



Universitat de Lleida

DEGREE CURRICULUM
THERMAL ENGINEERING I

Academic year 2013-14

Subject's general information

Subject name	Thermal Engineering I
Code	102111
Semester	1r Q Avaluació Continuada
Typology	Obligatòria
ECTS credits	6
Theoretical credits	3
Practical credits	3
Department	INFORMÀTICA I ENGINYERIA INDUSTRIAL
Important information on data processing	Consult this link for more information.
Language	Català 90% Anglès 10%
Distribution of credits	Luisa F. Cabeza Fabra Jose Vicente Marin Vitalla Alvaro de Gracia Cuesta

Luisa F. Cabeza Fabra
 Jose Vicente Marin Vitalla
 Alvaro de Gracia Cuesta

Subject's extra information

Compulsaty subject to both degrees that gives a good introduction to heat transfer

Competences

Degree-specific competences

- Knowledge of applied thermodynamics and heat transmission, and of the basic principles and their application to the solution of engineering problems.

Goals

- Heat transfer knowledge

- Knowledge of the basic principles of fluid mechanics and their application to the solution of problems in the field of engineering. Calculation of pipelines, channels and systems of fluids

Goals

- To use the knowledge on fluid mechanics to solve heat transfer problems

Degree-transversal competences

- Ability to gather and interpret relevant data in their field of study, and to emit judgements that include a reflection on relevant themes of a social, scientific or ethical nature

Goals

- To solve heat transfer problems

- Ability to work under pressure and/or in situations where there is a lack of information.

Goals

- Problems analysis
- To search for data in heat transfer problems

- Ability to resolve problems and elaborate and defend arguments inside their field of study

Goals

- To solve heat transfer problems
- Reasoning for results

Subject contents

1. Basic concepts of heat transfer
2. Steady state heat conduction
3. Transitory state heat conduction
4. Forces convection
5. Natural convection
6. Radiation
7. Heat exchangers

Bibliography

Basic bibliography:

- Y. A. Çengel, "Heat Transfer. A practical approach", McGrawHill, 1998. ISBN: 0-07-011505-2.

Complementary bibliography:

- F. P. Incropera, D. P. De Witt, "Fundamentos de transferencia de calor", Prentice Hall Hispanoamericana, 1999. ISBN: 970-17-0170-4.
- J. P. Holman, "Transferencia de calor", McGrawHill, 1998. ISBN: 84-481-2040-X.
- F. Kreith, M. S. Bohn, "Principios de transferencia de calor", Paraninfo Thompson, 2001. ISBN: 970-686-063-0.
- J. M. Marín, C. Monné, "Transferencia de calor", Kronos, 1998. ISBN: 84-88502-72-9.
- J. Illa, J. C. Cuchí "Problemas de termotènia", Eumo, 1991. ISBN: 84-7602-558-0.