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

Total learning time: 125 h
<table>
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<tr>
<th>CONTENTS</th>
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<tbody>
<tr>
<td><strong>(ENG) Mòdul 1: Introducció. Transferència de calor per conducció</strong></td>
</tr>
<tr>
<td><strong>Related competencies:</strong></td>
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</tbody>
</table>
| 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
### (ENG) Examen 2on parcial (final)

**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

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### BIBLIOGRAPHY

**Basic:**

**Complementary:**

### RESOURCES

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