

Thermochemistry

Course code: ATH1

ECTS Credits: 3

Department	: ET	Lectures	: 2h30
Lecturers	: Z.Bouali	Tutorials	: 2h30
Year of study	: 1 st year	Laboratory sessions	:
Semester	: 1 st semester	Project	: 6h00
Assessment method(s)	: 1 project	Home works	:
Language of instruction	: English	Total hours	: 11h00
Type of courses	: Compulsory		

Objective: Handling of the main tools for future applications to propulsive systems

Prerequisites: Basics of thermodynamics (systems, principles)

Content:

Thermodynamics of reactive systems

- Properties of reactive mixture
- Characteristics of combustion products, Flame temperature
- Effects of input parameters on combustion performance
- Application of H₂-O₂ and C₃H₈-Air mixtures

Recommended reading:

L. Borel, *Thermodynamique et énergétique*, Presses polytechniques, Lausanne, CH
K.E. Bett, J.S. Rowlinson, G. Saville, *Thermodynamics for chemical engineers*, The Athlone Press, London, UK
P. Bauer, *Aerothermochimie - Propulseurs Aéronautiques et Spatiaux*, Ed. Ellipses, France
P. Bauer, C. Cheze, *La thermodynamique, des principes aux applications*, Ed. Ellipses, France

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