



Technological
Educational
Institute of Athens



Faculty of Technological Applications

The Faculty of Technological Applications, due to its clear technological orientation, constitutes one of the most dynamic Faculties at TEI of Athens, as it is high in the order of preference by candidate students who aim at receiving a diploma in the rapidly growing fields of applied sciences and especially of new technologies.

The Faculty consists of six (6) Departments:

- Department of Informatics Engineering
- Department of Electronic Engineering
- Department of Biomedical Engineering Technology
- Department of Energy Technology Engineering
- Department of Naval Architecture
- Department of Civil Engineering and Surveying & Geoinformatics Engineering



Faculty of Technological Applications

Postgraduate Programs



Faculty of Technological Applications Postgraduate Programs

The Faculty organizes and runs or cooperates in the following six (6) Postgraduate Programs (M.Sc.):

- **Design and Development of Advanced Electronic Systems**, Department of Electronic Engineering, **120 ECTS**
- **Master of Science in Energy**, Department of Energy Technology Engineering in collaboration with Heriot-Watt University, Edinburgh Scotland, **90 ECTS**
- **Computing and Network Technologies**, Department of Informatics Engineering, **90 ECTS**
- **Informatics, Image Synthesis and Graphics Design**, Department of Informatics Engineering in collaboration with the Department of Informatics, Faculty of Science and Technology, University of Limoges, France, **120 ECTS**
- **Advanced Systems & Methods in Biomedical Technology**, Department of Biomedical Engineering Technology, **90 ECTS**
- **Information Technologies in Medicine and Biology**, organized and administered by the Department of Informatics and Telecommunications, National and Kapodistrian University of Athens (UoA) in collaboration with the Technological Educational Institute (TEI) of Athens, Department of Biomedical Engineering Technology, **90 ECTS**



Technological Educational Institute (T.E.I.) of Athens
Department of Electronic Engineering

Postgraduate Studies Program (M.Sc.)
Design and Development of Advanced Electronic Systems

The Department of Electronic Engineering, Faculty of Technological Applications , TEI of Athens organizes and runs a Postgraduate Program (PSP), entitled "***Design and Development of Advanced Electronic Systems***" since the academic year 2012-13.

The organization, functioning and postgraduate degree awards function independently by the Department of Electronic Engineering, TEI of Athens as a result of successful external evaluation of the Electronic Engineering Department in May 2010.

The main objective of the M.Sc. is the detailed study and deep knowledge of the subjects of Design, Development and Implementation of Advanced Electronic Systems.



Technological Educational Institute (T.E.I.) of Athens
Department of Electronic Engineering

Postgraduate Studies Program (M.Sc.)
Design and Development of Advanced Electronic Systems

1st Semester

No.	Type	Code	Course title	Coordinators	ECTS
1	R	MH11	Computational Mathematics	Evangelos Zervas , Professor Ioannis Famelis , Associate Professor Alexandros Alexandridis , Associate Professor	6
2	R	MH12	Special Topics in Modern Physics	Dimos Triantis , Professor Evangelos Valamontes , Professor Konstantinos Moutzouris , Assistant Professor	6
3	R	MH13	Integrated & Quantum Electronics	Georgios Patsis , Associate Professor Konstantinos Moutzouris , Assistant Professor	6
4	R	MH14	Data Net Design	Dionisis Cavouras , Professor Dionisis Kandris , Assistant Professor Panagiotis Tsiakas , Lecturer	6
5	R	MH15	Laboratory Exercises	Teachers of semester courses	6
				Total:	30



Technological Educational Institute (T.E.I.) of Athens
Department of Electronic Engineering

Postgraduate Studies Program (M.Sc.)
Design and Development of Advanced Electronic Systems

2nd Semester

No.	Type	Code	Course title	Coordinators	ECTS
1	R	MH21	Modern Instrumentation Technology and Metrology	Ilias Stavrakas , Associate Professor Odysseus Tsakiridis , Lecturer George Hloupis , Lecturer	6
2	R	MH22	Embedded Systems	Grigoris Kaltsas , Professor Gregory Koulouras , Lecturer	6
3	R	MH23	RF Electronics	Konstantinos Voudouris , Professor Athanasios Nasiopoulou s, Professor	6
4	R	MH24	Signal Processing and Pattern recognition	Dionisis Cavouras , Professor Alexandros Alexandridis , Associate Professor Elias Zois , Lecturer	6
5	R	MH25	Laboratory Exercises	Teachers of semester courses	6
				Total:	30



Technological Educational Institute (T.E.I.) of Athens
Department of Electronic Engineering

Postgraduate Studies Program (M.Sc.)
Design and Development of Advanced Electronic Systems

3rd Semester

No.	Type	Code	Course title	Coordinators	ECTS
1	R	MH31	Nanoelectronics and applications	Dimos Triantis , Professor Georgios Patsis , Associate Professor Panagiotis Photopoulos , Lecturer Sotiria Galata , Lecturer	6
2	R	MH32	Intelligent systems for renewable energy sources	Drosos Naupaktitis , Professor Athanasios Nasiopoulos , Professor Athanasios Nasiopoulos , Professor Odysseus Tsakiridis , Lecturer	6
3	R	MH33	New generation telecommunication networks	Evangelos Zervas , Professor Konstantinos Voudouris , Professor Panagiotis Tsiakas , Lecturer Sotiris Karabetsos , Lecturer	6
4	R	MH34	Microsystems and applications	Grigoris Kaltsas , Professor Dionisis Kandris , Assistant Professor	6
5	R	MH35	Signal Processing and Pattern recognition	Teachers of semester courses	6
				Total:	30



Technological Educational Institute (T.E.I.) of Athens
Department of Electronic Engineering

Postgraduate Studies Program (M.Sc.)
Design and Development of Advanced Electronic Systems

4th Semester

No.	Type	Code	Course title	ECTS
1	R	MH41	M.Sc. Thesis	30
			Industrialization and Finished Product Promotion seminars	
			Total:	30

TOTAL ECTS CREDITS

120



TEI of Athens - HERIOT WATT University

Postgraduate M.Sc. Program in Energy Technology

The Department of Energy Technology Engineering of the Technological Educational Institute (T.E.I.) of Athens, in response to great demand for postgraduate studies in the field of Energy, in conjunction with the rapid development of Energy Applications, has come to an agreement with the School of Engineering and Physical Sciences of the Heriot-Watt University of Edinburgh, one of the best universities in the UK in subjects relating to energy, to conduct a postgraduate course of study.

This Postgraduate Program entitled "MSc in Energy Technology" is an evolution of the precedent course "MSc in Energy" held successfully between the years 2007 to 2013, which has been assessed positively by the external evaluation of the Energy Technology Engineering Department in 2012.

The Postgraduate Program awards a Master of Science (MSc) in "Energy Technology". The MSc Certificate is awarded jointly by the two collaborating institutions.



TEI of ATHENS - HERIOT WATT UNIVERSITY

**Postgraduate M.Sc. Program
in Energy Technology**

TOTAL ECTS CREDITS

90

Full time Program		
Modules per Semester		
(C): mandatory-compulsory , (S): selective		
1st Semester		
1	B51ET Foundations of Energy (C)	HW 15 (7.5 ECTS)
2	B51GE Renewable Energy Technologies (C)	HW 15 (7.5 ECTS)
3	TEIA 1 Computational Fluid Dynamics (C)	TEIA 15 (7.5 ECTS)
4	TEIA 3 Electrical Power Systems (C)	TEIA 15 (7.5 ECTS)
2nd Semester		
5	B81EZ Critical Analysis & Research Preparation (C)	HW 15 (7.5 ECTS)
6	B51GI Technology Futures and Business Strategy (C)	HW 15 (7.5 ECTS)
7	TEIA 2 Building Energy Management (C)	TEIA 15 (7.5 ECTS)
8	One out of 3 selective modules: <ul style="list-style-type: none"> TEIA 4 Environmental Impact Assessment (S) TEIA 5 Ventilation and Air Conditioning (S) TEIA 6 High Voltage Engineering (S) 	TEIA 15 (7.5 ECTS) TEIA 15 (7.5 ECTS) TEIA 15 (7.5 ECTS)
3rd Semester		
9	B51MD and TEIA 7 Masters Dissertation (C)	HW+ TEIA 60 (30 ECTS)



Technological Educational Institute (T.E.I.) of Athens
Department of Biomedical Engineering

Master degree program
Advanced Systems & Methods in Biomedical Engineering

The **Department of Biomedical Engineering**, Faculty of Technological Applications, Technological Educational Institute (TEI) of Athens, organizes a postgraduate program entitled: **Advanced Systems and Methods in Biomedical Engineering**.

The purpose of the program is to provide students with the necessary tools for the study, design, development, and application of novel and advanced systems and methods in the field of biomedical engineering. The program covers the entire spectrum of biomedical engineering topics from basic science issues to technological state-of-the-art aspects of the field.



Technological Educational Institute (T.E.I.) of Athens Department of Biomedical Engineering

Master degree program Advanced Systems & Methods in Biomedical Engineering

1st Semester

No.	Code	Coordinators	Course title	ECTS
1	MTMBIT 11	G. Panayotakis, Professor P. Liaparinos, Lecturer	Modern Physics with Applications in Biomedical Engineering	5
2	MTMBIT 12	G. Nikiforidis, Professor I. Kalatzis, Asst. Professor	Mathematical Methods and Applications in Modern Biosciences	5
3	MTMBIT 13	P. Asvestas, Asst. Professor	Information Technologies in Medicine and other Biosciences	5
4	MTMBIT 14	V. Spiropoulos, Professor	Emerging Technologies in Modern In Vitro Diagnostics, Molecular Biology and Bioinformatics	5
5	MTMBIT 15	E. Ventouras, Professor	Emerging Technologies in Modern In Vivo Diagnostics, Telemedicine and Personal Medicine	5
6	MTMBIT 16	M. Kallergi, Asst. Professor	Micro- and Nano-Technology Applications on Molecular Diagnosis, Therapy, and Implants.	5
			Total:	30



Technological Educational Institute (T.E.I.) of Athens Department of Biomedical Engineering

Master degree program Advanced Systems & Methods in Biomedical Engineering

2nd Semester

No.	Code	Coordinators	Course title	ECTS
1	MTMBIT 21	D. Glotsos, Asst. Professor	Biomedical Electronics and Medical Instrumentation, Biomechanics, Implant Modalities	5
2	MTMBIT 22	D. Cavouras, Professor	Advanced Methods on Digital Signal and Image Processing	5
3	MTMBIT 23	I. Kandarakis, Professor	Imaging Science and Emerging Technologies in Medical Imaging	5
4	MTMBIT 24	N. Kalyvas, Asst. Professor	Large Scale Therapeutic and Diagnostic Installation, Quality Assurance and Radioprotection	5
5	MTMBIT 25	A. Tzavaras PhD, Specialized Technician	Biomedical Engineering on home Health Surveillance and Treatment, Networked Health Services Provision	5
6	MTMBIT 26	I. Valais, Asst. Professor	Biomedical Engineering Quality Assurance, Biomedical Property, Standards, Medical Protocols and Directions	5
			Total:	30



Technological Educational Institute (T.E.I.) of Athens
Department of Biomedical Engineering

Master degree program
Advanced Systems & Methods in Biomedical Engineering

3rd Semester

No.	Code	Course title	ECTS
1	MTMBIT 31	Postgraduate thesis	30

TOTAL ECTS CREDITS

90



Technological Educational Institute (T.E.I.) of Athens Department of Biomedical Engineering

Master degree program Information Technologies in Medicine and Biology

The I.T.M.B. Postgraduate Program is organized and administered by the Department of Informatics and Telecommunications of the National and Kapodistrian University of Athens (UoA), in collaboration with the Technological Educational Institute (TEI) of Athens, the Foundation for Biomedical Research of the Academy of Athens (BRFAA) and the Institute of Informatics and Telecommunications of the National Centre for Scientific Research "Demokritos".

The Postgraduate Program awards Master's of Science degrees in the two directions of study (tracks), namely **Medical Informatics** and **Bioinformatics**.

Each student must **attend and pass eleven (11) courses**, **nine (9)** required-core courses, and **two (2)** elective courses, selected from a list of offered courses. **Total ECTS Units 90.**



Department of Biomedical Engineering
Master degree program
Information Technologies in Medicine and Biology

Semester: 1 st							
Code	Course Title	Sem.	Instructor	Required		Elective	
				Med.I	Bio.	Med.I	Bio.
<u>R 1</u>	<u>Biology - Physiology</u>	1st	<u>Karali (BRFAA)</u> <u>Anastasiadou (BRFAA)</u>	X	X		
<u>R 2</u>	<u>Pattern Recognition</u>	1st	<u>Perantonis (Demokritos)</u>	X	X		
<u>R I3</u>	<u>Medical Imaging Systems</u>	1st	<u>Kandarakis (TEI-A)</u>	X			
<u>R I4</u>	<u>Advanced Topics in Signal Processing</u>	1st	<u>Karampogias (NKUA)</u> <u>Eleftheriadis (NKUA)</u>	X			
<u>R I5</u>	<u>Statistical Signal Processing</u>	1st	<u>Theodoridis (NKUA)</u>	X			X
<u>R B3</u>	<u>Algorithms in Molecular Biology</u>	1st	<u>Vernikos (Wellcome Trust Sanger Institute)</u>		X		
<u>R B4</u>	<u>Introduction to Biotechnology</u>	1st	<u>Vlahou (BRFAA)</u> <u>Tsangaris (BRFAA)</u>		X		
<u>R B5</u>	<u>Introduction to Bioinformatics</u>	1st	<u>Hatzigeorgiou (Fleming)</u>		X	X	

I = Medical Informatics , B = Bioinformatics



Department of Biomedical Engineering
Master degree program
Information Technologies in Medicine and Biology

Semester: 2 nd							
Code	Course Title	Sem.	Instructor	Required		Elective	
				Med.I	Bio.	Med.I	Bio.
<u>R I6</u>	<u>Acquisition and Processing of Biomedical Data</u>	2nd	<u>Ventouras (TEI-A)</u>	X			
<u>R 7</u>	<u>Image Processing and Analysis</u>	2nd	<u>Sangriotis (NKUA)</u> <u>Cavouras (TEI-A)</u>	X	X		
<u>R I8</u>	<u>Medical Information Technology and Telemedicine</u>	2nd	<u>Spyropoulos (TEI-A)</u>	X			
<u>R I9</u>	<u>Radiographic Anatomy</u>	2nd	<u>Oikonomou (Radiologist M.D/TEI-A)</u>	X			
<u>R B6</u>	<u>Biomedical Databases</u>	2nd	<u>Ioannidis (NKUA)</u> <u>Gunopulos (NKUA)</u>		X		
<u>R B8</u>	<u>Algorithms in Structural Bioinformatics</u>	2nd	<u>Emiris (NKUA)</u>		X		
<u>R B9</u>	<u>Machine Learning Methods in Computational Biology</u>	2nd	<u>Manolakos (NKUA)</u>		X		
R 10	Master's Thesis	2nd-3rd	-	X	X		



Department of Biomedical Engineering
Master degree program
Information Technologies in Medicine and Biology

Semester: 3rd					
Code	Course Title	Sem.	Instructor	Elective	
				Med.I	Bio.
EL 1	Embedded Systems	3rd	Manolakos (NKUA)	X	X
EL 2	Real Time Systems	3rd	Maroulis (NKUA)	X	X
EL 3	Biomedical Data Mining and Knowledge Discovery	3rd	Gunopulos (NKUA)	X	X
EL 4	Biostatistics	3rd	Linardatos (EETT)	X	X
EL 5	Simulation Methods in Medicine and Biology	3rd	Spyrou (BRFAA)	X	X
EL 6	Methods and Applications in Neurosciences	3rd		X	X
EL 17	Intelligent Medical Systems	3rd	Maroulis (NKUA)	X	
EL 18	Special Topics on Network Design	3rd		X	
EL I10	Contemporary Hospital and Health-Care Services: Organization and Operation	3rd	Spyropoulos (TEI-A)	X	
EL I11	Special Topics on Informatics and Biomedical Applications	3rd		X	
EL 12	Computer Modeling of Biomolecules	3rd	Cournia (BRFAA)	X	X
EL B7	Advanced Biotechnology	3rd			X
EL B9	Special Topics on Bioinformatics	3rd	Vernikos (Wellcome Trust Sanger Institute)		X

Department of Informatics Engineering

Master in Informatics, Image Synthesis and Graphics Design



Semester 1			
The postgraduate student should attend the 3 required courses and 4 elective required courses			
Required	ECTS	Elective Required	ECTS
Foundations Graphics Informatics	6 ECTS	Introduction to Image Processing	3 ECTS
Databases and Information Systems	6 ECTS	Introduction to Multimedia Systems	3 ECTS
Networks	6 ECTS	Algorithm Complexity	3 ECTS
		Numerical Optimization	3 ECTS
		Development of Distributed Applications	3 ECTS
Total 30 ECTS			

The postgraduate MSc program of studies in “Informatics, Image synthesis & Graphics Design”, operates as a joint Master Program by the TEI of Athens and the University of Limoges, awarding a common degree issued by both institutes (dual seal degree)

Department of Informatics Engineering

Master in Informatics, Image Synthesis and Graphics Design



Semester 2

The postgraduate student should attend the 3 required courses and 4 elective required courses

Required	ECTS	Elective Required	ECTS
Introduction to Realistic Image Synthesis	6 ECTS	French	3 ECTS
Artificial Intelligence	3 ECTS	Project Management and Law	3 ECTS
Software Analysis and Development	9 ECTS	Parallelism	3 ECTS
		Web Design and Technology	3 ECTS
		Pattern Recognition	3 ECTS
		Intelligent Systems and Knowledge Management	3 ECTS
		Architecture and Tools for Multimedia and Image Applications	3 ECTS
		Information Systems Security	3 ECTS
		Wireless Network Systems	3 ECTS
		Multimedia (Audio & Video) Systems	3 ECTS
Total 30 ECTS			

Department of Informatics Engineering
Master in Informatics, Image Synthesis and Graphics Design



Semester 3

The postgraduate student should attend the 2 required courses and 6 elective required courses

Required	ECTS	Elective Required	ECTS
Image Synthesis	6 ECTS	Business Organization	3 ECTS
Modelling and Animation	6 ECTS	French	3 ECTS
		Mechanic Vision	3 ECTS
		Networks Security	3 ECTS
		Ergonomics and Human-Computer Interaction	3 ECTS
		Methods of Development of Intelligent Image-based Systems	3 ECTS
		Production of AudioVisual Content	3 ECTS
		Development of Software Extensions for Image and Multimedia	3 ECTS
		Development of Multimedia Educational Applications	3 ECTS
		Development of Biomedical Imaging Applications	3 ECTS
		Geo-informatics Systems	3 ECTS
		Decision Making and Support Systems	3 ECTS
			Total 30 ECTS

Department of Informatics Engineering
Master in Informatics, Image Synthesis and Graphics Design



Semester 4	
Stage in research laboratory or industry and Final Thesis	
Final Thesis Credits	30 ECTS
TOTAL ECTS CREDITS	120

Department of Informatics Engineering

Master in Computing and Network Technologies



Semester 1

No	Course title	Type	ECTS
PP1	<u>Algorithms and Advanced Data Structures</u>	M	5
PP2	<u>Advanced Networking Technologies</u>	M	5
PP3	<u>Data Bases and Web-based Applications</u>	M	5
PP4	<u>Hardware Technologies</u>	M	5
PP5	<u>Distributed Web Applications</u>	M	5
PP6	<u>Cloud Computing and Services</u>	M	5
Total			30

The post-graduate studies Program in “Computing and Network Technologies” leading to the degree of Master of Science (M.Sc.) was launched by the Department of Informatics of the Technological Educational Institute of Athens on the 2014-2015 academic year.

Main target of the Program is to provide specialized knowledge of cutting edge technologies in computing and networking, emphasizing on the development of services and applications which exploit the underlying technologies.

Department of Informatics Engineering
Master in Computing and Network Technologies



Semester 2

No	Course title	Type	ECTS
PP7	Information and System Security	M	5
PP8	Data Mining and Big Data Management	M	5
PP9	Mobile Communication Networks and Applications	M	5
PP10	Ubiquitous and Embedded Systems	M	5
PP11	Parallel and Distributed Systems	M	5
PP12	Information Law and Project Management	M	5
Total			30

Department of Informatics Engineering
Master in Computing and Network Technologies



Semester 3

No	Course title	Type	ECTS
PP13	Final Thesis	M	30
Total			30

TOTAL ECTS CREDITS	90
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Faculty of Technological Applications

Bachelors of Engineering



Department of Electronic Engineering

The Department of Electronic Engineering of T.E.I. of Athens, has made significant efforts in order to ensure a constant evolvement in the content of education, given the continued rapid expansion taking place in various fields of Electronics. Graduates of the department, exhibit successful careers in the profession of Electronic Engineering.

The continuous and rapid development and expansion of the science of Electronic Engineering, necessitates the revision and amendment of education, both in content and teaching forms.

The Dept. of Electronic Engineering has an average frequency of once every four years interventions into the curriculum in order to meet the modern demands of work and offer new or specialized knowledge to graduates, given the rapid evolution of electronics technology and communications systems.

1st SEMESTER**Department of Electronic Engineering**

	MODULE	S	E.C.T.S.	MODULE CODE
1	PHYSICS	6	7	EE-1011/2
2	INTRODUCTION TO ELECTRONICS	6	7	EE-1021/2
3	MATHEMATICS	4	5	EE-1031
4	ELECTRICAL CIRCUITS AND MEASUREMENTS	6	7	EE-1041/2
5	BASIC STRUCTURES OF SYSTEM PROGRAMMING	4	4	EE-1051/2
	TOTAL	26	30	

2nd SEMESTER

	MODULE	S	E.C.T.S.	MODULE CODE
1	ANALOGUE ELECTRONICS	6	7	EE-2011/2
2	APPLIED MATHEMATICS	4	5,5	EE-2021
3	SEMICONDUCTOR AND DEVISE PHYSICS	5	5,5	EE-2031/2
4	OBJECT ORIENTED PROGRAMMING - APPLICATIONS	6	7	EE-2041/2
5	METROLOGY - MEASUREMENTS TECHNOLOGY	5	5	EE-2051/2
	TOTAL	26	30	

3rd SEMESTER**Department of Electronic Engineering**

	MODULE	S	E.C.T.S.	MODULE CODE
1	AMPLIFYING DEVICES	6	7	EE-3011/2
2	DIGITAL ELECTRONICS	6	7	EE-3021/2
3	E/M WAVE PROPAGATION AND TRANSMISSION LINES	5	5,5	EE-3031/2
4	ELECTROMAGNETISM	3	4	EE-3041
5	INTRODUCTION TO MICROCONTROLLER SYSTEMS	4	4	EE-3051/2
6	STATISTICS AND THEORY OF PROBABILITIES	2	2,5	EE-3061
	TOTAL	26	30	

4th SEMESTER**Department of Electronic Engineering**

	MODULE	S	E.C.T.S.	MODULE CODE
1	MICROPROCESSORS - PROGRAMMABLE DIGITAL SYSTEMS	6	6,5	EE-4011/2
2	AUTOMATIC CONTROL SYSTEMS - I	4	6	EE-4021
3	SIGNALS AND SYSTEMS	4	6	EE-4031
4	OSCILLATOR, FILTER AND TIMER CIRCUITS	6	6,5	EE-4041/2
5	OPTOELECTRONICS	4	4	EE-4051/2
6	ELECTRONIC DESIGN AND CONSTRUCTION	2	1	EE-4061/2
	TOTAL	26	30	

5th SEMESTER

	MODULE	S	E.C.T.S.	MODULE CODE
1	TELECOMMUNICATION SYSTEMS	4	6	EE-5011
2	DIGITAL SIGNAL PROCESSING	5	5,5	EE-5021/2
3	MICROWAVES AND RF	5	5,5	EE-5031/2
4	POWER ELECTRONICS	6	6,5	EE-5041/2
5	AUTOMATIC CONTROL SYSTEMS - II	6	6,5	EE-5051/2
	TOTAL	26	30	

6th SEMESTER**Department of Electronic Engineering**

	MODULE	S	E.C.T.S.	MODULE CODE
1	MICROCONTROLLERS AND EMBEDDED SYSTEMS	5	6	EE-6011/2
2	COMPUTERS NETWORKS	4	4	EE-6021/2
3	DIGITAL COMMUNICATIONS	6	7	EE-6031/2
4a	INDUSTRIAL AUTOMATIC CONTROL	4	4	EE-6A41/2
4b	or OPTICAL COMMUNICATIONS			EE-6B41/2
5	ANTENNAS & WIRELESS LINKS	5	6	EE-6051/2
6	RESEARCH METHODOLOGY AND PRACTICES - INNOVATION	2	3	EE-6061
	TOTAL	26	30	

7th SEMESTER**Department of Electronic Engineering**

	MODULE	S	E.C.T.S.	MODULE CODE
1a	MULTIMEDIA SYSTEMS AND APPLICATIONS	4	4	EE-7A11/2
1b	or INTELLIGENT SYSTEMS			EE-7B11/2
2a	CMOS VLSI DESIGN	4	4	EE-7A21/2
2b	or NETWORK PROGRAMMING			EE-7B21/2
2c	or REGULATORY FRAMEWORK AND EMC			EE-7C21/2
3	DIGITAL IMAGE, SPEECH AND AUDIO PROCESSING	4	4	EE-7031/2
4	TELECOMMUNICATION NETWORKS	5	6,5	EE-7041/2
5	INFORMATION THEORY AND CODING	2	3	EE-7051
6a	NANOELECTRONIC DEVICES	3	4.5	EE-7A61
6b	or MOBILE COMMUNICATIONS			EE-7B61
7	SENSORS TECHNOLOGY	4	4	EE-7071/2
	TOTAL	26	30	

8th SEMESTER**Department of Electronic Engineering**

	E.C.T. S.
DISSERTATION	20
PRACTICAL TRAINING	10
<u>Total</u>	<u>240</u>



Department of Informatics Engineering

- The Syllabus of the Department aims at producing scientists in informatics, oriented to meet the needs of the market and of the society in qualified professionals with high-level knowledge, skills and experience in Information Technology as well as in Communications.
- The Department of Informatics of the T.E.I. of Athens was one of the first five Departments of Higher Education which were evaluated by external evaluators of the Hellenic quality assurance agency for higher education.

1st semester

Department of Informatics Engineering

Course title	Th	E	L	Week Duty
Introduction to Informatics	2	1	1	4
Mathematics	2	2	0	4
Linear Algebra	2	2	0	4
Computer Programming	2	2	2	6
Algorithms Design	2	2	0	6
Total	10	12		22

Th = Theory, E = Exercises, L = Laboratory

2nd Semester

Department of Informatics Engineering

Course title	Th	E	L	Week Duty
Object-oriented Programming	3	0	2	5
Probabilities and Statistics	2	2	0	4
Discrete Mathematics	3	2	0	5
Data Structures	2	2	2	6
Digital Design	2	0	2	4
Total	12	12		24

3rd Semester

Department of Informatics Engineering

Course title	Th	E	L	Week Duty
Algorithms and Complexity	3	0	2	5
Databases I	2	2	0	4
Management Information Systems	2	1	1	4
Operating Systems I	2	0	2	4
Computer Architecture	3	0	2	5
Computer Networks I	2	0	2	4
Total	13	12		25

4th semester

Department of Informatics Engineering

Course title	Th	E	L	Week Duty
Operating Systems II	2	0	2	4
Computer Networks II	3	0	2	5
Digital Systems Design	2	0	2	4
Applications Development Methodologies	3	0	2	5
Databases II	2	0	2	4
Software Engineering	2	0	2	4
Total	14	12		26

5th semester

**Department
of
Informatics
Engineering**

Course title		Th	E	L	Week Duty
Analysis and Design of Information Systems		2	0	2	4
Compilers		2	0	2	4
Introduction to Parallel Computing		2	0	2	4
Software Engineering					
Network Programming		2	0	2	4
Software Quality and Reliability		2	1	1	4
Human-Computer Interaction		2	0	2	4
Computer Engineering					
Computer Systems		2	0	2	4
Signals and Systems		2	0	2	4
Human-Computer Interaction		2	0	2	4
Network Engineering					
Network Programming		2	0	2	4
Signals and Systems		2	0	2	4
Computer Systems		2	0	2	4
Total		14	12		24

6th Semester

*For each area,
4 of the 5 courses
should be chosen:
Two of them have
to be chosen
from CS and
another two of three
from the
optional courses
which are given
by each area*

**Department
of
Informatics
Engineering**

Course title		Th	E	L	Week Duty
Security in Information Technology		3	0	2	5
Artificial Intelligence		2	0	2	4
Software Engineering					
Design and Development of Information Systems		2	1	1	4
Information Retrieval and Data Mining		2	0	2	4
Image Processing		2	0	2	4
Distributed Systems		2	1	1	4
Neural Networks		2	1	1	4
Computer Engineering					
Advanced Computer Architectures		2	1	1	4
Digital Communications		2	0	2	4
Image Processing		2	0	0	4
Embedded Systems		2	0	2	4
Distributed Systems		2	1	1	4
Network Engineering					
Network administration and security		2	0	2	4
Digital Communications		2	0	2	4
Distributed Systems		2	1	1	4
Embedded Systems		2	0	2	4
Advanced Computer Architectures		2	1	1	4
Total		13	12		25

7th semester

For each studying area six courses has to be chosen: four of them, at least, has to be from the selected area and the other two from different studying areas.

**Department of
Informatics
Engineering**

Course title		Th	E	L	Week Duty
Software Engineering					
Data retrieval		2	2	0	4
Expert Systems		2	1	1	4
Computer Graphics		2	0	2	4
Educational Technology & IT Didactics		2	2	0	4
Multimedia Technology		2	0	2	4
Electronic Commerce		2	0	2	4
Informatics and Society – Expression Techniques		2	2	0	4
Operational Research		3	2	0	5
Numerical Analysis & Applications		2	2	0	4
Computer Engineering					
VLSI Systems design		2	1	1	4
Parallel Systems		2	1	1	4
Network Programming		2	0	2	4
Multimedia Technology		2	0	2	4
Operational Research		3	2	0	5
Informatics and Society – Expression Techniques		2	2	0	4
Numerical Analysis & Applications		2	2	0	4
Network Engineering					
New Network Technologies		2	0	2	4
Mobile Communications		2	1	1	4
Human-Computer Interaction		2	0	2	4
Operational Research		3	2	0	5
Informatics and Society – Expression Techniques		2	2	0	4
Numerical Analysis & Applications		2	2	0	4
Total		12-13	12		24-25

8th semester

Department of
Informatics
Engineering

	Credit units
FINAL YEAR PROJECT	20
SIX MONTH INDUSTRIAL TRAINING	10

	Credit units
TOTAL	240



Department of Biomedical Engineering Technology

The Department of Biomedical Engineering (former Medical Instrument Technology) is developing important scientific (educational and research) activity in the internationally established and rapidly evolving field of Biomedical Engineering.

The Department participates in the framework of action "Scientific and Academic Excellence" of the Ministry of Education.

The Department has obtained a large number of research grants within various (more than 20) research projects, such as "Archimedes", "Excellence" of the GSRT, "Heraclitus", "Pythagoras", various transnational and European projects FP7, COST etc.

Members of the Department's staff are responsible for supervising post-doctoral students through post-doctoral research projects. The Department is also involved in post-graduate programs cooperating with other Greek Universities. A large number of graduates have completed post-graduate, doctoral and post-doctoral studies.

Department of Biomedical Engineering Technology

Code	1st SEMESTER	Lecture hours	Lab hours	Work load	Credit units	Division
101	GENERAL PHYSICS	4	2	210	7	A
102	ELECTRICAL CIRCUITS & MEASUREMENTS IN BIOMEDICAL TECHNOLOGY	4	3	225	7	B
103	MATHEMATICS	4		180	7	A
104	COMPUTER PROGRAMMING	3	2	150	5	A
105	TECHNICAL MECHANICS	2		90	2	B
106	CHEMISTRY	2		90	2	A

Department of Biomedical Engineering Technology

Code	2nd SEMESTER	Lecture hours	Lab hours	Work load	Credit units	Division
201	APPLIED MATHEMATICS Prerequisite: 103	4		180	7	A
202	INTRODUCTION TO ELECTRONICS	2	2	120	4	B
203	ELECTRICAL CIRCUITS WITH APPLICATIONS IN BIOMEDICAL TECHNOLOGY Prerequisite: 102	3	2	165	6	B
204	MEDICAL PHYSICS	2	2	120	4	A
205	DESIGN & MANUFACTURING OF ELECTROMECHANICAL SYSTEMS I	2	3	135	5	B
206	COMPUTATIONAL ANALYSIS OF MEDICAL AND BIOLOGICAL DATA Prerequisite: 104	2	2	120	4	A

Department of Biomedical Engineering Technology

Code	3rd SEMESTER	Lecture hours	Lab hours	Work load	Credit units	Division
301	ANALOG ELECTRONICS Prerequisite: 202	3	2	165	5	B
302	BIOCHEMISTRY	2		90	3	A
303	PROBABILITIES AND BIOSTATISTICS Prerequisite: 201	4		180	7	A
304	DESIGN & MANUFACTURING OF ELECTROMECHANICAL SYSTEMS II Prerequisite: 205	4	4	240	8	B
305	DIGITAL ELECTRONICS	4	2	210	7	B

Department of Biomedical Engineering Technology

Code	4th SEMESTER	Lecture hours	Lab hours	Work load	Credit units	Division
401	ANATOMY	2		90	4	A
402	BIOLOGY - PHYSIOLOGY	5	2	225	9	A
403	MEDICAL ELECTRONICS	3	2	165	5	B
404	MEDICAL SYSTEMS CONTROL MECHANISMS	4	3	225	7	B
405.1	MICROPROCESSORS - PROGRAMMABLE DIGITAL SYSTEMS or	3	2	165	5	B
405.2	AUTOMATION CONTROL SYSTEMS & BIOAUTOMATIONS					B

Department of Biomedical Engineering Technology

Code	5th SEMESTER	Lecture hours	Lab hours	Work load	Credit units	Division
501	TECHNICAL ENGLISH	2		90	2	A
502	BIOMEDICAL TECHNOLOGY I	4	2	210	7	A
503	MEDICAL INFORMATICS	2	2	120	4	A
504	IONIZING RADIATION: X-RAY DIAGNOSIS & RADIOTHERAPY SYSTEMS	4	2	210	7	A
505	ORGANIZATION, MANAGEMENT AND MARKETING FOR ENGINEERS	2		90	3	B
506.1	MATERIAL, BIOMATERIAL & PROSTHETICS TECHNOLOGY	3	2	165	7	A
506.2	or OPTOELECTRONICS AND MEDICAL LASERS					B

Department of Biomedical Engineering Technology

Code	6th SEMESTER	Lecture hours	Lab hours	Work load	Credit units	Division
601	BIOMEDICAL TECHNOLOGY II Prerequisite: 502	4	2	210	7	A
602	MEDICAL SIGNAL PROCESSING	3	2	165	6	B
603	IONIZING RADIATION: NUCLEAR MEDICINE SYSTEMS Prerequisite: 504	2	2	120	5	A
604	MAINTENANCE & QUALITY ASSURANCE OF MEDICAL EQUIPMENT	3	3	180	6	B
605	TELEMEDICINE & TELEINFORMATICS	3		135	4	A
606.1	NANOTECHNOLOGY AND APPLICATIONS IN MEDICINE AND BIOLOGY	2		90	2	B
606.2	or HOSPITAL ELECTROMECHANICAL INSTALLATIONS					B

Department of Biomedical Engineering Technology

Code	7th SEMESTER	Lecture hours	Lab hours	Work load	Credit units	Division
701	BIOMEDICAL TECHNOLOGY III Prerequisite: 601	4	2	210	7	A
702	MEDICAL IMAGE PROCESSING Prerequisite: 602	2	2	120	4	B
703	NON IONIZING RADIATION: MAGNETIC RESONANCE, ULTRASONOGRAPHY & OPTICAL SYSTEMS Prerequisite: 603	2	2	120	4	A
704	HOSPITAL ORGANIZATION AND OPERATION	4		180	6	A
705	PROJECT MANAGEMENT	2		90	3	B
706.1	MICROPROCESSOR BASED MEDICAL INSTRUMENTATION	3	3	180	6	B
706.2	or BIOMEDICAL DEVICES DESIGN & MANUFACTURING METHODOLOGY					B

Department of Biomedical Engineering Technology

8th SEMESTER	Credit units
FINAL YEAR PROJECT	20
SIX MONTH INDUSTRIAL TRAINING	10

	Credit units
TOTAL	240



Department of Energy Technology Engineering



Course Structure

The course structure of the department has been recently (2001) revised. The main characteristics of the course structure are the following.

All courses fall into one of two general categories: theoretical and mixed ones (consisting of lectures and laboratory sessions).

All courses are ECTS accredited in direct analogy to WL of the course. The total ECTS for each semester is 30 and for the whole course is 240.

The course of study is structured in two directions:

a) **Energy mechanical engineering** b) **Energy electrical engineering**

1st Semester						
n	Course	KC	TH	L	HT	ECTS
1	Mathematics I	O	4		4	6
2	Physics	O	3	2	5	5,5
3	Electrical Technology	O	4		4	6
4	Mechanics	O	3		3	4,5
5	Informatics	O	3	2	5	5,5
6	Engineering Drawing	O		5	5	2,5
2nd Semester						
n	Course	KC	TH	L	HT	ECTS
1	Mathematics II	O	4		4	6
2	Electrical Networks Analysis	O	4	3	7	7
3	Thermodynamics	O	4		4	6
4	Fluid Mechanics	O	4	2	6	6,5
5	Computer Programming	O	2	3	5	4,5

Abbreviation:**KC** Kind of Course (**O** Obligatory - **E** Elective)**TH** Theory**L** Lab**HT** Hours Total

Department of Energy Technology Engineering

3rd Semester						
n	Course	KC	TH	L	HT	ECTS
1	Mathematics III	O	2	1	3	3,5
2	Electric Machines	O	3	3	6	6
3	Hydrodynamic Machines	O	2	3	5	4,5
4	Heat Transfer	O	3	2	5	5,5
5	Energy Resources	O	3		3	4,5
6	Environment Protection	O	2		2	3
7	Energy Storage	O	2		2	3
4th Semester						
n	Course	KC	TH	L	HT	ECTS
1	Electric Machines II	O	4	3	7	7,5
2	Thermal Turbomachines I	O	3		3	4,5
3	Internal Combustion Engines I	O	3	2	5	5,5
4	Measurement Systems	O	3	2	5	5,5
5α	Analog & Digital Electronics	E	4	2	6	7
5β	Machining Technology & Tribology	E	5		5	7

Department of Energy Technology Engineering

5th Semester						
n	Course	KC	TH	L	HT	ECTS
1	Electric Power Generating Stations	O	4		4	5,5
2	Renewable Energy Systems I	O	3		3	4,5
3	Automatic Control Systems	O	5	2	7	7,5
4α	Electric Power Transmission & Distribution I	E	4	2	6	6,5
5α	Power Electronics	E	4	2	6	6
4β	Internal Combustion Engines II	E	4	2	6	6,5
5β	Steam Boilers	E	3	3	6	6
6th Semester						
n	Course	KC	TH	L	HT	ECTS
1	Renewable Energy Systems II	Y	3	2	5	5,5
2	Technical Legislation & Safety at Work	Y	3		3	4
3	Energy Performance of Buildings and Electromechanical Installations	Y	2		2	3
4α	Electric Power Transmission & Distribution II	E	4	3	7	7
5α	Electrical Drives	E	4	2	6	6,5
6α	Electrotechnical Materials	E	3		3	4
4β	Heating Cooling & Air-Conditioning Systems I	E	4	3	7	7
5β	Thermal Turbomachines II	E	3	2	5	5
6β	Machine Elements	E	4		4	5,5

Department of Energy Technology Engineering

7th Semester						
n	Course	KC	TH	L	HT	ECTS
1	Energy Managment	O	3		3	4
2	Energy System Optimization	O	3	2	5	5
3	Economic Analysis and Entrepreneurship	O	3		3	4
4	Cogeneration Systems	O	2		2	3
5α	Study of Energy Systems	E	3	3	6	6
6α	Electrical Installations	E	5	2	7	8
5β	Heating Cooling & Air-Conditioning Systems II	E	5	3	8	8
6β	Environment Technologies	E	5		5	6
8th Semester						
n	Course	KC	WL		ECTS	
1	Thesis Project	Y	600		20	
2	Professional Training	Y	300		10	
						Credit units
TOTAL						240



Department of Naval Architecture



The department of Naval Architecture is the only department of all Technological Educational Institutes in Greece, providing undergraduate technological education in the field of Naval Architecture.

The department aims at the dissemination of scientific knowledge and applications on modern shipbuilding technology, including design and manufacturing methodologies for ships and other marine constructions.

1st SEMESTER

	Code	Course Name	Hours/Week	Credit Units ECTS
1.	NA0201A07	Higher Mathematics II	6	8
2.	NA0202A08	Physics II	5	6
3.	NA0203B09	Mechanics II (Strength of materials)	5	7
4.	NA0204B10	Ship lines Drawing & Introduction to CASP	5	4
5.	NA0205B11	Manufacturing Processes	5	5
	TOTAL		26	30

2nd SEMESTER

	Code	Course Name	Hours/Week	Credit Units ECTS
1.	NA0101A01	Higher Mathematics I	4	6
2.	NA0102A02	Physics I	5	6
3.	NA0103A03	Mechanics I	4	6
4.	NA0104A04	Chemical Technology	4	4
5.	NA0105A05	Mechanical Eng Drawing & Introduction to MCAD	4	3
6.	NA0106B06	Computer Programming	4	5
	TOTAL		25	30



3rd SEMESTER

	Code	Course Name	Hours/Week	Credit Units ECTS
1.	NA0301A12	Applied Mathematics	5	6
2.	NA0302B13	Machine Elements	4	6
3.	NA0303B14	Fluid Mechanics I	4	6
4.	NA0304C15	Traditional Ship Design	3	3
5.	NA0305C16	Ship Welding Technology	6	5
6.	NA0306C17	Shipbuilding Materials Technology	4	4
	TOTAL		26	30

4th SEMESTER

	Code	Course Name	Hours/Week	Credit Units ECTS
1.	NA0401B18	Fluid Mechanics II	5	6
2.	NA0402B19	Thermodynamics	4	6
3.	NA0403C20	Ship Electrical Systems	4	5
4.	NA0404C21	Ship Theory I	5	6
5.	NA0405D22	Business Administration	4	4
6.	NA0406C23	Technical English	4	3
	TOTAL		26	30



5th SEMESTER

	Code	Course Name	Hours/Week	Credit Units ECTS
1.	NA0501C24	Marine Engines	5	7
2.	NA0502C25	Ship Theory II	5	7
3	NA0503C26	Computer Applications to Ship Design I	5	6
4.	NA0504C27	Ship Strength I	5	6
5.	NA0505C28	Small Craft Technology	4	4
	TOTAL		24	30



6th SEMESTER

	Code	Course Name	Hours/Week	Credit Units ECTS
1.	NA0601C29	Marine Engineering-Ship Piping Systems and Auxiliary Machinery	5	6
2.	NA0602C30	Ship Design & Outfitting I	5	6
3.	NA0603C31	Ship Strength II	4	4
4.	NA0604C32	Ship Production	4	6
5.		Selective Course (Group A)	4	4
6.		Selective Course (Group B)	4	4
	TOTAL		26	30

Selective Courses of 6th Semester (select one from each group)

	Code	Course Name	Hours/Week	Credit Units ECTS
		Group A		
5.a	NA0605C33E	Reliability of Marine Structures & Total Quality Management	4	4
5.b	NA0606C34E	Ship Automation	4	4
		Group B		
6.a	NA0607C35E	Ship Repairs, Modifications and Surveys	4	4
6.b	NA0608C36E	Shipyards Installations, Shipping Companies & Classification Societies (educational visits)	4	4



7th SEMESTER

	Code	Course Name	Hours/Week	Credit Units ECTS
1.	NA0701D37	Technical Law	4	6
2.	NA0702C38	Maritime Economics	4	6
3.	NA0703C39	Computer Applications to Ship Design II	4	4
4.	NA0704D40	Financial & Technical Analysis	4	6
5.		Selective Course (Group A)	4	4
6.		Selective Course (Group B)	4	4
	TOTAL		24	30

Selective Courses of 7th Semester (select one from each group)

	Code	Course Name	Hours/Week	Credit Units ECTS
		Group A		
5.a	NA0705C41E	Environmental Protection & Safety Issues	4	4
5.b	NA0706C42E	Knowledge Production & Technology Transfer	4	4
		Group B		
6.a	NA0708C43E	Ship Design & Outfitting II	4	4
6.b	NA0709C44E	Special Marine Constructions & Sailing Vessels	4	4



8th SEMESTER

	Code	Course Name	Credit Units ECTS
1.	NA0801TRA	Practical Training	10
2.	NA0802THE	Degree Thesis	20
	TOTAL		30

	Credit units
TOTAL	240



Department of Civil Engineering and Surveying & Geoinformatics Engineering
Degree in Civil Engineering



The department **degree** in **Civil Engineering** aims to equip students with techniques for solving various civil engineering problems and the problems on infrastructure constructions.

The undergraduate program focuses on the design, construction and management skills required by the all-round professional civil engineer.

Two **specializations** are offered: **Structural Engineering** and **Infrastructure Engineering**. Visits of industrial and construction sites are an important component of the program.

Department of Civil Engineering and Surveying & Geoinformatics Engineering
Degree in Civil Engineering

1st Semester

CSE110. Advanced Mathematics I (ects: 5)

CSE120. Physics (ects: 5)

CSE130. [Informatics & Computer Programming](#) (ects: 5)

CSE140. Basic Principles of Geodesy & Land Surveying (ects: 5)

CE150. Structural Materials Technology (ects: 4)

CE160. Statics I (Isostatic Frames) (ects: 6)

2nd Semester

CSE210. [Advanced Mathematics II](#) (ects: 6)

CE220. Hydraulics I (ects: 6)

CE230. Civil Engineering Design - CAD (ects: 5)

CE240. Engineering Geology (ects: 6)

CE250. Mechanics I (Strength of Materials) (ects: 7)



Department of Civil Engineering and Surveying & Geoinformatics Engineering
Degree in Civil Engineering

3rd Semester

CE310. Surveying - Applications (ects: 4)

CE320. Hydraulics II (ects: 7)

CE330. Mechanics II (Deformable Solid Mechanics) (ects: 6)

CE340. Mechanics III (Rigid Body Dynamics) (ects: 6)

CE350. Soil Mechanics (ects: 7)



4th Semester

CSE410. [Financial-Technical Analysis & Quality Management](#) (ects: 3)

CSE420. Technical Hydrology - Flood Control Works (ects: 5)

CSE430. Road Construction I (ects: 5)

CE440. Statics II (ects: 7)

CE450. Reinforced Concrete (ects: 6)

CE460. General Building Technology (ects: 4)

Department of Civil Engineering and Surveying & Geoinformatics Engineering
Degree in Civil Engineering

5th Semester

CE510. Reinforced Concrete Structures (ects: 6)

CE520. Steel Structures I (ects: 5)

CE530. Earthquake Engineering (ects: 7)

CE540. Foundations (ects: 7)

- *Specialization in Structural Engineering*

CSE551. Urban Planning (ects: 5)

- *Specialization in Infrastructure Engineering*

CSE552. Road Construction II (Junctions) (ects: 5)



Department of Civil Engineering and Surveying & Geoinformatics Engineering
Degree in Civil Engineering

6th Semester

CE610. [Construction Project & Site Management](#) (ects: 4)

- *Specialization in Structural Engineering*

CE621. Statics III (Arrays & Dynamic Analysis) (ects: 7)

CE631. Steel Structures II (ects: 5)

CE641. Bridge Construction (ects: 5)

CE651. Geotechnical Works (ects: 5)

CE661. Architecture (ects: 4)



- *Specialization in Infrastructure Engineering*

CE622. Roads & Airports Pavements (ects: 4)

CE632. [Mass Transit Infrastructures](#) (ects: 5)

CSE642. [Transport Systems Planning](#) (ects: 5)

CE652. Irrigation & Draining Works (ects: 3)

CE662. Coastal Engineering (ects: 3)

CE712. Technical Roadworks (ects: 6)

Department of Civil Engineering and Surveying & Geoinformatics Engineering
Degree in Civil Engineering

7th Semester

CE710. Environmental Technology - Solid Waste & Wastewater Treatment
(ects: 3)

CE720. Port Works (ects: 5)

- *Specialization in Structural Engineering*

CE731. Prestressed Concrete - Composite Structures (ects: 5)

CE741. Structural Design (ects: 5)

CE751. Repair, Strengthening & Inspection (NDT/NDE) (ects: 4)

CE761. Special Topics in Building Technology (ects: 4)

CE771. Rock Mechanics & Tunnels (ects: 4)

- *Specialization in Infrastructure Engineering*

CE732. Heavy Machinery & Construction Sites (ects: 4)

CE742. [Traffic Engineering & Road Safety](#) (ects: 7)

CE752. Urban Hydraulics Works (ects: 7)

CE562. Water Resources Management - Dams (ects: 4)



Department of Civil Engineering and Surveying & Geoinformatics Engineering
Degree in Civil Engineering

8th Semester

Practical Training (Placement) (ects: 10)

Six (6) months of practical training take place after the completion of the course, in a paid placement. The students are placed in legislated posts of the public domain or private companies or industries.

Graduation Thesis (ects: 20)

Every student has the obligation to write and submit a dissertation thesis on a subject relevant to the problems that arise in the area of his professional activity.



Department of Civil Engineering and Surveying & Geoinformatics Engineering
Degree in Surveying & Geoinformatics Engineering



Studies at the department **degree in Surveying & Geoinformatics Engineering** of TEI-A cover all topics related to the scientific disciplines and technologies of Surveying and Geodesy, Photogrammetry, Cartography and Geoinformation.

In this context, our Curriculum focuses, on one hand, on the design of surveying projects and their subsequent application in technical construction works of infrastructure, and, on the other hand, on the methods of acquisition, processing, geo-referencing, mapping, management and visualisation of quantitative and qualitative spatial information.

Department of Civil Engineering and Surveying & Geoinformatics Engineering
Degree in Surveying & Geoinformatics Engineering

1st SEMESTER		Th	LAB	ECTS
CSE110	Advanced Mathematics I	4	0	5
CSE120	Physics	4	0	5
CSE130	Informatics and Programming	3	2	5
CSE140	Basic Principles of Geodesy and Land Surveying	3	2	5
SE150	3D Space Geometry and Mapping	2	2	5
SE160	Design / CAD	2	2	5
		18	8	30

2nd SEMESTER		Th	LAB	ECTS
CSE210	Advanced Mathematics II	4	0	6
SE220	Numerical Methods & Programming Techniques	2	2	6
SE230	Surveying Instruments and Measuring Methods	2	3	6
SE240	Theory of Errors and Adjustment of Observations	3	2	6
SE250	General and Mathematical Cartography	3	2	6
		14	9	30

Department of Civil Engineering and Surveying & Geoinformatics Engineering
Degree in Surveying & Geoinformatics Engineering

3rd SEMESTER		Th	LAB	ECTS
SE310	Construction Surveying	2	3	6
SE320	Surveying Networks and Computations	2	2	6
SE330	Photogrammetry I	5	0	6
SE340	Thematic Cartography	2	2	6
SE350	Hydraulic Systems	3	2	6
		14	9	30

4th SEMESTER		Th	LAB	ECTS
CSE410	Financial-Technical Analysis & Quality Management	3	0	3
CSE420	Technical Hydrology & Flood Control Works	3	2	5
CSE430	Road Construction I	3	2	5
SE440	Geodesy	4	0	5
SE450	Photogrammetry II	3	2	6
SE460	Geographic Information Systems	3	2	6
		19	8	30

Department of Civil Engineering and Surveying & Geoinformatics Engineering
Degree in Surveying & Geoinformatics Engineering

5th SEMESTER		Th	LAB	ECTS
SE510	Satellite Surveying	2	2	5
SE520	Geodetic-Surveying Applications	3	2	5
SE530	Remote Sensing	3	2	5
SE540	GIS and Spatial Decision Making	3	2	5
CSE551	Urban Planning	2	2	5
SE560	Cadastre	4	0	5
		17	10	30

6th SEMESTER		Th	LAB	ECTS
SE610	Surveying Field Course	3	3	6
SE620	Photogrammetry III	2	2	5
SE630	Spatial analysis	2	2	5
CSE642	Transport Systems Planning	4	0	5
SE650	Database Programming	4	0	5
SE661	Navigation and Hydrography (E1)	2	2	4
SE662	Cadastre and Land Information Systems (E1)	2	2	4
		17	9	30

Department of Civil Engineering and Surveying & Geoinformatics Engineering
Degree in Surveying & Geoinformatics Engineering

7th SEMESTER		Th	LAB	ECTS
SE710	Land management and Real Estate	5	0	5
SE720	Physical Geography and Environmental Management	5	0	5
SE730	Spatial Data-Bases and Digital Cartography	3	2	5
SE741	Photogrammetric Applications (E2)	2	2	5
SE742	Spatial Planning & Regional Development (E2)	2	2	5
SE751	Advanced Geodetic Field Course (E3)	2	2	5
SE752	Analytical Methods in Geographic Information Systems (E3)	2	2	5
SE761	Special Topics of Spatial Data-Bases & System Theory (E4)	3	2	5
CSE552	Road Construction II (Junctions) (E4)	3	2	5
		20	8	30

8th SEMESTER		Th	LAB	ECTS
SE810	Diploma Thesis			20
SE820	Practical Training			10
				30

				ECTS
TOTAL				240

Thank you