



Course Specification

— (Bachelor)

Course Title: **General Physics**

Course Code: **PHYS26114**

Program: **Physics**

Department: **Physics**

College: **Science**

Institution: **University of Bisha**

Version: **٣**

Last Revision Date: **25 July 2023**



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A. General information about the course:

1. Course Identification

1. Credit hours: 4 h (3 Lectures + 2 Laboratory)

2. Course type

A. University College Department Track Others
B. Required Elective

3. Level/year at which this course is offered: (2nd Level / 1st year)

4. Course general Description:

This course provides a conceptually based exposure to the fundamental principles and processes of the physical world. Topics include basic concepts of standard units, vectors, motion, forces, energy, elasticity, fluid mechanics, heat, electricity, and optics. Upon completion, students should be able to describe examples and applications of the principles studied. Laboratory experiments and computer-based exercises enhance and consolidate the understanding of basic physical principles and applications.

5. Pre-requirements for this course:

NA

6. Pre-requirements for this course:

NA

7. Course Main Objective(s):

Recognize the principles of classical physics.

2. Teaching mode

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	5	100 %
2	E-learning		
3	Hybrid <ul style="list-style-type: none"> • Traditional classroom • E-learning 		
4	Distance learning		





3. Contact Hours

No	Activity	Contact Hours
1.	Lectures	45
2.	Laboratory/Studio	30
3.	Field	
4.	Tutorial	
5.	Others (specify)	
Total		75

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	Recognize the fundamentals of classical mechanics	K.1	Lectures Solve problems	Written test Reports Homework Quizzes
1.2	Recognize the principals of fluids mechanics and heat.	K.1		
1.3	Recognize the fundamentals of static electricity and geometrical optics.	K.1		
2.0	Skills			
2.1	Solve problems in general physics.	S.1	Lectures Solve problems	Written test Reports Homework Quizzes
2.2	Use the experiment devices correctly.	S.2	Laboratory practices	Achievement file laboratory test Reports
2.3	Communicate positively with others.	S.3	Presentation Work group	Reports Presentation
3.0	Values, autonomy, and responsibility			
3.1	Ability to work in team effectively.	V.3	Work group	Reports Presentation



C. Course Content

No	List of Topics	Contact Hours
1.	Units and Dimension 1. Physical quantities 2. Units 3. Conversion of units 4. Dimension analysis Experiment No. (1): The fine measurements.	7.5
2.	Vectors 1. Scalar and vector quantities 2. Vectors addition 3. Vectors analysis 4. Vectors product Experiment No. (2): Mass-spring system.	7.5
3.	Motion in One Dimension 1. Displacement 2. Velocity 3. Acceleration 4. Motion with constant acceleration Experiment No. (3): The free falling.	7.5
4.	The Laws of Motion 1. Force 2. Newton's first law of Motion 3. Newton's second law of Motion 4. Newton's third law of Motion Experiment No. (4): Archimedes' principle.	7.5
5.	Work and Energy 1. Work 2. Kinetic Energy 3. Potential Energy 4. Work and Energy theory 5. Power Experiment No. (5): The simple pendulum.	7.5
6.	Elasticity and Fluid Mechanics 1. Elasticity 2. Density 3. Pressure 4. Fluid flow Experiment No. (6): Viscosity.	7.5
7.	Temperature and Heat 1. Temperature scales 2. Thermal expansion 3. Specific heat 4. Heat transfer	7.5



	Experiment No. (7): Specific heat of a solid material.	
8.	Static Electricity 1. Properties of electric charges 2. Coulum's law 3. Electric field 4. Electric Potential 5. Capacitors Experiment No. (8): Speed of sound.	7.5
9.	Current and Resistance 1. Electric Current 2. Ohm's Law 3. Electric Power 4. Connecting resistors Experiment No. (9): Ohm's law.	7.5
10.	Light 1. The Nature of Light 2. Reflection 3. Refraction Experiment No. (10): Lenses optics.	7.5
Total		75

Table: The matrix of consistency between the content and the learning outcomes of the course.

	Course Learning Outcomes						
	1.1	1.2	1.3	2.1	2.2	2.3	3.1
Topic 1	√			√	√	√	√
Topic 2	√			√	√	√	√
Topic 3	√			√	√	√	√
Topic 4	√			√	√	√	√
Topic 5	√			√	√	√	√
Topic 6		√		√	√	√	√
Topic 7		√		√	√	√	√
Topic 8			√	√	√	√	√
Topic 9			√	√	√	√	√
Topic 10			√	√	√	√	√



D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Homework, quizzes, reports, and presentation.	1: 10	5 %
2.	Achievement file (Practical experience reports).	1: 10	5 %
3.	First term exam	7: 8	10 %
4.	Second term exam	12:13	10 %
5.	Practical exam	15	20 %
6.	Final exam	End of Semester	50 %

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	General Physics, Written by A group of professors of physics from University of Bisha, Al-Mutanabbi Book Store, ISBN: 978 - 603 - 8307 - 10 – 6, 2020.
Supportive References	Physics for Scientists and Engineers, 10th Edition, by Raymond A. Serway, John W. Jewett, BROOKS/COLE CENGAGE Learning, Boston USA, 2019.
Electronic Materials	- Blackboard. - PowerPoint presentations. - Digital library of University of Bisha https://ub.deepknowledge.io/Bisha
Other Learning Materials	NA

2. Required Facilities and equipment

Items	Resources
facilities	Classrooms, Physics lab.
Technology equipment	Data show or smart board.
Other equipment	General physics laboratory equipment <ol style="list-style-type: none"> 1. The fine measurements experiment. 2. The mass-spring system experiment. 3. The free-falling experiment. 4. Archimedes' principal experiment. 5. The simple pendulum experiment.





Items	Resources
	6. The viscosity experiment. 7. the specific heat of a solid material experiment. 8. The Ohm's law experiment. 9. The speed of sound experiment. 10. The lenses optics experiment.

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Teachers, students.	Indirect (Questionnaire)
Effectiveness of Students assessment	Teachers, students.	Indirect (Questionnaire).
Quality of learning resources	Teachers, students.	Indirect (Questionnaire).
The extent to which CLOs have been achieved	Teachers, students.	Direct (Final exams), Indirect (Questionnaire).
Quality of facilities available	Teachers, students.	Indirect (Questionnaire).
Fairness of evaluation	Peer reviewer.	Direct (Final exams reevaluation).

G. Specification Approval

COUNCIL /COMMITTEE	College of Science Council
REFERENCE NO.	20
DATE	17 August 2023

