**Course Description Form of thermofluids 1**

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| 1. Course Name: | | | | | | | |
| Thermofluid 1 | | | | | | | |
| 2. Course Code: | | | | | | | |
| WBM- 41-05 | | | | | | | |
| 3. Semester / Year: | | | | | | | |
| semester 1 2024 -2025 | | | | | | | |
| 4. Description Preparation Date: | | | | | | | |
| 23\9\2024 | | | | | | | |
| 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 thermofluids 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 | 3 | | Basic Fluid and  Thermodynamics  Properties  State and unit    ; | | Thermofliid fundamental | Lectures presented i PDF forma | Daily exams  + homework t assignments + monthly exams |

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| 3 | 3 | Fluid static | Thermofluid fundamental | | | | Lectures presented  in PDF  format | Daily exams homework assignments monthly exam |
| 4 -5 | 3 | Pressure head  measurment  ; | Thermofluid fundamental | | | | Lectures presented  in PDF  format | Daily exams homework assignments monthly exam |
| 6-7 | 3 | Fluid flow and flow  pattern  ; | Thermofluid fundamental | | | | Lectures presented  in PDF  format | Daily exams homework assignments monthly exam |
| 8 | 3 | Newton law of  viscosity | Thermofluid    fundamental | | | | Lectures presented  in PDF  format | Daily exams homework assignments monthly |
| 9 -10 | 3 | Continuity Equation  And energy  relationships  ; |  | | | | Lectures presented  in PDF  format | Daily exams homework assignments monthly |
|  | | Thermofluid |  |
| fundamental |
|  |  | | |
|  | | |
| 11 -12 | 3 | Bernoulli equation Pressure drop in pipe | Thermofluid fundamental | | | | Lectures presented  in PDF  format | Daily exams homework assignments monthly |
| 13 | 3 | Reynold number  And friction factor | thermofluid | | | | Lectures presented  in PDF  format | Daily exams homework assignments monthly |
| 14 -15 | 3 | Flow measurement and boundary layer | Thermofluid fundamental | | | | Lectures presented  in PDF  format | Daily exams homework assignments monthly |
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| 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 Lab exam | | | | | | | | |
| 12. Learning and Teaching Resources | | | | | | | | |

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