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### Learning objectives of the subject

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### Study load

<table>
<thead>
<tr>
<th>Total learning time: 120h</th>
<th>Hours small group: 30h</th>
<th>25.00%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Guided activities: 10h</td>
<td>8.33%</td>
</tr>
<tr>
<td></td>
<td>Self study: 80h</td>
<td>66.67%</td>
</tr>
</tbody>
</table>

### Teaching methodology

Lectures, guided study sections
### Content

#### 1. INTRODUCTION.

**Description:**
1.1. Basic definitions: primary and secondary, renewable and non-renewable, commercial and non-commercial, conventional and non-conventional energy products.
1.2. Energy supply chain components.
1.3. Flow of energy products.

**Learning time:** 4h  
Theory classes: 4h

#### 2. ENERGY BALANCE.

**Description:**
2.1. Definition of energy balance, structure and typologies.
2.2. Analysis of the information of the energy balance. Energy supply mix, self-reliance in supply, share of renewable energies, efficiency of electricity generation, power generation mix, refining efficiency, overall energy transformation efficiency, per capita consumption of primary and final energy, energy intensity.

**Learning time:** 9h  
Theory classes: 9h

#### 3. ECONOMIC FOUNDATIONS OF ENERGY DEMAND.

**Description:**
3.1. Microeconomics basic concepts.
3.3. Cost minimization problem of the producer. Production function, isoquant curves, total cost of production, isocost lines, conditional factor demand functions, production expansion path

**Learning time:** 56h  
Theory classes: 56h

#### 4. ALTERNATIVE APPROACHES TO ENERGY DEMAND ANALYSIS.

**Description:**
4.2. Index decomposition analysis. Analysis of change in total energy demand. Analysis of change in energy intensities.

**Learning time:** 81h  
Theory classes: 81h
**Qualification system**

\[ N = 0.4 \times N_1 + 0.3 \times N_2 + 0.3 \times N_3 \]

- \( N_1 \): Examen final
- \( N_2 \): Ejercicios entregados
- \( N_3 \): Trabajo final

**Bibliography**

**Basic:**
