Course Description Form

1. Course Name:
Thermofluidic dynamics

2. Course Code:
WBM-41-07

3. Semester / Year:
Semester 2

4. Description Preparation Date:
3-9-2025

5. Available Attendance Forms:
presence in the classroom

6. Number of Credit Hours (Total) / Number of Units (Total)
30 Hours / 3Units

7. Course administrator's name (mention all, if more than one name)
Name: Asst. lec. Hussain Ameer Aljawad Email: hussein.aljawad@uowa.edu.iq

8. Course Objectives

Course Objectives	This subject aims to provide students with knowledge of basic concepts in fluids and systems used in thermal science, including thermodynamic laws, processes and cycles, work and heat

9. Teaching and Learning Strategies

Strategy	- Using the smart board - Use illustrative pictures whenever possible

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	1+3	Properties and units, fluid static	Lectures presented in PDF format	Daily exams + homework assignments + monthly exams

2	2	1+3	fluid flow, flow patterns	Lectures presented in PDF format	Daily exams + homework assignments + monthly exams
3	2	1+3	Newton's law of viscosity	Lectures presented in PDF format	Daily exams + homework assignments + monthly exams
4	2	1+3	continuity equation	Lectures presented in PDF format	Daily exams + homework assignments + monthly exams
5	2	1+3	Bernoulli equation	Lectures presented in PDF format	Daily exams + homework assignments + monthly exams
6	2	1+3	Reynolds number	Lectures presented in PDF format	Daily exams + homework assignments + monthly exams
7	2	1+3	friction factor,	Lectures presented in PDF format	Daily exams + homework assignments + monthly exams
8	2	1+3	pressure drop in pipes and fittings	Lectures presented in PDF format	Daily exams + homework assignments + monthly exams
9	2	1+3	pumps, flow measurement	Lectures presented in PDF format	Daily exams + homework assignments + monthly exams
10	2	1+3	boundary layer	Lectures presented in PDF format	Daily exams + homework assignments + monthly exams
11+ 12	2	1+3	heat transfer, conduction,	Lectures presented in PDF format	Daily exams + homework assignments

					+ monthly exams
13 +14	2	1+3	radiation, heat exchangers,	Lectures presented in PDF format	Daily exams + homework assignments + monthly exams
15	2	1+3	drugs delivery, controlled release.	Lectures presented in PDF format	Daily exams + homework assignments + monthly exams

11. Course Evaluation

Daily exams scientific questions.
Establishing grades for experimental duties and the reports

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Fluid Mechanics, 7th, Frank M. White, University of Rhode Island
Main references (sources)	Fundamental of Thermal fluid Science By Cengel Y. A. , Turner R.H. and cimbala J .
Recommended books and references (scientific journals, reports…)	Fox and McDonald's, "INTRODUCTION TO FLUID MECHANICS " EIGHTH EDITION, PHILIP J. PRITCHARD
Electronic References, Websites	