

Name EES	<b>FACULTY OF SCIENCE, FERHAT ABBAS UNIVERSITY SETIF-1</b>
Department	<b>TCSM</b>

<b>SYLLABUS OF THE SUBJECT MATTER</b>
<b>CHEMISTRY II (Thermodynamics and chemical kinetics)</b>

TEACHER OF THE MATTER		<b>AGGOUN Djouhra</b>			
		Reception of students per week			
Email	<b>djouhra.aggoun@univ-setif.dz</b>	Day :	<b>Sunday</b>	Hour	<b>12.30</b>
Office phone	/	Day :	<b>Tuesday</b>	Hour	<b>9.30</b>
Secretariat phone	/	Day :	<b>Tuesday</b>	Hour	<b>11.00</b>
Other	/	Building :	.....	Office	.....

<b>DIRECTED WORKS</b>							
<b>(Reception of students per week)</b>							
NAMES AND FIRST NAMES OF TEACHERS	Office/Reception Room	Session 1		Session 2		Session 3	
		Day	Hour	Day	Hour	Day	Hour
Y. NOUAR	.....	Sunday	8.00	Wednesday	8.00	Wednesday	9.30
L. DEHIMI	.....	Sunday	14.00	Sunday	15.30	Tuesday	12.30
S. BENABID	.....	Monday	9.30	Monday	11.00		
M. AZZI	.....	Wednesday	11.00	Thursday	8.00	Thursday	9.30
D. SELLOUM	.....	Monday	12.30	Monday	14.00	Thursday	12.30
L. MERABET	.....	Monday	8.00	Monday	9.30	Wednesday	8.00
A. KHIEREDDINE	.....	Monday	11.00	Wednesday	9.30	Wednesday	11.00
K. AMIRAT	.....	Dimanche	8.00	Dimanche	9.30	Mardi	8.00

<b>COURSE DESCRIPTION</b>	
<b>Objectives</b>	During the <sup>1st</sup> academic year, students should be provided with

	<p>elements of decision as to their future orientation (Chemistry or Physics). The proposed program takes up some concepts already covered in secondary school. Two objectives will be pursued, namely:</p> <p><i>1) Formalize these essential notions by showing that chemistry is susceptible to logical and rigorous deductions.</i></p> <p><i>2) Help the student to adapt to the teaching methods currently used at the University (taking notes, research of documents, etc.).</i></p>
Type teaching unit	<b>Fundamental UE</b>
Brief content	<p>The course consists of five chapters :</p> <p><b><u>Chapter I: General information on thermodynamics</u></b></p> <p>Some definitions on thermodynamics namely: System; external environment; Homogeneous system; Heterogeneous system; Open, closed and isolated systems; State variables; State function; Intensive and extensive quantities; Equation of state of perfect gases; Thermal balance; Transformation; Reminder of the laws of perfect gases; Energy exchange of a system (work, heat).</p> <p><b><u>Chapter II: The First Law of Thermodynamics</u></b></p> <p>Internal energy of a system; Statement of the first principle; Application of the first principle to perfect gases; Transformations (isochoric, isobaric; isothermal and adiabatic).</p> <p><b><u>Chapter III: Thermochemistry</u></b></p> <p>The standard state; The standard formation enthalpy; Enthalpy of a chemical reaction (HESS law); Variation of enthalpy as a function of temperature (Kirchhoff's law); Link energy.</p> <p><b><u>Chapter IV: The Second Law of Thermodynamics</u></b></p> <p>The notions and different expressions of entropy; Thermal machines; The ditherme cycle of Carnot.</p> <p><b><u>Chapter V: Chemical equilibria</u></b></p> <p>Predict the direction of the evolution of a system; Know how to calculate the equilibrium constant.</p>
Material credit	<b>6</b>
Coefficient of matter	<b>3</b>
Participation weighting	<b>03/03 points</b>

Attendance weighting	<b>05/05 points</b>
Average calculation CC	<b>Question (12 Pts) + assiduity (5 Pts) + participation (2 Pts)</b>
Competencies targeted	Concerning this subject especially, the student must be able to adapt with the theoretical bases of thermodynamics. Predict energy exchanges between systems and between the system and the external environment. Know how to calculate the different energies: heat (Q), work (W), internal energy, enthalpy..... The application of the three principles of thermodynamics. And finally, predict the direction of evolution of a chemical reaction.

<b>EVALUATION OF CONTINUOUS EXAMS</b>							
<b>FIRST CONTINUOUS EXAM</b>							
Day	Session	Duration	Type	Authorized Doc.	Scale	Exchange after consultation	Evaluation Criteria
11/4/23	9.30	1h00	QCM + E	No	10/10	16/4/23	A ; R
<b>SECOND CONTINUOUS EXAM</b>							
Day	Session	Duration	Type	Authorized Doc.	Scale	Exchange after consultation	Evaluation Criteria
2/5/23	9.30	1h00	QCM + E	No	10/10	7/5/23	A ; R

<b>EXPECTATIONS</b>	
Expected from students (participation-involvement)	Consistency throughout the first year; Be effective; Believe in your chances of success; Have good communication skills.
Teachers' expectations	An acceptable success rates. Transmission of information to students. Focus on own knowledge structures.

<b>BIBLIOGRAPHY</b>	
Books and digital resources	<b>[1]</b> P. L. FABRE, Thermodynamique et Cinétique chimique. Résumés de Cours et Exercices Corrigés. Edition ellipses, (1998). <b>[2]</b> C. PICARD, « Thermochimie ». Edition De Boeck & Larcier, (1996).

	<a href="#">[3] O. PERROT, « Cours de Thermodynamique », I.U.T. de Saint-Omer Dunkerque, (2011).</a>
Articles	<a href="#">Abdallah HAOUAM, Thermodynamique technique Cours et exercices corrigés, Editor : Generis Publishing, ISBN : 978-9975-3402-3-6.</a>
Handouts	<a href="#">COURS DE THERMODYNAMIQUE, Rachida OUARGLI-SAKER.</a>
Websites	<a href="http://dpnc.unige.ch/ams/leluc/pgb/pdf/pgb0506_14.pdf">http://dpnc.unige.ch/ams/leluc/pgb/pdf/pgb0506_14.pdf</a> <a href="http://feynman.phy.ulaval.ca/marleau/intl/fr/marleau_thermonotes.pdf">http://feynman.phy.ulaval.ca/marleau/intl/fr/marleau_thermonotes.pdf</a>