



Ministry Of Higher Education and Scientific Research
Mustansiriyah University/College of Science/Dept. of Atmospheric Sciences



(الخطة الدراسية للمساق)

Course Plan

Course No.:

Course Name: Thermodynamics Lab

Course Website: <https://uomustansiriyah.edu.iq/e-learn/UOMTeach/index.php>

Time Division:

Semester & Year: 1 , 2019-2020

Course Description

2 credit hours, Prerequisite [2]

- The first course includes mechanical experiments and Adiabatic Diagram .
- The second course electrical experiments and Adiabatic Diagram .
- **Course Intended Outcomes:**
- At the end of the second course the study is to clarify some of the concepts studied in the theoretical parts and to link the theoretical concepts to the practical reality. The material is an important element for the study of thermal phenomena. For example, gases are heated while heated, while liquids and solids are stretched to a lesser degree. As well as the study of the basic description of the ideal gas, as well as the relationship between pressure volume and temperature. and also study and analysis of the description of the ideal gas based on the fact that the gas is composed of fine particles as a model for the study of gases and analysis Adiabatic Diagram .
- **Lab Course Outline:**

Week	Topics Covered		
FIRST COURSE			
1	Lab 1: Adiabatic Diagram	2 hours	27-10
2	Lab 2: potential temperature	2 hours	3-11
3	Lab 3: the relationship of gas volume to temperature and absolute zero .	2 hours	10-11
4	Lab 4: Quiz	2 hours	17-11
5	Lab 5: Determination of the specific thermal capacity using the calorimeter	2 hours	24-11
6	Lab 6: Determination of joule equivalent	2 hours	1-12
	Lab7: Quiz	2 hours	8-12
	Lab8: Determining of electro thermal driving force	2 hours	15-12
7	Lab 9: Quiz	2 hours	23-12
8	مراجعة	2 hours	29-12
9	First Exam	2 hours	5-1
SCECOND COURSE			
10	Lab 10: Determining of lifting condensation level	2 hours	
11	Lab 11: Determining of free convective level.	2 hours	
12	Lab12: Determination of longitudinal expansion coefficient of metals	2 hours	

13	Lab 13: Determination of virtual expansion coefficient of water	2 hours	
14	Lab 14: Quiz	2 hours	
15	Lab 15: the realization of the law of Stefan Boltzmann	2 hours	
16	Lab 16: Second Exam	2 hours	

Textbooks:

1. Atmospheric Thermodynamics /Gerald RNorth and Taatianal .erukhimove

Suggested references:

1. Second edition Atmospheric Thermodynamics / A.tsonis

Marking:

Course					Final Exam	Final Mark
1st exam	2nd exam	Practical	Activity	Total		
10	10	10	2	12	20	32

Assignments and/ or Projects:

Assignment/ Project	Description	Due Date	Marking
A report	A report submitted by the student on any external subject	Weakly	10

Instructor(s) information

Section: Atmospheric Sciences Building Lecture Room: Thermodynamics Lab Office No.:

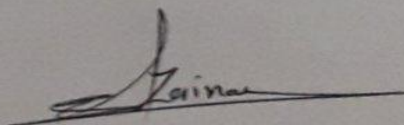
Instructor's Name: L. A. Zainab Majeed Abbood

E-Mail: zainabatmo@uomustansiriyah.edu.iq

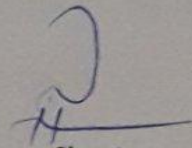
Office Hours: 5 days : (08:30-2:30)

NOTES:

- Office Hour: Other office hours are available by appointment.
- The content of this syllabus not be changed during the current semester.



Lecturer Signature



Chairman Signature