Content

Course Code	Course Name	Semester	Theory	Practice	Lab	Credit	ECTS
ING213	Thermodynamics	3	2	0	0	3	4

Prerequisites	
Admission Requirements	
Language of Instruction	Turkish
Course Type	Compulsory
Course Level	Bachelor Degree
Objective	The knowledge of physics is one of the essential basis of an engineer's curriculum. In this figure, thermodynamics plays a role in many industrial applications: energy, materials, metallurgy, chemistry, car industry, etc. More generally, its applications cover a large field in everyday life: buildings and constructions, climate etc... In this context, this class' objectives are: -consolidate the notions learned in the first two semesters of the curriculum. -study new notions with a rigorous: diffusion, fluid dynamics, phase transitions, open systems, non steady-state systems. -Apply those new notions in order to describe industrial systems: pomps, water pipes, plane reactor, nuclear plant, car engine, speed captor, insulating materials...
Content	diffusion, fluid dynamics, phase transitions, open systems, non steady-state systems
References	1. H. Gié, Thermodynamique, Lavoisier, 1994. 2. H. Callen, Thermodynamics and an introduction to thermostatistics, Wiley, 1985.

Theory Topics

Week	Weekly Contents
1	Recalls of first year's notions
2	Recalls of first year's notions
3	Thermodynamical potentials
4	Open systems
5	Open systems
6	Thermic diffusion
7	Thermic diffusion
8	Particule diffusion
9	Partial exam
10	Phase transition
11	Phase transition
12	Statics of fluids
13	Fluids dynamics
14	Fluids dynamics