Ministry of Higher Education and Scientific research



## **Department of Physics**

## **College of Education**

## **University of Salahaddin**

#### Subject: Programming (MATLAB).

## **Course Book: Year 2**

The lecturer's name: Diyar Ali Rasool

Academic Year: 2023

1 Course name	Programming (MATLAB)
2 Lecturer in charge	Divar Ali Rasool
2. Department/ College	Dhysics/Education
3. Department/ Conege	
4. Contact	e-mail: <u>Diyar.Rasool@su.edu.krd</u>
	<u>Diyarrasool@gmail.com</u>
5. Time (in hours) per week	Theory 1 hrs per week.
	Practical: 6*2 hrs. (12 hours/weak).
6. Office hours	Wednesday 8:30 Am to 1:30 pm.
7. Course code	· · · · ·
8. Teacher's academic profile	He did an undergraduate degree at the Department of
	Physics/ College of Education at Salahaddin University-
	Erbil between 2006 and 2010. In 2010 he got a position at
	Salahaddin University as a lab demonstrator. I stayed with
	the job for more than a year before moving to the United
	Kingdom in 2011 to study master's degree. He obtained an
	MSc in Advanced Science (Particle Physics) from the
	University of Liverpool, United Kingdom, in 2013. Then,
	he returned to Salahaddin University and got a position as
	an assistant lecturer. He earned his Ph.D. in Medical
	Physics in 2023 from the University of Salahaddin-Erbil.
9. Keywords	

# **Course Book**

10. Course overview:

The importance of programming is the main tool that assists students in solving and understanding different theoretical problems in their college lives and beyond. MATLAB has large applications in different physics and other science fields and can make newer programs for other problems. So, the MATLAB package is used to teach programming in other universities.

11. Course objective:

This course is aimed at learning programming skills using MATLAB, which is the most famous and applicable language in different fields of science. It covers, in general, mathematical and physical implementation and is appropriate for students' work on scientific projects.

12. Student's obligation

In the lab., the lectures were repeated and illustrated through practical examples that were applied by the lecturers and repeated by students on their Desktop computers and MATLAB software installed on their laptops of students to try to solve problems in their homes. Here prepare students for quizzes and examinations that will be done every five weeks.

13. Forms of teaching

Lectures will be through ppt slides displaying data showing.

14. Assessment scheme

Practice: final degree depends on:

- 1. Examine all four weeks.
- 3. Absence

- 2. Weekly quiz
- 4. MATLAB Notebook.

15. Student learning outcome:

After successful completion of the courses, the students learn:

- ➢ Knowledge of Programming (MATLAB).
- Understanding of main topics in MATLAB
- ➢ Obtaining general skills in programming that assist them in solving physics problems.

Assist students in making curves and calculations (slope, intersection, formulas) of their reports in different Labs.

16. Course Reading List and References:

- Basics of MATLAB and Beyond, By Andrew Knight, CRC Press, USA, 1st Edition, 2000.
- MATLAB Demystified, By David McMahon, McGraw-Hill Companies, USA, 1st Edition, 2007.
- Different Internet sources.

17. The Topics:	Lecturer's name		
18. Practical Topics (If there are any)	Lecturer's name		
Lecture 1: Introduction.	Diyar Ali Rasool		
Lecture 2: MATLAB Basics	(4 hr./weeks)		
Lecture 3: Vectors and Matrix.	All needs 12 or more		
Lecture 4: Plotting.	than 12 weeks.		
Lecture 5: Programming.			
Lecture 6: GUIs.			
19. Examinations:			
<i>1</i> . Computation questions			
20. Extra notes:			
There are too many unnecessary holidays that reduce topics given to			
students.			
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