Course Description Form

1. Course Name:

Laser 2

2. Course Code:

PHY–

3. Semester / Year:

Second / 2024–2025

4. Description Preparation Date:

2/2/2025

5. Available Attendance Forms:

Attendance

6. Number of Credit Hours (Total) / Number of Units (Total)

30/30

7. Course administrator's name (mention all, if more than one name)

Name: Dr. Maher Khaleel Ibrahim
Email: mkibrahim@uoanbar.edu.iq

8. Course Objectives

Course Objectives	Identifying the types of lasers and the development of their uses, as well as studying the components of the laser, including the active medium, the excited source, and th resonator, and studying the conditions for the occurrence of lasers in detail. Learn about the types of lasers, their applications, and methods of protection from la radiation

9. Teaching and Learning Strategies

Strategy	Conducting a mixed of three common learning stratiges Learning Competitive Learning Individualistic –3 Cooperative learning

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Basic concepts)		
2	2		Oscillation formulas for the resonator		

3	2		Types of lasers		
4	2		Inverse distribution		
5	2		Laser level systems.		
6	2		First month test		
7	2		Emission line width		
8	2		Laser properties		
9	2		Solid state lasers		
10	2		Electrical characteristics of a flashlight		
11	2		Liquid state lasers		
12	2		Gas state lasers		
13	2		Semiconductor laser		
14	2		Laser applications		
15	1		Second month test		

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

Daily exams 5% Attendance 5% Monthly exams 40% Final exam 50%

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	-Optics and photonics an introduction by F. Graham Smith, Terry A. King, Dan Wilkins (z-lib.org) -Optics-hecht-4th-ed-2003 Dr.. Siham Afif Qandala, laser physics and some pract applications
Recommended books and references (scientific journals, reports…)	Dr. Saud bin Humaid Al-Lahyani, Laser and applications, Umm Al-Qura University
Electronic References, Websites	