

Course Description Form

1. Course Name:	
Medical Physics 2	
2. Course Code:	
3. Semester / Year:	
Second Semester \ First Year	
4. Description Preparation Date:	
7 / 12 / 2025	
5. Available Attendance Forms:	
Weekly (Theoretical : 2 hours, Practical: 4 hours)	
6. Number of Credit Hours (Total) / Number of Units (Total)	
Theoretical: 30 Hours Practical: 60 Hours Total: 90 Hours Units: 4	
7. Course administrator's name (mention all, if more than one name)	
Name: Asst. Prof. Dr. Bassam H. Habib Email: bassam.habib@muc.edu.iq	
8. Course Objectives	
Course Objectives	• Understanding heart function and diseases • Understanding pressure, fluids, viscosity, temperature, and absorption • Understanding the laws of gases, methods and laws of heat transfer, and electricity.
9. Teaching and Learning Strategies	
Strategy	1. Delivering theoretical and practical lectures on the course syllabus. 2. Employing discussion and question-and-answer sessions in the classroom to foster dialogue. 3. Assigning homework, writing programs, and discussing them. 4. Writing reports on scientific topics related to the course. 5. Daily assessment, weekly assessment, term assessment, objective questions, general knowledge questions, and practical exams.

1. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-3	6 Th	cardiovascular system	Physics of cardiovascular system. Introduction to Biosafety and Security.	Theoretical Lectures	Daily Exam
4	2 Th	Laser in medicine	Laser in medicine . Biosafety barriers in laboratories	Theoretical Lectures	Daily Exam
5	2 Th	Body Electricity	Electricity within the body	Theoretical Lectures	Daily Exam
6	2 Th	Electricity and Magnetism	Application of electricity and magnetism in medicine	Theoretical Lectures	Daily Exam
7	2 Th	Light and Sound	Light and sound in medicine	Theoretical Lectures	Daily Exam
8	2 Th	Nuclear Medicine	Physics of nuclear medicine	Theoretical Lectures	Daily Exam
9	2 Th	Solar Energy	Solar energy technology	Theoretical Lectures	Daily Exam
10	2 Th	Renewable energy systems	Nanotechnology in Renewable energy systems	Theoretical Lectures	Daily Exam
11	2 Th	Nanomaterials	Energy sector products using nanomaterials	Theoretical Lectures	Daily Exam
12-13	4 Th	Hydrogen production	Nanotechnology to Hydrogen production	Theoretical Lectures	Daily Exam
14	2 Th	Nano materials	Nano materials for the conversion of Carbon Dioxide into Renewable fuels	Theoretical Lectures	Daily Exam
15	2 Th	Air capture of CO ₂	Nanomaterials and direct Air capture of CO ₂	Theoretical Lectures	Daily Exam

2. Course Evaluation

The grade distribution is as follows:

Measurement (40 marks): Theory 25 marks, Practical 15 marks.

Final Exam (60 marks): Theory 35 marks, Practical 25 marks.

3. Learning and Teaching Resources

Required textbooks (curricular books any)	Cameron JR., James G. Skofronick, Roderick M. Grant : Physics of the body (medical physics series) 2nd edition 1999
Main references (sources)	
Recommended books and references (scientific journals, reports...)	Laser Physics . Ultrasound Physics . Infrared and thermal therapy Bioelectrical Physics
Electronic References, Websites	https://anes.alsafwa.edu.iq/wp-content/uploads/2023/01/%D8%A7%D9%84%D9%81%D9%8A%D9%8A%D8%A7%D8%A1-%D8%A7%D9%84%D8%B7%D8%A8%D9%8A%D8%A9.pdf