

**Teaching program**  
**Energy Science and Engineering (ESE) PhD course**  
**39° Cycle**

ID	Course title	Credits	Hours	Instructors	Starts	Month	Ends	Month	Year	Location*	Scientific field
1	Chemical energy conversion: combustion and electro-chemical processes	3	12	Ferone Roviello	8	July	12	July	2024	Uniparthenope - C/D	CHIM/07
2	Advanced materials for energy systems	3	12	Colangelo	16	Oct	25	Oct	2024	Uniparthenope - C/D	ING-IND/22
3	Sustainability, life cycle assessment and strategic decision making	3	12	Petrillo	9	Sep	13	Sep	2024	Uniparthenope - C/D	ING-IND/17
4	Forecasting and analytics in electrical power systems	3	12	De Falco Bracale	8	Jan	12	Jan	2024	Uniparthenope - C/D	ING-IND/33
5	Energy Saving	3	12	Vanoli	16	Sep	20	Sep	2024	Uniparthenope - C/D	ING-IND/10
6	Experimental validation of numerical models for fluid flow problems	3	12	Arpino Massarotti	1	Apr	5	Apr	2024	Uniparthenope - C/D	ING-IND/10
7	Data acquisition and measurements	3	12	Mauro	5	Feb	16	Feb	2024	Uniparthenope - C/D	Multidisciplinary
8	Hydrogen and fuel cell systems	3	12	Jannelli Minutillo	3	June	9	June	2024	Uniparthenope - C/D	ING-IND/09
9	Control-oriented modeling of automotive engines and hybrid powertrains	3	12	Arsie Di Ilio	26	June	30	June	2024	Uniparthenope - C/D	ING-IND/09
10	Combustion in thermal machines and advanced propulsion technologies	3	12	Vaglieco Guido	2	May	10	May	2024	CNR-STEMS	ING-IND/08

Seminars held by international experts (the title of the seminar and the instructor is approved every year by the Board based on the actual research directions)											
Meshless methods		3	6	Sarler	15	Apr	19	Apr	2024	MS Teams	Multidisciplinary
The era of "Twins" A new paradigm for simulation-and-data-based engineering as applied to materials, processes, structures, and systems		3	6	Chinesta	12	June	24	June	2024	MS Teams	Multidisciplinary
Inverse Thermal Problems		3	6	Nowak	20	May	31	May	2024	MS Teams	Multidisciplinary
Computational fluid dynamics		3	6	Nithiarasu	13	June	21	June	2024	MS Teams	Multidisciplinary

TOT cfu 30  
**TOT ore corsi 120**  
 TOT ore seminari 24

The dates of the courses could change. The exact dates of each course are communicated via mail to the students few days before the beginning of the course.

TBA -> To Be Announced  
 C/D -> Centro Direzionale - Isola C4  
 CNR-STEMS -> Istituto Motori-Via Claudio n.21  
 \* the courses could be held via Teams

**Additional seminars/courses**

Piattaforma Nature MasterClasses: <https://masterclasses.nature.com/>