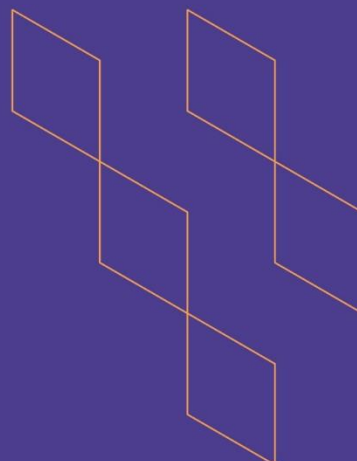




T-104  
2022

## Course Specification



Course Title: **General physics**

Course Code: **141-PHIS-3**

Program: **Preparatory Year**

Department: **Physics**

College: **Arts and science**

Institution: **Najran University**

Version: **1**

Last Revision Date: **22-01-2024**



## Table of Contents:

Content	Page
A. General Information about the course	3
1. Teaching mode (mark all that apply)	3
2. Contact Hours (based on the academic semester)	3
B. Course Learning Outcomes (CLOs), Teaching Strategies and <b>Assessment Methods</b>	5
C. Course Content	6
D. Student Assessment Activities	6
E. Learning Resources and Facilities	7
1. References and Learning Resources	7
2. Required Facilities and Equipment	7
F. Assessment of Course Quality	7
G. Specification Approval Data	7

## A. General information about the course:

Course Identification	
1. Credit hours:	3 H
2. Course type	
a.	University <input type="checkbox"/> College <input type="checkbox"/> Department <input type="checkbox"/> Track <input checked="" type="checkbox"/> Others <input type="checkbox"/>
b.	Required <input checked="" type="checkbox"/> Elective <input type="checkbox"/>
3. Level/year at which this course is offered:	Preparatory Year
4. Course general Description	
This course is concerned with the student's knowledge of the basic concepts of physics. In addition, Heat, electricity, optics, sound, and the principle of radiation. The course also covers the experiments related to these branches of physics.	
5. Pre-requirements for this course (if any):	
Non	
6. Co- requirements for this course (if any):	
Non	
7. Course Main Objective(s)	
<ul style="list-style-type: none"> <li>- To provide the students with the basic concept of physics</li> <li>- To demonstrate some physical phenomena</li> <li>- To demonstrate some basic physics experiments</li> <li>- To build up scientific analytical thinking and skills in the context of physics</li> <li>- To develop problem solving skills in a physics context</li> </ul>	

### 1. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1.	Traditional classroom	2	50%
2.	E-learning		
3.	Hybrid <ul style="list-style-type: none"> <li>• Traditional classroom</li> <li>• E-learning</li> </ul>		
4.	Distance learning		
5.	Other (Laboratory)	2	50%

## 2. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	30
2.	Laboratory/Studio	30
3.	Field	
4.	Tutorial	
5.	Others (specify)	
	Total	60



## B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	Knowledge and understanding			
1.1	Understanding of the fundamentals of physics branches such as, types of motion, electricity, light, sound, heat, properties of matter and radiation.		Lecture Dialogue and discussion	semester exam Final exam Homework
...				
2.0	Skills			
2.1	Students can use mathematics to deal with physical phenomena, and comparing the obtained results with experiments and observations.		Lecture Dialogue and discussion	semester exam Final exam Homework
...				
3.0	Values, autonomy, and responsibility			
3.1	Students should be able to work independently as well as work in groups, interacting constructively with others.			semester exam Final exam Homework reports
3.2	To have the ability to self-assess the level of learning and performance, insist on achievement and excellence, and make rational decisions supported by evidence and arguments independently			semester exam Final exam Homework reports
...				

## C. Course Content

No	List of Topics	Contact Hours
1.	Introduction to basic concepts of physics: -Types of motion (translational motion and periodic motion) -Displacement, Velocity, Acceleration, momentum, Forces - Newton's laws of motion - Work and energy.	5
2.	Heat: heat and temperature - methods of temperature measurement - quantity of heat and specific heat - methods of heat transfer.	5
3.	Electricity: Coulomb's law- electric field- electric potential- resistivity - electrical current and Ohm's law.	5
4.	Light: the nature and diffusion of light - reflection of light - refraction of light.	5
5.	Sound: Properties of sound –speed of sound - Intensity of sound – Types of sound waves	5
6.	Principle of radiation: atomic structure and nucleus components – Nuclear binding energy – Types of radiation (Alpha particles –Beta particles – gamma ray - X-ray).	5
7.	Experiments: - Fine measurements (Vernier caliper – Micrometer-Spherometer) - Specific heat capacity of a solid. - Ohm's Law. - Meter bridge experiments - Refractive index of glass - Convex lens - Concave mirrors - Speed of sound in air.	30
---		
Total		48

## D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Mid semester exam (theoretical part)	6-8	20
2.	semester exam (experimental part)	6-8	10
3.	Homework	1-10	5
4.	Reports on (experimental part)	1-10	5
5.	Final exam(experimental part)	13	10
6.	Final exam	17-19	50
...			

\*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.)



## E. Learning Resources and Facilities

### 1. References and Learning Resources

Essential References	Raymond A. Serway John W. Jewett, Physics of Scientists and Engineers, Sanders College Publication
Supportive References	David Halliday, Robert Resnick, Jearl Walker, Fundamentals of Physics (11Ed), 2018, weilly.
Electronic Materials	<a href="http://sciencebooksonline.info/physics.html">http://sciencebooksonline.info/physics.html</a>
Other Learning Materials	

### 2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	Class room (20 seats). Laboratories (20 seats).
Technology equipment (projector, smart board, software)	Pc + data show
Other equipment (depending on the nature of the specialty)	

## F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	<b>Students</b>	<b>Indirect</b>
Effectiveness of students assessment	<b>Peer Reviewer</b>	<b>Direct</b>
Quality of learning resources	<b>Faculty , Students</b>	<b>Indirect</b>
The extent to which CLOs have been achieved	<b>Faculty , Students</b>	<b>Direct</b> <b>Indirect</b>
Other		

Assessor (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

## G. Specification Approval Data

COUNCIL /COMMITTEE	<b>PLANS AND CURRICULUM COMMITTEE</b>
REFERENCE NO.	<b>14450701-0804-00003</b>
DATE	<b>2024/01/14</b>

