

## Course Specification Student Version

<b>Course Title:</b>	General Physics
<b>Course Code:</b>	PHYS 101
<b>Department:</b>	Common Sciences
<b>Program:</b>	Bachelor of Medicine and Surgery
<b>College:</b>	Vision College in Riyadh
<b>Institution:</b>	Vision College in Riyadh
<b>Revised :</b>	July 2025

## A. Course Identification

1. Credit hours: 3 (2+1+0)
2. Level/year at which this course is offered: Level 2/Year 1
3. Pre-requisites for this course (if any): None
4. Co-requisites for this course (if any): None

## B. Teaching Methods

1	Lecture
2	Practical Session
3	

## C. Course Description and Main objective

<b>1. Course Description</b> This course is designed for students in Health Science to enable them to appreciate the basic concepts of physics which are relevant to their further studies.
<b>2. Course Main Objective</b> The main objective of this introductory course is to provide the students with a clear and logical presentation of the basic concepts and principles of introductory physics, and to strengthen their understanding through a broad range of interesting applications in the real world.
<b>3. Course Main Objectives :</b> <b>By the end of this course the students will be able to :</b> <ul style="list-style-type: none"> <li>Discuss the different physical units.</li> <li>Describe the states of matter.</li> <li>Differentiate between the three Newton's laws.</li> <li>Explain &amp; differentiate between different basic physics concepts.</li> <li>Recognize the thermal, optical and electrical properties</li> <li>Differentiate between radioactivity, half-life and interaction of radiation with matter.</li> </ul>

## D. Course Content

No.	List of Topics
1	Motion in Straight Line - Velocity and Acceleration.
2	Vectors and Motion in Two Dimensions.
3	Force, Newton's Laws of Motion

4	Work, Energy and Power
5	Continue Coulomb's Law, Electric forces, Fields, and Potentials
6	Direct currents and Resistance (Ohm's Law)
7	Fluid Mechanics
8	Nature of light, Reflection of light, and Refraction of light
9	Structure of the eye, lenses, extension of vision
10	Introduction to Thermodynamics: Main Principles and Laws of Gases
11	Temperature, Thermometers , Heat, Heat capacity, Specific Heat, and Transmission of Heat
12	Nuclear Physics: Radioactivity and Half-Life
13	Ionizing Radiation : Interaction of Radiation with Matter
14	Measurements and errors – Graph – Precise measurements – Force table – Viscosity – Hooke's law – Simple pendulum – Ohm's law – Reflection and refraction with the ray box.

### E. Assessment tools

#	Assessment task	Percentage of Total Assessment Score
1	Quizzes (Short notes and MCQs)	10% (each 5)
2	Assignments (Short notes)	10% (each 5)
3	Midterm Exam	20%
4	Practical Exam	20%
5	Final Written Exam	40%
	<b>Total</b>	<b>100%</b>

### F. Learning Resources

<b>Required Textbooks</b>	R. A. Serway, Physics for Scientists and Engineers, Saunders Golden Sunburst Series, 2011, 8th edition, or 10th edition.
<b>Essential Reference Material</b>	<p>1- Many other sources on general physics and introduction to physics are available on the Moodle platform.</p> <p>2- A copy of the physics laboratory book is available in the college library.</p> <p>3- Raymond A. Serway, Physics for Scientists and Engineers, 4th edition, Saunders Golden Sunburst Series, 1990.</p> <p>4- D. Halliday and R. Resnick Fundamentals of Physics, 10th edition, 2011 (ISBN: 978- 1-118-23072-5 (Extended edition)).</p> <p>5- H. D. Young, R. A. Freedman, T. R. Sandin, And A. Lewis Ford, Sears and Zemansky's University Physics, 10th edition, 2000. (ISBN: 0-201-60322-5).</p> <p>6- Jerry B. Marion and William F. Hornyak, General Physics with Bioscience Essays, 2nd Edition John Wiley &amp; Sons, Inc, 1985.</p>
<b>Electronic Material</b>	//