

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

ATTACHMENT 5.

T6. COURSE SPECIFICATIONS (CS)



Institution: Tabuk University	Date: 4/7/2019

College/Department : Science / Physics

A. Course Identification and General Information

1. Course title and code: Nuclear Physics (PHYS 461)				
2. Credit hours: ^w				
3. Program(s) in which the course is of	fered.			
(If general elective available in many pr	rograms indicate this rather than list programs)			
Bachelor of Science (Physics)				
4. Name of faculty member responsible	e for the course: Dr. Shams Issa			
5. Level/year at which this course is of	fered: (8)			
6. Pre-requisites for this course (if any)):			
7. Co-requisites for this course (if any)	: N/A			
8. Location if not on main campus: N/A	A			
9. Mode of Instruction (mark all that ap	oply):			
a. traditional classroom	X What percentage? 90 %			
b. blended (traditional and online)	What percentage?			
c. e-learning	What percentage?			
d. correspondence	What percentage?			
f. other	X What percentage? 10 %			
Comments:				
No comments				



B Objectives

1. What is the main purpose for this course?

-Provides students with the essential knowledge and understanding of the fundamental principles of nuclear physics.

-Ensure that students can classify semiconductors according to their conductivity and type of doping and understand their structure, and there effect on the physical properties of nuclear physics. -Getting knowledge about the importance of nuclear physics and their applications in electronic devices.

-To encourage students to read and appreciate the current literature in the area of nuclear physics

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)

-Post the course material on the website that could be accessed by students after registration.

-Utilizing various internet resources that offer informative details to support the lecture course material.

-Tutorial, reading assignments and relevant research papers using university online library will be considered to enrich the scope of the course.

-Increasing the use of IT or web-based reference material -Working on updating the objectives of the course and the scientific content as required

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

Course Description:

General properties of nucleus, Activity, Stability, Law of activity and half-life, Decay of alpha, beta and gamma, Production of radioactive materials, Nuclear interaction

1. Topics to be Covered			
List of Topics	No. of Weeks	Contact hours	
General properties of nucleus	1	3	
Activity	1	3	
Stability	1	3	
Law of activity and half-life	2	6	
Decay of alpha, beta and gamma	1	3	
Production of radioactive materials	1	3	
Nuclear interaction	2	6	

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



		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact	Planed	3			0		45
Hours	Actual	3			0		45
Credit	Planed	3			0		3
Credit	Actual	3			0		3

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

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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.)

0.1							
Code	NQF Learning Domains	Course Teaching	Course Assessment				
# And Course Learning Outcomes		Strategies	Methods				
1.0	Knowledge						
1.1	To describe the basic principles of of nuclear physics.	• Lectures	• Exams.				
1.2	To memorize the formulas and theoretical concepts learned to solve the different applications of the related topics.	In-class discussions Exercises Home works	Homework.Classwork.Quizzes.				
1.3	To reproduce the problem solving ability						
2.0	Cognitive Skills						
2.1	To analyze the fundamentals of nuclear physics	• Lectures.	Presentations				
2.2	To explain the concepts of nuclear with relevant examples used in daily life	 Problem solving Small group work 	Homework.Classwork.				
2.3	To interpret the theoretical concepts with real time examples	• Presentations					
3.0	Interpersonal Skills & Responsibility						
3.1	To question in class room discussions.	• Awareness of time	D				
3.2	To demonstrate, with self-reliance when working independently.	management in completing their	 Respecting deadlines. Giving clear and 				
3.3	To show teamwork and professional commitment to ethical practice	 reports. Encourage students to help each other Group assignments Lectures Case study 	 Oral exams Logical reasoning 				

Course Specifications, Ramadan 1438H, June 2017.



		 Small group work Whole group discussion. 		
4.0	Communication, Information Technology, Numeric	al		
4.1	To operate technology to interact with the teacher and students using communications technology.	Whole group discussion.	E-mail correspondences.	
4.2	interpret the concepts using the technology to explain the concepts in electromagnetism	Presentations	Homework.	
5.0	Psychomotor			
5.1	To prepare the reports on basic concepts	• Experiments	Home works	
5.2	To construct examples on nuclear concepts	• Presentations	Laboratory	
	To perform experiments related to nuclear physics	Discussions	experimentsQuizzers	

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,	All the	5%		
1	Participation and Homework	semester			
2	Quizzes	All the	5%		
2		semester			
3	1 st exam	7	25%		
4	2 nd Exam	11	25%		
5	Final exam	14	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 toclarify any points related to the course.

E Learning Resources

1. List Required Textbooks

Analytical Mechanics G. R. Fowles & G. L. Cassiday

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

Physics, Petr Semenovič Kireev, Mir publisher, Rusia

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

http://hyperphysics.phy-astr.gsu.edu/hbase/hframe.html

5- Other learning material such as computer-based programs/CD, professional standards/regulations

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.)

Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)
 Classrooms ready and equipped with educational media

2. Technology resources (AV, data show, Smart Board, software, etc.)

Data show and internet.

3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

G Course Evaluation and Improvement Processes

- 1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching
 - Regular evaluation of the course to identify the weaknesses areas
 - Performance appraisal form filled up by each student to show level of fulfilment
 - Confidential completion of standard course evaluation questionnaire
- 2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department
 - A statistical regular review and analysis of the students' achievement in the department.
 - Prepare a questionnaire which should be filled by the students at the end of the term.
 - The questionnaire should be after that analyzed and carefully studied.
- 3. Processes for Improvement of Teaching
 - Provide training and workshop opportunities for the teaching staff to improve their teaching strategies.
 - Form committees to follow up progress and work on improvement.
 - Provide opportunities to improve academic courses and research through conferences.
 - Provide the teaching staff members with all the references and electronic resources.
 - Updating through more reading books and articles related to the course
 - Improve relations between instructor and students

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)

- Check marking of the answer sheets of examination papers with other colleagues
- Check progress level of the students (this can be done by an independent teacher by reviewing students' records and compare the students' work with another from a different institute).

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

Course Specifications, Ramadan 1438H, June 2017.



- 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: Dr. Shams Issa

Signature: _____Shams_____ Date Specification completed: 4/7/2019

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