



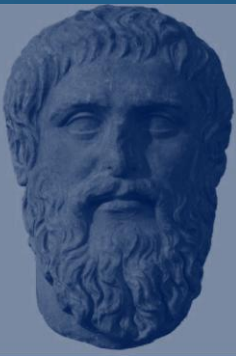
EDM

► @ University of West Attica Athens, Greece

Engineering Design & Materials Summer School



PLATO



Sacred Olives: Athena's Tree on the Acropolis

Ancient historical accounts state that **Plato** acquired a piece of land (a grove actually), 2,500 years ago slightly on the outskirts of ancient Athens. The place had several **olive trees** and was considered by many a sacred site. The olive tree was also seen as the undisputed national tree of Athens.



<https://maps.app.goo.gl/1rbzyGSideuXNV3r9>



University of West Attica
Athens, Greece

Coordinator

Dr. Zoe Kanetaki

Assistant Professor

Department of Mechanical Engineering



Summer School

EDM Summer school in Athens is a learning experience focused on leading-edge subjects.

Location:

It will take place at the University of West Attica, Mechanical Engineering Department, in the Ancient Olive Grove Campus, Athens, Greece

The EDM **50 hours** summer school represents a unique opportunity to participate in an exciting laboratory of teaching and active learning.



Department of Mechanical Engineering

The **Department of Mechanical Engineering** is one of the traditional Engineering Departments of the Polytechnic School of the **University of West Attica**. The purpose of the Department is to provide high level university education through undergraduate, postgraduate and doctoral studies, covering both traditional and constantly evolving topics in the broader area of Mechanical Engineering, integrating cutting-edge research and technology with modern methods and tools in the educational process.

COURSE COORDINATORS

Faculty Members



1. Engineering Design

Dr. Zoe Kanetaki

Assistant Professor

Department of
Mechanical Engineering



2. Design and Manufacture of Racing Car

Prof. Constantinos Stergiou

Dean of Engineering School

Department of Mechanical
Engineering



3. Metallic Materials Technology

Dr. Carmen Mentrea

Associate Professor

Department of
Mechanical Engineering



4. Greek Civilization

Dr. Eleni Kanetaki

Assistant Professor

Department of Conservation of
Antiquities and Works of Art



4 COURSE TOPICS



50
hours



EDM



1. Engineering Design

- It will cover computer-aided-design within the context of 3D solid modelling, using scanning for inverse engineering, 3D printing to produce models developed in CAD, incorporating Artificial Intelligence in CAD systems. Students will attend lectures and get hands-on experience in designing and printing their models.

2. Design and Manufacture of Racing Car

- **Poseidon team** is a research student group from the University of West Attica that designs and builds single-seater vehicles. The team started as a simple idea in 2012 participating in competitions such as the SHELL ECO-MARATHON.

4 COURSE TOPICS



3. Metallic Materials Technology

- It will cover the structure of metals, defects/dislocations, phase diagrams, optical microscopy, hardness measurement, steels, alloying, and microstructure. Students will attend lectures and study metal structures in the lab.



4. Greek Civilization

- An introduction to the Greek civilization, materials used in antiquity...
- The course will be delivered at a pre-course stage, online and will be concluded with in-situ visits of Greek monuments and sites

PROGRAM



50 hours



4 topics



13 days

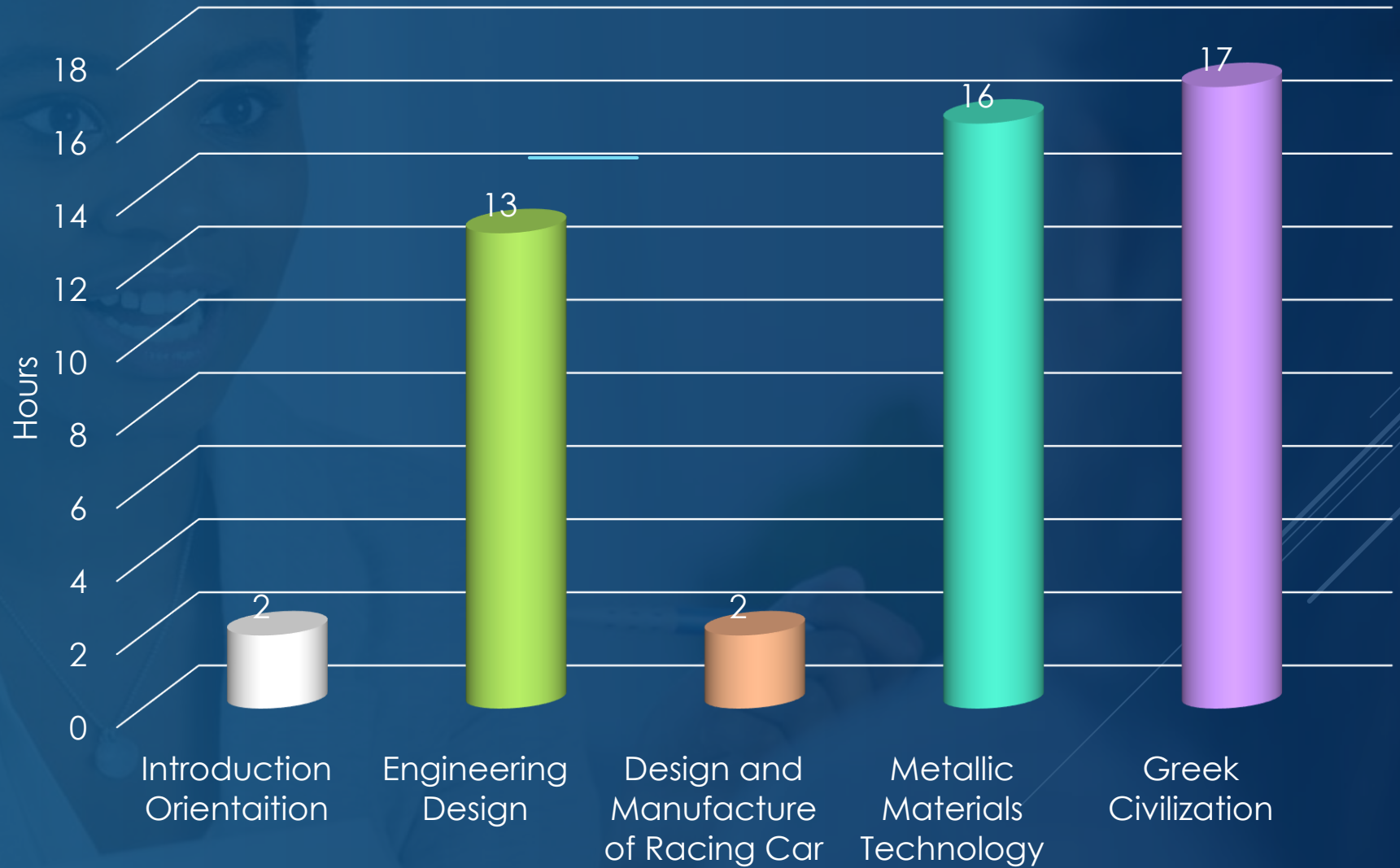
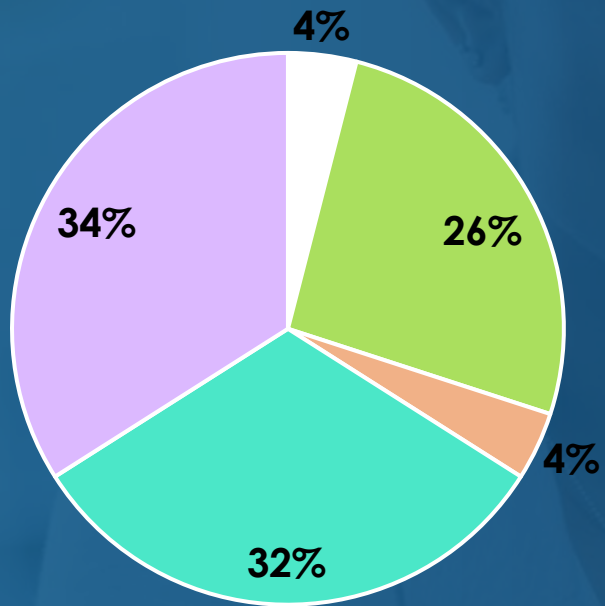


Delivery modes:
3 days online
10 days on-site



EDM
► Summer School

WORKLOAD CHART



OVERVIEW



Course Dates

On-line: **9, 11 and 12 July 2024**

On-site (Athens, Greece):

15 – 25 July 2024



Instructors

The courses will be run by qualified instructors, also assisted by final year undergraduate students of the University of West Attica



Participants

The courses do not have any prerequisite and can be attended by science and engineering undergraduate students.



Accommodation

Hostel in Athens city center (30' walk from Acropolis, close to metro station).

In double and triple private rooms, En suite bathrooms. Free Wi-fi. Air-conditioning



Language

The language of instruction is English.



Certificate

A certificate of completion will be issued at the end of the course

ECVET: 5 (European Credit System for Vocational Education and Training)

OVERVIEW



Living Expenses

Participants should plan for a minimum allowance of 400 Euros (four hundred Euros) to cover living expenses.



Insurance

All participants will be required to have health and accident insurance for the duration of the course.



Transfers

Private bus transfers between accommodation and Athens airport are included, as well as, private bus transfers between accommodation and the University of West Attica during course days



Visas

Visa expenses to Greece are not included.

Necessary documentation to obtain visa will be provided by the course administration.



Food

Buffet breakfast will be provided daily at the accommodation. Lunch and dinner will be provided daily at the University of West Attica student restaurant, during the on-site course days







Travel




























Air tickets to/from Athens are not included.























WEEK 1:

ONLINE PRESENTATIONS, INTRODUCTION,
ORIENTATION, GREEK CULTURE



MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
	 <p>1st ONLINE MEETING: INTRODUCTION, ITINERARY, PRESENTATION OF DEPARTMENT OF MECHANICAL ENGINEERING & LABS, SCHEDULE DETAILS, MEET INSTRUCTORS TIME: TBA</p>		 <p>2nd ONLINE MEETING: INTRODUCTION TO GREEK CIVILISATION (FROM ANTIQUITY UNTIL TODAY), THE FOUNDATION OF WESTERN CIVILISATION TIME: TBA</p>	 <p>3rd ONLINE MEETING: ANCIENT GREEK CIVILISATION (MATERIALS, TECHNOLOGY, MONUMENTS) TIME: TBA</p>		 <p>ARRIVAL IN ATHENS</p>

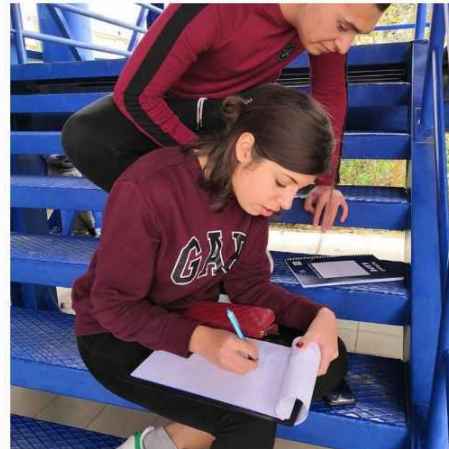
MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
 10:00		 10:00	 10:00			
11:00-11:45 COURSE: Engineering design, CNC LABORATORY		11:00-11:45 COURSE: Metallic materials technology, METALLIC MATERIALS LABORATORY	11:00-11:45 COURSE: A.I. Applications in Engineering, PC LABORATORY			
 BREAK		 BREAK	 BREAK			
12:00-13:00 COURSE: Engineering design, CNC LABORATORY		12:00-13:00 COURSE: Metallic materials technology, METALLIC MATERIALS LABORATORY	12:00-13:00 COURSE: A.I. Applications in Engineering, PC LABORATORY			
 @ UNIVERSITY RESTAURANT		 @ UNIVERSITY RESTAURANT	 @ UNIVERSITY RESTAURANT			
14:30-15:45 COURSE: Engineering design , CNC LABORATORY	DAY TOUR TO ATHENS, VISIT <u>ACROPOLIS</u> OF ATHENS (UNESCO World Heritage Centre), <u>ACROPOLIS MUSEUM</u> ,	14:30-15:45 COURSE: Metallic materials technology, METALLIC MATERIALS LABORATORY	14:30-15:45 COURSE: Engineering design , CNC LABORATORY	DAY TOUR TO NAFPLION , <u>Ancient Theatre of Epidaurus</u> , <u>Sanctuary of Asklepios</u> (UNESCO World Heritage Centre)	FREE DAY Hop on Hop Off Bus (Athens, Piraeus, Athens Riviera beach)	FREE DAY Hop on Hop Off Bus (Athens, Piraeus, Athens Riviera beach)
 BREAK		 BREAK	 BREAK			
16:00-16:45 COURSE: Engineering design , CNC LABORATORY	<u>NATIONAL ARCHAEOLOGICAL MUSEUM</u>	16:00-16:45 COURSE: Metallic materials technology, METALLIC MATERIALS LABORATORY	16:00-16:45 COURSE: Engineering design , CNC LABORATORY		Suggested visits Athens Center, Monastiraki flea market, Syntagma Square	
 BREAK		 BREAK	 BREAK			
17:00-18:00 COURSE: Engineering design , CNC LABORATORY		17:00-18:00 COURSE: Metallic materials technology, METALLIC MATERIALS LABORATORY	17:00-18:00 COURSE: Engineering design , CNC LABORATORY			
 @ UNIVERSITY RESTAURANT		 @ UNIVERSITY RESTAURANT	 @ UNIVERSITY RESTAURANT			
 19:00 HOTEL		 19:00 HOTEL	 19:00 HOTEL			

MONDAY	TUESDAY	WEDNESDAY	THURSDAY
 10:00	 10:00	 10:00	 DEPARTURE FROM ATHENS
11:00-11:45 COURSE: Metallic materials technology, METALLIC MATERIALS LABORATORY	 10:30-13:30 VISIT TO INDUSTRIAL PLANT	11:00-11:45 COURSE: Engineering design, 3D PRINTING LABORATORY	
 BREAK		 BREAK	
12:00-13:00 COURSE: Metallic materials technology, METALLIC MATERIALS LABORATORY		12:00-13:00 COURSE: Engineering design, 3D PRINTING LABORATORY	
 @ UNIVERSITY RESTAURANT	 @ UNIVERSITY RESTAURANT	 @ UNIVERSITY RESTAURANT	
14:30-15:45 COURSE: Metallic materials technology, METALLIC MATERIALS LABORATORY	14:30-15:45 COURSE: Metallic materials technology, METALLIC MATERIALS LABORATORY	14:30-15:45 COURSE: Engineering design, 3D PRINTING LABORATORY	
 BREAK	 BREAK	 BREAK	
16:00-16:45 COURSE: Metallic materials technology, METALLIC MATERIALS LABORATORY	16:00-16:45 COURSE: Metallic materials technology, METALLIC MATERIALS LABORATORY	16:00-16:45 COURSE: Engineering design in practice Single-seat vehicle POSEIDON TEAM	
 BREAK	 BREAK	 BREAK	
17:00-18:00 COURSE: Metallic materials technology, METALLIC MATERIALS LABORATORY	17:00-18:00 COURSE: Metallic materials technology, METALLIC MATERIALS LABORATORY	17:00-18:00 COURSE: Engineering design in practice, Single-seat vehicle POSEIDON TEAM	
 @ UNIVERSITY RESTAURANT	 @ UNIVERSITY RESTAURANT	 @ UNIVERSITY RESTAURANT	
 19:00 HOTEL	 19:00 HOTEL	 19:00 HOTEL	

STUDENT LIFE @ UNIWA



EDN





DAY VISIT TO ACROPOLIS

- You will visit the Acropolis of Athens archaeological site (UNESCO World Heritage Centre), which includes the Parthenon, the Erechtheion, the Propylaea, the Temple of Nike and the Theatre of Dionysus, the Acropolis Museum and the National Archaeological Museum





DAY TRIP TO PELOPONNESE

The archaeological site of **Epidauros**,
and the **Sanctuary of Asklepios** - god of
medicine and the **Ancient Theatre of
Epidauros**

The sanctuary of Asklepios is, the most
famous healing centre of the Greek and
Roman world.

Nafplion is the first capital of Modern
Greece



DAY VISIT TO INDUSTRIAL PLANT

EDM



Visit of a 9000 m² industrial facility,
where the students will explore the
methods of production, -Extrusion,
Injection, production of plastic parts



EDUCATIONAL OUTCOMES

Having completed
the **EDM** summer
course, students will
have:

developed an in-depth
understanding of certain
fundamental design technologies
that support product
development

attended a demanding
academic program by
working along leading
experts

acquired skills to enhance
their employability prospects
in this demanding field

immerse themselves in
local student life

been introduced to
ancient Greek culture,
which is the foundation
of western civilisation

enjoyed a summer school
experience in an ancient olive
grove campus in Athens, one
of the world's most ancient
cities

EDM



EDU

► University of West Attica Athens, Greece



ΠΑΝΕΠΙΣΤΗΜΙΟ ΔΥΤΙΚΗΣ
ΑΤΤΙΚΗΣ

UNIVERSITY OF WEST ATTICA



西北工業大學

NORTHWESTERN POLYTECHNICAL UNIVERSITY

谢谢来听报告