct current and the electric energy consumption are introduced; accordingly, the student will be able to understand how to calculate the cost of the electricity bill. Therefore, the students connect the concepts with the reality**.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
Static electricity, properties of charges.	1	1
Electric Charges: Coulomb's law.	1	3
Electric Field: Definition, unit, electrical field due to a point charge, dipole, electric field of a dipole.	3-4	4
Gauss Law: Electric flux, closed surface, solving problems.	4-5	3
Electric Potential: Electric potential energy, units, equipotential surfaces, potential due to a point charge, potential due to a group of point charges.	6-7	4
Electric Potential: potential due to an electric dipole, potential due to a continuous charge distribution, potential energy of a system of charged particles.	8-9	6
Capacitance: Capacitance, charging a capacitor, plan capacitor, cylindrical capacitors, spherical capacitor, capacitors in parallel, capacitors in series, energy density.	10-11	6

Electrical current and resistance: Electrical current, conservation of charges, current density, resistance and resistivity, ohm's law, power in electric circuits.	12	3

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

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planed	**30hrs**		**20hrs**			**50hrs**
	Actual	**30hrs**		**20hrs**			**50hrs**
Credit	Planed	**3hr/week**		**2hr/week**			**5hr/week**
	Actual	**3hr/week**		**2hr/week**			**5hr/week**

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

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
1.0	**Knowledge**		
1.1	To describe the basic principles of electricity.	• Lectures • In-class discussions • Exercises	• Exams. • Homework. • Classwork. • Quizzes.
1.2	To apply the formulas learned for different applications of the related topics.		
2.0	**Cognitive Skills**		
2.1	To distinguish between electrical field, electrical potential, electrical potential energy, series and parallel capacitors/resistors, equivalent capacitance/resistance, and dissipation power.	• Lectures. • Problem solving • Case study. • Small group work.	• Exams. • Homework. • Classwork. • Quizzes. • Lab. Reports.
2.2	To write laboratory reports.		

2.3	Relate the experiments to the theories.	• Lab. demonstrations.	• In-lab. evaluation.
2.4	To explain the results obtained from the experiment.		
3.0	**Interpersonal Skills & Responsibility**		
3.1	To participates in class discussion.	• Awareness of time management in completing their reports. • Encourage students to help each other • Group assignments • Lectures. • Case study. • Small group work. • Lab. demonstrations. • Whole group discussion.	• Respecting deadlines. • Helping each other in doing their experiments. • Giving clear and logical arguments • In-lab. evaluation (Showing active class participation). • Oral exams.
3.2	Practice the safety and organizing rules of the laboratories.		
3.3	To act with self-reliance when working independently.		
3.4	Displays teamwork and shows professional commitment to ethical practice.		
4.0	**Communication, Information Technology, Numerical**		
4.1	To communicate with the teacher and students using communications technology.	Whole group discussion. Lecture. Lab. demonstrations.	E-mail correspondences. Exams. Homework. Lab reports
4.2	Analyze data.		
4.3	Plot graphs.		
5.0	**Psychomotor**		
5.1	To assemble the experiment correctly.	Lab. demonstrations.	• Lab. reports. • In-lab. evaluation
5.2	To operate the experiment quickly and accurately.		
5.3	To measure the different physical parameters in the laboratory professionally and accurately.		

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	1st Exam	Week 6	25%
2	Participation/Quizzes & Homework	All along	10%
3	2nd Exam (Laboratory Exam)	Week 11	25%
4	Final Exam	Week 15	40%
5			
6			
7			
8			

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) 1. Weekly office hours (1 hour per week) 2. Exam error analysis in class 3. Feedback for each student

E Learning Resources

1. List Required Textbooks **Fundamental of Physics, by Halliday & Resnick, 9th edition (2010), John Wiley & Sons.**
2. List Essential References Materials (Journals, Reports, etc.)
3. List Electronic Materials, Web Sites, Facebook, Twitter, etc. **http://electronics.wisc-online.com/**
4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

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.) **Lecture room: available** **Laboratory: available**
2. Technology resources (AV, data show, Smart Board, software, etc.) **LCD Projector available**
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list) **None**

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching **Evaluators: Academic Affairs Staff** **Evaluation Method: 1) Completion course evaluation questionnaire, 2) Classroom observations to measure student behavior through how well the student groups are interacting in-class activity and how well the in-class activity went.**
2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department **Evaluators: Academic Affairs Staff** **Evaluation Method: Faculty Peer Assessment**
3. Processes for Improvement of Teaching **Evaluators: Instructor** **Evaluation Method: 1)** **Plan: The instructor will develop a strategy for teaching.** **Do: The strategy will be implemented for one semester.** **Study: The experiences of the students will be collected through a survey/ exams.** **Act: Effective teaching strategies will be implemented and revised as more experiences are gained.**
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) **Evaluators: Instructor** **Evaluation Method: Check marking of a sample of examination papers.**
5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement. **Evaluators: Instructor**

1. **Evaluation Method:** 1) Continuous improvement is a circular process, encompassing student assessment, course planning and design, implementation, evaluation, and revision, 2) A feedback from all relevant assessment tools must be considered in the continuous process of course objectives refinement and assessment, 3) Continuous process for reviewing feedback from student on the quality of the course and planning for improvement

Name of Course Instructor: _**Dr. Nacer Badi**_____

Signature: _____ Date Specification Completed: **May 8, 2019**_____

Program Coordinator: Dr. Fahad Alharbi

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