Course guide
220280 - 220280 - Heat and Mass Transfer

Unit in charge: Terrassa School of Industrial, Aerospace and Audiovisual Engineering
Teaching unit: 724 - MMT - Department of Heat Engines.
Degree: MASTER'S DEGREE IN INDUSTRIAL ENGINEERING (Syllabus 2013). (Optional subject).
MASTER'S DEGREE IN RESEARCH IN MECHANICAL ENGINEERING (Syllabus 2021). (Compulsory subject).
Academic year: 2022  ECTS Credits: 5.0  Languages: Catalan, Spanish

LECTURER
Coordinating lecturer: Oliva Llena, Asensio
Others: Perez Segarra, Carlos David
         Castro Gonzalez, Jesus
         Trias Miquel, Francesc Xavier

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
1. Knowledge and ability to analyze the processes of heat transfer that allows the design and calculation of equipment and thermal applications.

Transversal:
2. EFFECTIVE USE OF INFORMATION RESOURCES: Managing the acquisition, structuring, analysis and display of data and information in the chosen area of specialisation and critically assessing the results obtained.

TEACHING METHODOLOGY
xx

LEARNING OBJECTIVES OF THE SUBJECT
xx

STUDY LOAD

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours large group</td>
<td>30,0</td>
<td>24.00</td>
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<tr>
<td>Hours small group</td>
<td>15,0</td>
<td>12.00</td>
</tr>
<tr>
<td>Self study</td>
<td>80,0</td>
<td>64.00</td>
</tr>
</tbody>
</table>

Total learning time: 125 h
CONTENTS

(ENG) Mòdul 1: Introducció. Transferència de calor per conducció

Related competencies:
CEETERM1. Knowledge and ability to analyze the processes of heat transfer that allows the design and calculation of equipment and thermal applications.
CT4. EFFECTIVE USE OF INFORMATION RESOURCES: Managing the acquisition, structuring, analysis and display of data and information in the chosen area of specialisation and critically assessing the results obtained.

Full-or-part-time: 40h
Theory classes: 10h
Laboratory classes: 5h
Self study: 25h

(ENG) Mòdul 2: Transferència de calor per radiació

Related competencies:
CEETERM1. Knowledge and ability to analyze the processes of heat transfer that allows the design and calculation of equipment and thermal applications.
CT4. EFFECTIVE USE OF INFORMATION RESOURCES: Managing the acquisition, structuring, analysis and display of data and information in the chosen area of specialisation and critically assessing the results obtained.

Full-or-part-time: 40h
Theory classes: 10h
Laboratory classes: 5h
Self study: 25h

(ENG) Mòdul 3: Transferència de calor per convecció

Related competencies:
CEETERM1. Knowledge and ability to analyze the processes of heat transfer that allows the design and calculation of equipment and thermal applications.
CT4. EFFECTIVE USE OF INFORMATION RESOURCES: Managing the acquisition, structuring, analysis and display of data and information in the chosen area of specialisation and critically assessing the results obtained.

Full-or-part-time: 45h
Theory classes: 10h
Laboratory classes: 5h
Self study: 30h
### ACTIVITIES

#### (ENG) Classes de Teoria

**Related competencies:**
- CEETERM1. Knowledge and ability to analyze the processes of heat transfer that allows the design and calculation of equipment and thermal applications.
- CT4. EFFECTIVE USE OF INFORMATION RESOURCES: Managing the acquisition, structuring, analysis and display of data and information in the chosen area of specialisation and critically assessing the results obtained.

**Full-or-part-time:** 37h
- Theory classes: 20h
- Laboratory classes: 2h
- Self study: 15h

#### (ENG) Classes de problemes

**Related competencies:**
- CEETERM1. Knowledge and ability to analyze the processes of heat transfer that allows the design and calculation of equipment and thermal applications.
- CT4. EFFECTIVE USE OF INFORMATION RESOURCES: Managing the acquisition, structuring, analysis and display of data and information in the chosen area of specialisation and critically assessing the results obtained.

**Full-or-part-time:** 53h
- Theory classes: 10h
- Laboratory classes: 13h
- Self study: 30h

#### (ENG) Treball de curs

**Related competencies:**
- CEETERM1. Knowledge and ability to analyze the processes of heat transfer that allows the design and calculation of equipment and thermal applications.
- CT4. EFFECTIVE USE OF INFORMATION RESOURCES: Managing the acquisition, structuring, analysis and display of data and information in the chosen area of specialisation and critically assessing the results obtained.

**Full-or-part-time:** 30h
- Self study: 30h

#### (ENG) Examen primer parcial

**Related competencies:**
- CEETERM1. Knowledge and ability to analyze the processes of heat transfer that allows the design and calculation of equipment and thermal applications.
- CT4. EFFECTIVE USE OF INFORMATION RESOURCES: Managing the acquisition, structuring, analysis and display of data and information in the chosen area of specialisation and critically assessing the results obtained.

**Full-or-part-time:** 2h
- Theory classes: 2h
Related competencies:

CEETERM1. Knowledge and ability to analyze the processes of heat transfer that allows the design and calculation of equipment and thermal applications.

CT4. EFFECTIVE USE OF INFORMATION RESOURCES: Managing the acquisition, structuring, analysis and display of data and information in the chosen area of specialisation and critically assessing the results obtained.

Full-or-part-time: 3h

Theory classes: 3h

GRADING SYSTEM

xx

BIBLIOGRAPHY

Basic:

Complementary:

RESOURCES

Audiovisual material:
- Apunts fets pel professorat de l'assignatura. Resource