Universidad Zaragoza

Year : 2019/20

26922 - Thermodynamics

Syllabus Information

Academic Year: 2019/20
Subject: 26922 - Thermodynamics
Faculty / School: 100 -

Degree: 447 - Degree in Physics

ECTS: 6.0
Year: 3
Semester: First semester
Subject Type: Compulsory
Module: ---

1.General information

1.1.Aims of the course

1.2.Context and importance of this course in the degree

1.3.Recommendations to take this course

2.Learning goals

2.1.Competences

2.2.Learning goals

2.3.Importance of learning goals

3.Assessment (1st and 2nd call)

3.1.Assessment tasks (description of tasks, marking system and assessment criteria)

4.Methodology, learning tasks, syllabus and resources

4.1.Methodological overview

4.2.Learning tasks

4.3.Syllabus

The course will address the following topics:

- Topic 1. Historical introduction to thermodynamics.
- Topic 2. The problem and the postulates.
- Topic 3. The conditions of equilibrium.
- Topic 4. Formal relationships.
- Topic 5. Sample systems.
- Topic 6. Processes and the maximum work theorem.
- Topic 7. Thermal engines.
- Topic 8. Alternatives formulations and Legendre transformation.
- Topic 9. Thermodynamic potentials.

- Topic 10. Maxwell relations.
- Topic 11. Stability of thermodynamic systems.
- Topic 12. Phase transitions.
- Topic 13. Properties of material.

4.4.Course planning and calendar

4.5.Bibliography and recommended resources