Course Description Form of thermofluids

1. Course Name:
thermofluids
2. Course Code:
3. Semester / Year:
Semester 1 AND semester 2
4. Description Preparation Date:
2025-3-19
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)
Prof. Dr. Ghanim Kadhim Abdulsada Email: Ghanim.sada@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	Basic Fluid and Thermodynamics Properties State ;	Thermodynamics fundamental	Lectures presented i PDF forma	Daily exams + homework assignments + monthly exams

2	2	Closed and open systems; Thermal properties	Thermodynamics fundamental	Lectures presented in PDF format	Daily exams homework assignments monthly exam
3	2	Temperature and the Zeroth law; Work, heat and internal energy;	Thermodynamics fundamental	Lectures presented in PDF format	Daily exams homework assignments monthly exam
4	2	Equation of state of ideal gas; Pure substance; Phase diagrams;	Thermodynamics fundamental	Lectures presented in PDF format	Daily exams homework assignments monthly exam
5	2	Fluid properties and thermodynamic	Thermodynamics fundamental	Lectures presented in PDF format	Daily exams homework assignments monthly
6	2	The First Law of Thermodynamics Conservation of mass and control volume ;	Thermodynamics fundamental	Lectures presented in PDF format	Daily exams homework assignments monthly
7	2	Basic Heat Transfer The three basic modes heat transfer and their governing equations;	Heat transfer modes	Lectures presented in PDF format	Daily exams homework assignments monthly
8	2	modes heat transfer and their governing equations; Conduction heat transfer , convection heat transfer And radiation heat	Modes of heat transfer	Lectures presented in PDF format	Daily exams homework assignments monthly

9	2	Dry and freezing	Tw0 phase properties	Lectures presented in PDF format	Daily exams homework assignments monthly
10	2	Absorption and deposition and sublimation	**Properties of substances**	Lectures presented in PDF format	Daily exams homework assignments monthly
11	2	Heat exchanger descriptions	Fundamental of heat exchanger	Lectures presented in PDF format	Daily exams homework assignments monthly
12 +13	4	Type of heat exchangers	Fundamental of heat exchanger	Lectures presented in PDF format	Daily exams homework assignments monthly
14+15	4	Membrane and refrigeration	Intertrochanteric, Subtrochanteric & Femur Shaft Fracures	Lectures presented	Daily exams homework

11. Course Evaluation

- Daily exams scientific questions.
- Establishing grades for environmental duties and the reports assigned to them
- Semester exams for the curriculum, in addition to the mid-year exam and final exam

12. Learning and Teaching Resources

Fundamental of Thermal fluid Science By Cengel Y. A. , Turner R.H. and cimbala J .