

TISHK INTERNATIONAL UNIVERSITY
FACULTY OF APPLIED SCIENCE
Department of INFORMATION TECHNOLOGY,
2025-2026 Fall
Course Information for PHYS 101 GENERAL PHYSICS I

Course Name:	GENERAL PHYSICS I				
Code	Regular Semester	Theoretical	Practical	Credits	ECTS
PHYS 101	1	2	2	3	5
Name of Lecturer(s):	Dr. Bestoon Taha				
Teaching Assistant:	NA				
Course Language:	English				
Course Type:	Main				
Office Hours	Monday 14:30-16:30				
Contact Email:	bestoon.taha@tiu.edu.iq				
	Tel:07510226436				
Teacher's academic profile:	PhD of Physics				
Course Objectives:	1. Demonstrate proficiency in measurement techniques and unit conversions. 2. Apply appropriate units in various scientific contexts. 3. Explain Newton's laws of motion and their application in different scenarios. 4. Analyze forces acting on objects and predict resulting motion. 5. Distinguish between scalar and vector quantities. 6. Apply vector analysis in problem-solving. 7. Describe and analyze linear motion using kinematic equations. 8. Calculate displacement, velocity, and acceleration in one-dimensional motion. 9. Analyze projectile motion and related concepts 10. Apply Newton's Law of Motion and Mechanical Work. 11. Understand the relationship between force, mass, and acceleration.				
Course Description (Course overview):	Physics and Measurement, Motion in One Dimensions, Vectors, Motion in Two Dimensions, The Laws of Motion, Circular Motion and Other Applications of Newton's Law, Work and Kinetic Energy, Potential Energy and Conservation of Energy, Linear Momentum and Collisions, Rotation of a Rigid Object About a Fixed Axis, Oscillatory Motion, Wave Motion, Sound Waves, The Nature of Light and the Laws of Geometric Optics, Laboratory includes some basic Physics experiments.				

COURSE CONTENT

Week	Hour	Date	Topic
1	2	06/12/2025-11/12/2025	Introduction to the Course SYLLABUS
2	2	13/12/2025-18/12/2025	Measurements and units
3	2	22/12/2025-25/12/2025	Scalar and Vector Quantitie
4	2	03/01/2026-08/01/2026	Motion in One Dimension
5	2	10/01/2026-15/01/2026	Motion in two dimensions
6	2	17/01/2026-22/01/2026	Midterm Exam
7	2	24/01/2026-29/01/2026	Newton's Laws and mechanical work
8	2	31/01/2026-05/02/2026	Newton's Laws and mechanical work
9	2	07/02/2026-12/02/2026	Friction

10	2	14/02/2026-19/02/2026	Mechanical energy
11	2	21/02/2026-26/02/2026	Revision
12	2	28/02/2026-05/03/2026	Final Exam
13	2		Final Exam
COURSE/STUDENT LEARNING OUTCOMES			
1	Measurement and units		
2	Scalar and vector quantities		
3	Linear motion		
4	Two dimensional motion		
5	Newton's law of motion and mechanical work		
COURSE'S CONTRIBUTION TO PROGRAM OUTCOMES (Blank : no contribution, I: Introduction, P: Profecient, A: Advanced)			
Program Learning Outcomes			Cont.
1	Understand the fundamental principles of Airplane flight system and their operation.		P
2	Have a good knowledge of Airplane Avionics and instrumentation.		P
3	Understand the technical aspects of flight and aircraft systems and operation and demonstrate application of this knowledge in maintenance and services.		P
4	Have knowledge of regulatory and legal issues which impact the industry. Have good understanding of Airport Avionics and communication systems.		I
5	Have knowledge of the Airport logistics and security systems.		A
6	Demonstrate application of and adherence to applicable aviation regulations and Air Law.		P
7	Demonstrate knowledge of business aspects and practices and their application to the aviation industry.		P
8	Understand and appreciate the economics, and marketing aspects of the aviation industry.		I
9	Understand the time importance and safety of flight service and adherence to local and international standards.		I
10	Gain knowledge of the business structure, management and administrative aspects of airlines, corporate flight operations and airport operations.		P
11	Demonstrate knowledge of national and international air space systems and the ability to operate within those systems.		
Prerequisites (Course Reading List and References):		Basic high school physics	
Student's obligation (Special Requirements):		Attending 80% of the course is mandatory. Participation in class activities is encouraged. Students are responsible for materials given in class. Students are responsible for assignments. Students must bring their own calculators.	
Weekly Laboratory/Practice Plan:		Week	Hour
		Date	Topics
	1	2	01-05/12/2025
			Introduction to the Course SYLLABUS and chapter one (Basic Concepts)
	2	2	08-12/12/2025
			Motion in one dimension & Simple pendulum to calculate Acceleration due to Gravity 'g'
	3	2	15-19/12/2025
			Motion in one dimension & Force table
	4	2	22-26/12/2025
			Determination of the Coefficient of Static and Kinetic Friction
	5	2	29/12-02/01/2026
			New year Holiday
	6	2	05-09/01/2026
			Projectile motion
	7	2	12-16/01/2026
			Surface tension

	8	2	19-23/01/2026	Midterm Exam	
	9	2	26-30/01/2026	Laws of motion and mechanical work	
	10	2	02-06/02/2026	Conical pendulum	
	11	2	09-13/02/2026	Lab revision	
Course Book/Textbook:	Young, H D Freedman, R A Ford, A L 2014 University physics with modern physics (p 822) New York Pearson Sommerfeld, A 2016 Mechanics Lectures on theoretical physics, Vol 1 (Vol 1) Elsevier				
Other Course Materials/References:	Engineering mechanics Statics Hibbeler 13th edition.				
Teaching Methods (Forms of Teaching):	Lectures, Practical sessions, Exercises, Presentation, Assignments, , ,				
COURSE EVALUATION CRITERIA					
Method			Quantity	Percentage (%)	
Quiz			4	2.5	
Midterm Exam			1	30	
Laboratory			1	10	
Practical Exam			1	10	
Final Exam			1	40	
	Total			100	
Examinations: Fill in the Blanks, Short Answers, Solving question , Definition ,					
Extra Notes:					
ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD					
Activities			Quantity	Workload Hours for 1 quantity*	Total Workload
Theoretical Hours			11	2	22
Practical Hours			11	2	11
Final Exam			1	20	20
Quiz			4	6	24
Midterm Exam			1	15	15
Laboratory			1	10	10
Practical Exam			1	15	15
Total Workload					117
ECTS Credit (Total workload/25)					5

Peer review

Signature:
Name:
Lecturer

Signature:
Name:
Head of Department

Signature:
Name:
Dean