

Portugal Member of ICHMT, AIHTC, EUROTHERM (1) Overview

(Portuguese Standard Time, PST: UTC+00:00, Population: 10 million)

1. Organizations

There are no organizations strictly related to heat and mass transfer, but rather the following general or Mechanical Engineering associations:

Portuguese Engineers Association (Ordem dos Engenheiros)

<https://www.ordemengenhadores.pt/pt/>

APMTAC – Portuguese Association of Theoretical, Applied and Computational Mechanics

http://www-ext.lnec.pt/APMTAC/welcome_eng.html

EFRIARC - Portuguese Association of Refrigerating and Air-Conditioning Engineers

<https://efriarc.pt/>

2. Major meetings

There are no national meetings on heat transfer, but this subject is integrated in the following congress jointly organized by APMTAC and SEMNI (<http://www.cimne.com/semni>):

Congress on Numerical Methods in Engineering (every two years, from 2002)

3. Major journals

There are no Portuguese journals on heat and mass transfer

Ingenium (Journal of the Portuguese Engineers Association, issued every two months, in Portuguese)

<https://www.ordemengenhadores.pt/pt/centro-de-informacao/publicacoes/revista-ingenium/>

4. Foundations of Scientific Research

Ministry of Science, Technology and Higher Education

<https://www.portugal.gov.pt/pt/gc21/area-de-governo/ciencia-tecnologia-e-ensino-superior>

Portuguese Science Foundation (Fundação para a Ciência e Tecnologia)

<https://www.fct.pt/>

National Innovation Agency

<https://www.ani.pt/>

5. Education (Undergraduate/Graduate School)

In 2005 a process of reform of the Basic Law of the Educational System was started in order to implement the Bologna Process (https://ec.europa.eu/education/policies/higher-education/bologna-process-and-european-higher-education-area_en), with the introduction of the European Credit Transfer System (ECTS) in study cycles, mobility mechanisms, diploma supplement, among others. Higher education began to have a new structure of three cycles of studies, leading to the academic degrees of bachelor, master and doctor. This structure was introduced in 2006.

Higher education system with three cycles of studies:

- First cycle, 3 years, Bachelor's degree (Universities and Polytechnic Schools)
- Second cycle, 2 years, Master's degree (Universities and Polytechnic Schools)
- Third cycle, ≥ 3 years, Doctor's degree (Universities)



The first cycle education is carried out by using Portuguese or English textbooks, while the second and third cycles use mostly English textbooks.

- Senior students engage in bachelor theses by doing experimental/theoretical studies under his/her supervisors.

6. University System

Portuguese higher education is organized in a binary system that integrates university education and polytechnic education and is taught in public and private institutions. The private higher education institutions have to obtain prior recognition of the Ministry with the authority of the Higher Education. University education includes universities, university institutes and other university teaching institutions. Polytechnic education comprises polytechnic institutes and other polytechnic teaching institutions.

University education is guided by a perspective of research promotion and creation of knowledge and aims to ensure solid scientific and cultural preparation and provide technical training to enable for the exercise of professional and cultural activities and promote the development of design capabilities, innovation and critical analysis.

Polytechnic education is guided by a perspective of applied research and development aimed at understanding and solving concrete problems and aims at providing a solid cultural and technical training at the higher level, developing the capacity for innovation and critical analysis and providing scientific knowledge of theoretical and practical nature and their applications for the exercise of professional activities.

Public universities in continental Portugal:

- Minho University - <https://www.uminho.pt/EN/Pages/default.aspx>
- University of Trás-os-Montes and Alto Douro - <https://www.utad.pt/en/>
- Porto University - <https://sigarra.up.pt/up/en/>
- Aveiro University - <https://www.ua.pt/>
- Coimbra University - <https://www.uc.pt/en/>
- Beira Interior University - <https://www.ubi.pt/en/>
- Lisboa University - <https://www.ulisboa.pt/en/>
- Nova University Lisbon - <https://www.ulisboa.pt/en/>
- University of Évora - <https://www.uevora.pt/en/>
- University of Algarve - <https://www.ualg.pt/en/>

Polytechnic Institutes (<https://ccisp.pt/en/home/>): one per district, on the average

7. Major Public/Private Research Institutes

INETI – National Institute of Engineering, Technology and Innovation (Instituto Nacional de Engenharia, Tecnologia e Inovação)

<https://ineti.pt/>

LNEC - National Laboratory of Civil Engineering (Laboratório Nacional de Engenharia Civil)

<http://www.lnec.pt/en/>

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