

SELECT

Y2 Specialization

Offshore Energy Systems

Instituto Superior Técnico (IST)

A School for the World

Museum hall
plate of the IST



The Instituto Superior Técnico (IST) was created in 1911.

Campus da Alameda (1936-1937).
Fotógrafo: Mário Novais. Biblioteca de
Arte - Fundação Calouste Gulbenkian



First Engineering courses at IST:

- Mining
- Civil
- Mechanical
- Electrical
- Chemical-Industrial

Where we are...

Map and Location

Av. Rovisco Pais, 1
1049-001 Lisboa

Directions

Contacts



IST – Facts & Numbers

1911

Instituto Superior Técnico was founded on 23rd May 1911 by Alfredo Bensaúde.

42%

Of students get a job before graduation.

85.7%

Of graduates get a job within six months after graduation.

11611

Técnico has approximately 11.611 students enrolled.

2.174

Scientific publications in ISI Web of Science.

46

Spin-off companies created at Técnico since 2009.

3

Técnico has 3 campuses (Alameda, Taguspark and CTN).

3

Técnico provides accommodation in 3 student residences.

24.79%

Of international students attend a Doctoral degree.

<https://tecnico.ulisboa.pt/en/about-tecnico/institutional/presentation/>





Technology Transfer

ist spin-off






INFORMATION AND COMMUNICATION TECHNOLOGIES

AERONAUTICS AND SPACE

				
--	---	---	---	---

ROBOTICS, AUTOMATION, ELECTRONICS AND COMPUTER VISION

BIOTECHNOLOGY AND BIOMEDICAL ENGINEERING

ENVIRONMENT AND CLEAN ENERGY

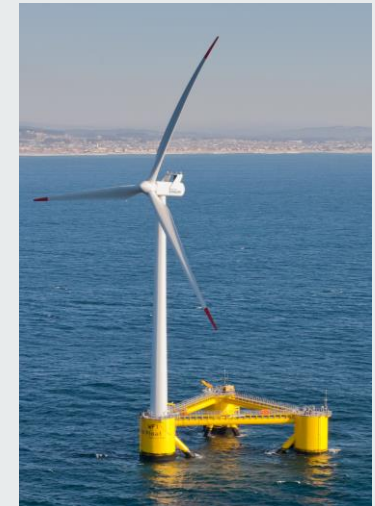
				
--	---	---	---	---

SELECT specialization offered by IST

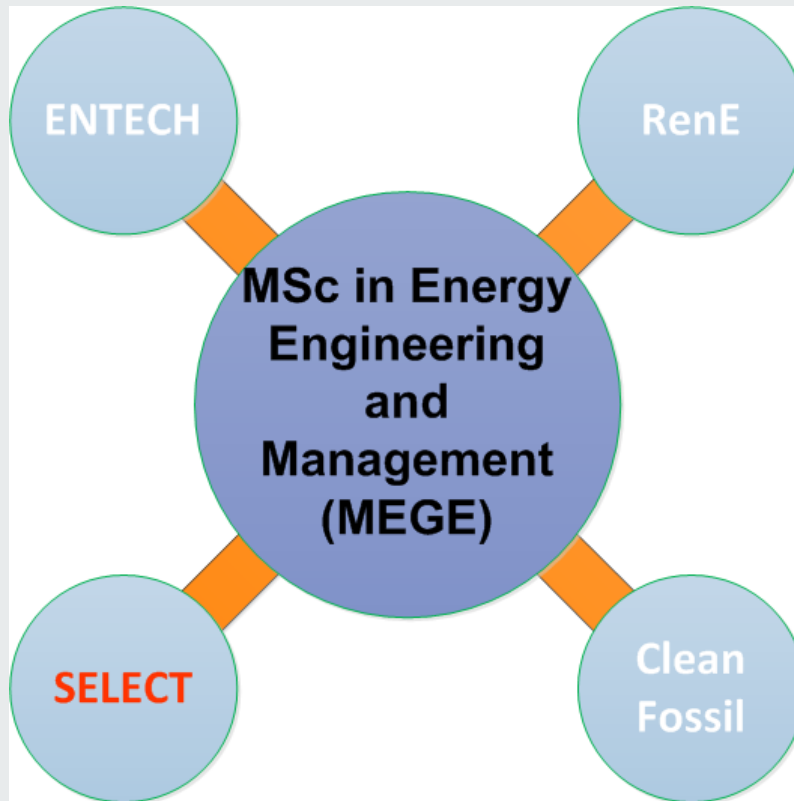
OFFSHORE ENERGY SYSTEMS



**MSc in Energy Engineering and
Management
(MEGE)**

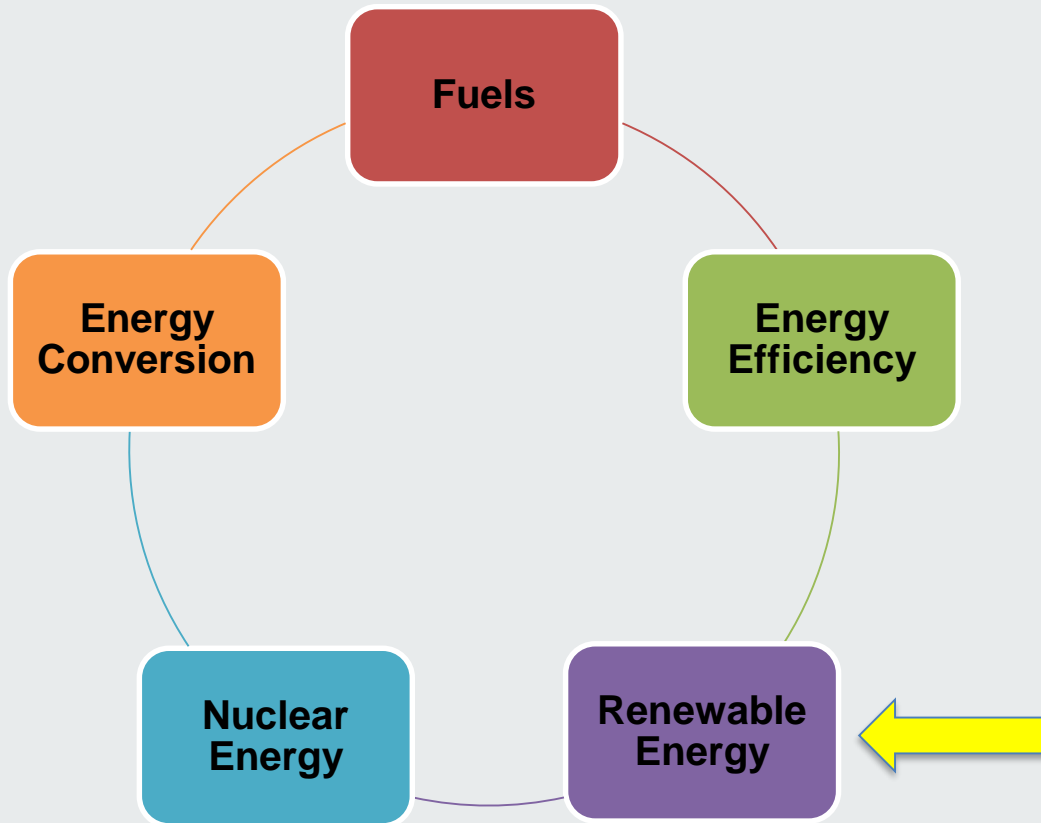


KIC Masters



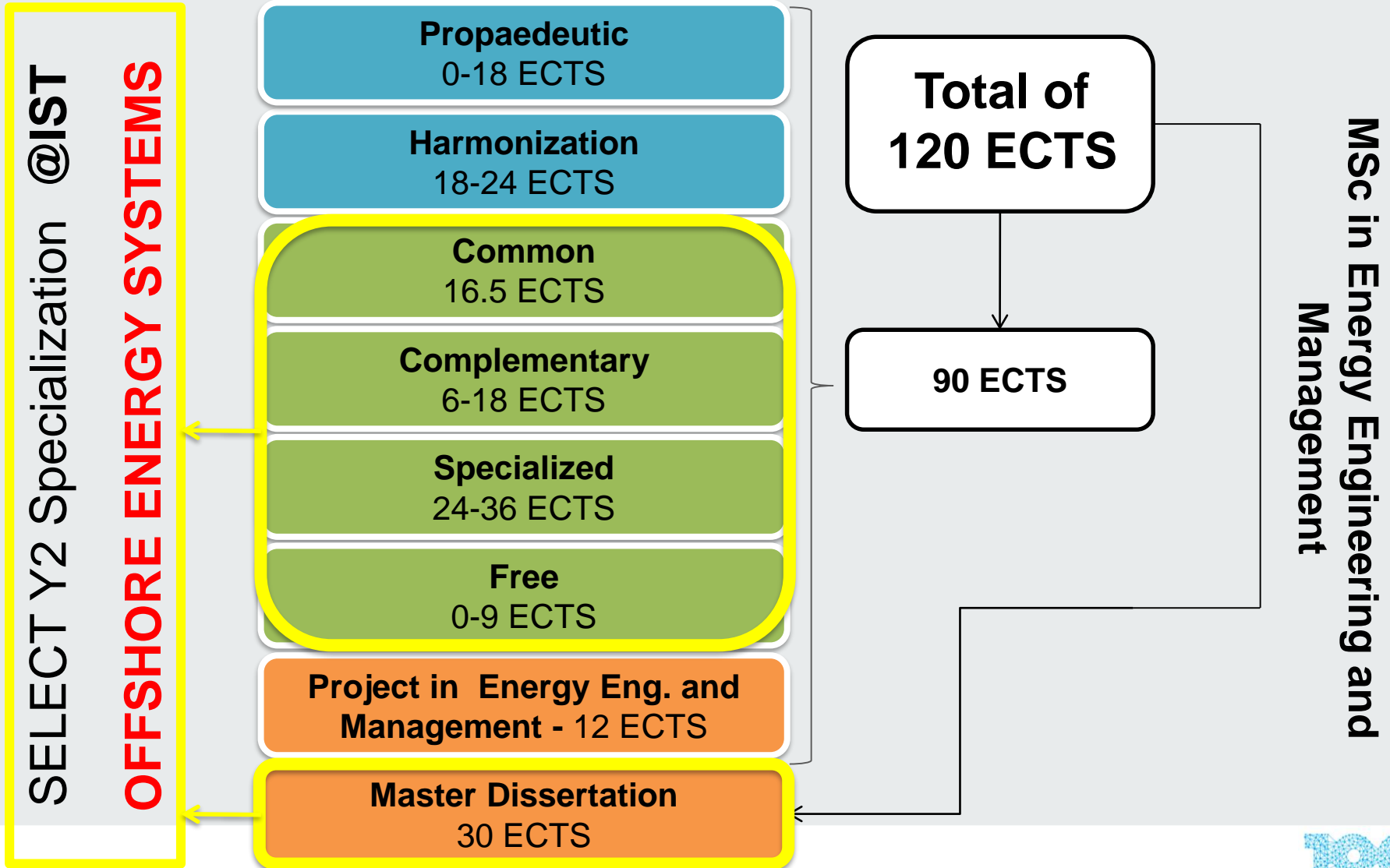
<https://fenix.tecnico.ulisboa.pt/cursos/mege>

Specializations (MEGE)



SELECT Y2
Specialization
@IST

OFFSHORE
ENERGY
SYSTEMS



MSc in Energy Engineering and Management

Departments involved:

- Chemical Engineering
- Civil Engineering
- Electrical and Computer Engineering
- Engineering & Management
- Mechanical Engineering
- Physics



Taguspark Campus Hall

MSc in Energy Engineering and Management

Provides cross training in *Energy Engineering and Management*, ensuring a sound scientific basis for the competences required for professional qualification in the energy field.

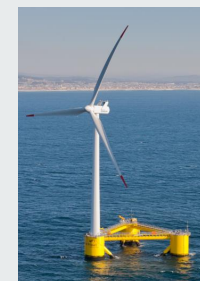
- ✓ This course is fully approved by the accreditation authorities.

OFFSHORE ENERGY SYSTEMS – Core courses

Semester 1	
Offshore Wind Energy	6
Energy Storage	6
Photovoltaic Solar Energy	6
Hydropower	6
Solar Thermal Energy	6
Waste to Energy	6
Engineering Economics	6
Public Policies For Energy	6
Biofuels	6

Semester 2	
Decision Support Models	6
Hydromineral and Geothermal Resources	6
Wave Energy	6
Marine Current & Tidal Energy	6
Electrochemistry and Energy	6

&	
<i>Free Optional</i> (1st or/and 2nd semest.)	4.5-7 ECTS
MSc Thesis (1st or 2nd semest.)	30 ECTS



Renewable Energy

Specialization Renewable Energy

Optional 1

Renewable Sources and Distributed Power Generation 1 Year, 2 Sem.	Semestral (S)	6.0 Cred.	C - 63.00 - AW - 105.0 - T - 168.0
Renewable Energies 2 Year, 1 Sem.	Semestral (S)	4.5 Cred.	C - 49.00 - AW - 77.0 - T - 126.0

Optional

Biofuels 1 Year, 1 Sem.	Semestral (S)	6.0 Cred.	C - 63.00 - AW - 105.0 - T - 168.0
Photovoltaic Solar Energy 1 Year, 1 Sem.	Semestral (S)	6.0 Cred.	C - 56.00 - AW - 112.0 - T - 168.0
Solar Thermal Energy 1 Year, 1 Sem.	Semestral (S)	6.0 Cred.	C - 56.00 - AW - 112.0 - T - 168.0
Hydropower 1 Year, 1 Sem.	Semestral (S)	6.0 Cred.	C - 63.00 - AW - 105.0 - T - 168.0
Electrical Machines 1 Year, 1 Sem.	Semestral (S)	6.0 Cred.	C - 63.00 - AW - 105.0 - T - 168.0
Electrochemistry and Energy 1 Year, 2 Sem.	Semestral (S)	6.0 Cred.	C - 56.00 - AW - 112.0 - T - 168.0
Marine Current & Tidal Energy 1 Year, 2 Sem.	Semestral (S)	6.0 Cred.	C - 47.60 - AW - 112.0 - T - 159.6
Wave Energy 1 Year, 2 Sem.	Semestral (S)	6.0 Cred.	C - 54.60 - AW - 112.0 - T - 166.6
Offshore Wind Energy 1 Year, 2 Sem.	Semestral (S)	6.0 Cred.	C - 49.00 - AW - 118.0 - T - 167.0
Pump and Hydro Power Systems	Semestral (S)	6.0 Cred.	C - 42.00 - AW - 126.0 - T -

SELECT Y2
Specialization
@IST

**OFFSHORE
ENERGY
SYSTEMS**

Research@IST - Energy, Environment and Mobility

Research Centres

- Centre for Management Studies of IST (CEG-IST)
- Centre for Marine Technology and Ocean Engineering (CENTEC)
- Centre for Natural Resources and the Environment (CERENA)
- Centre for Theoretical Particle Physics (CFTP)
- *Centro de Química Estrutural* (CQE)
- Institute for Bioengineering and Biosciences (iBB)
- Mechanical Engineering Institute (IDMEC)
- Centre for Innovation, Technology and Policy Research (IN+)
- *Instituto de Plasmas e Fusão Nuclear* (IPFN)
- Marine, Environment and Technology Centre (MARETEC)

Topics

- Sustainable Development
- Energy and Environmental Engineering
- Territorial Management
- Urban Planning and Construction
- Transportation Systems

Thesis



SOLARUS

THE INCLUSIVE ENERGY SYSTEMS



Fraunhofer

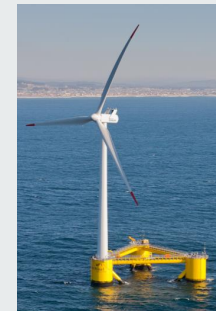


Thesis

- “The Energy Kiosk Model for Electrification – Status Quo and Future Strategies”
- “Design and Construction of a Test Rig Prototype to Execute the Full-Battery Runtime Test for Pico-PV Systems”
- “WindFloat design for different turbine sizes”
- “Road to Renewables. Comparing the future of renewable energy deployment in the context of national development levels”
- “Phase change material product design. Market and business development assessment in the food industry”
- “Plasma-Based Recycling of Carbon Dioxide”
- “Next generation of refrigerants for residential heat pump systems”

KAVAs@IST

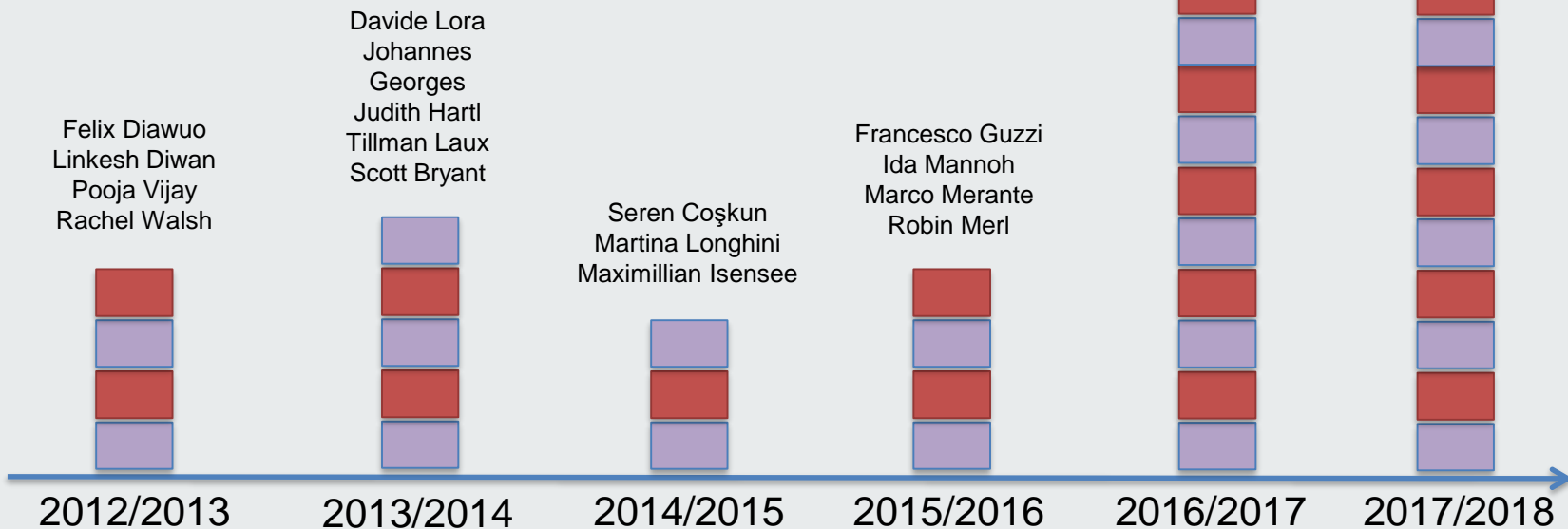
- “Entrepreneur in a week” (September)
- “Alqueva Dam” – Technical visit (December)
- “Solar platform” – Technical visit & seminars (March)
- “Geothermal Azores” - Technical visit & seminars (Easter break, 3 days in São Miguel island)
- “WindFloat” (offshore solution) – Technical visit (May/June)



SELECTers@IST



- Anna Reeves
- Alex Kritikos
- Alex Stark
- Carmine Piparo
- Davide Liviero
- Greg Zamojski
- Rachelo Sadok
- Simon Hoffmann
- Takashi Ueda
- Agata Mucha
- Marco Barbaro
- Niccolo' Primo
- Tommaso Mura
- Gopalakrishnan Srilakshmi
- Jose Miguel Hernandez
- Victor Blanaru
- Diana Ionescu
- Markus Schwenk
- Luigi Ghiani
- Vincent Vangeel
- Fabia Miorelli
- Karolis Gesevičius
- Rudolph Santarromana
- Laura Brolero



Contacts

- Local SELECT coordinator:
Duarte de Mesquita e Sousa (duarte.sousa@tecnico.ulisboa.pt)
- MSc in Energy Engineering and Management coordinator:
Prof. José Falcão de Campos (falcao.campos@tecnico.ulisboa.pt)
- IST/KIC Educational management:
Marta Abrantes (marta.abrantes@tecnico.ulisboa.pt)
- Administrative support (NMCI):
Ágata Nicolau (agata.nicolau@tecnico.ulisboa.pt)

Instituto Superior Técnico (IST)

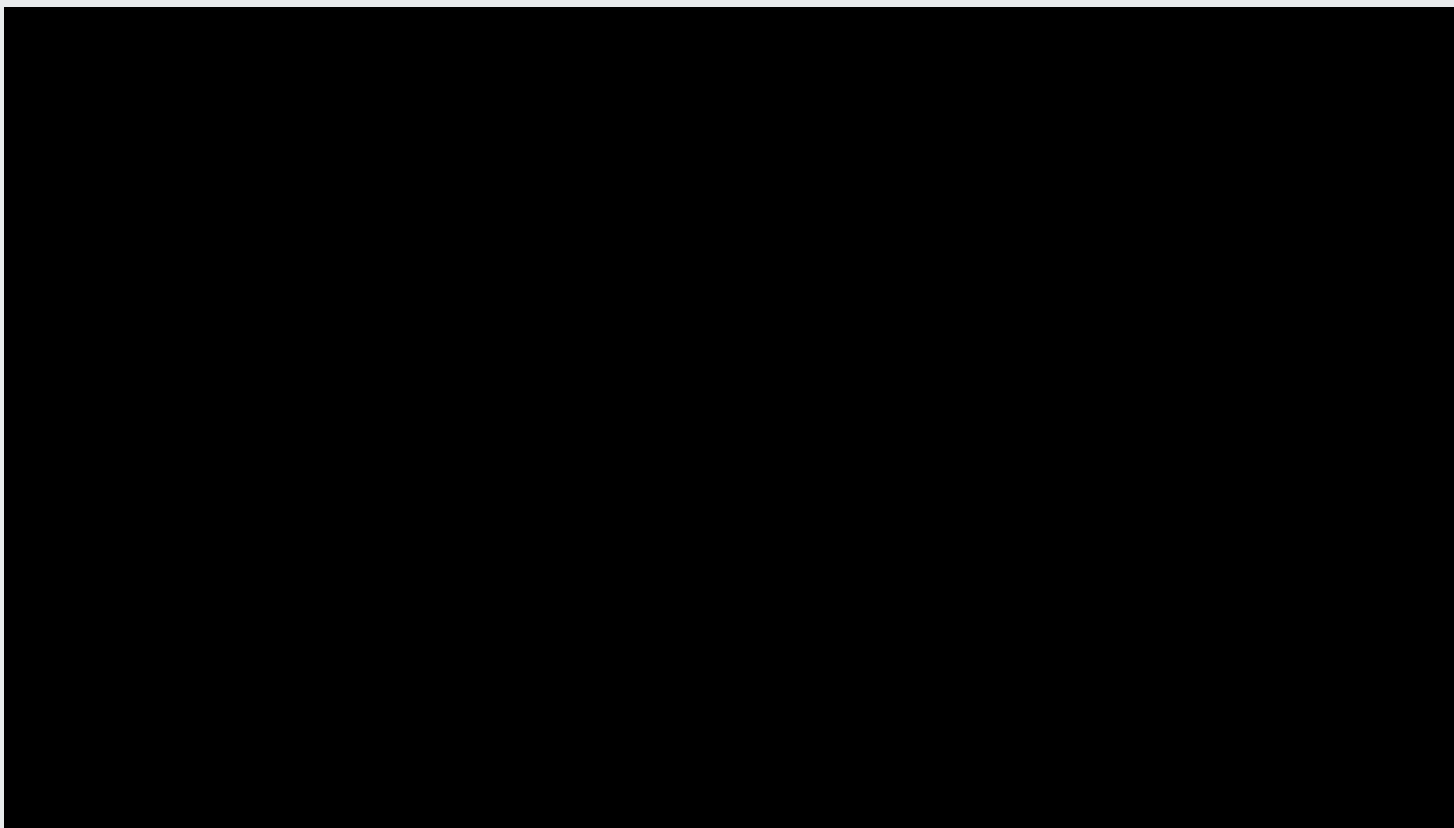


INSTITUTO SUPERIOR TÉCNICO was established with the objective of providing the country with Engineers with know-how and the necessary skills to succeed in their professional lives, while simultaneously contributing to the economic development of Portugal.

Alfredo Bensaúde
First Director of IST, 1911

IST video

<https://www.youtube.com/watch?v=EGue8EwE3mI>



2018/2019

You are welcome to Lisbon & IST!



LINKS

Master in Energy Engineering and Management (MEGE):

<https://fenix.tecnico.ulisboa.pt/cursos/mege>

MEGE courses (all):

<https://fenix.tecnico.ulisboa.pt/cursos/mege/curriculo>

IST webpage:

<https://tecnico.ulisboa.pt/en/>