

## 9. GR: Ελλάς (Greece)

### Authors\*:

Georgios TSIRIGOTIS (Technological Educational Institute of Kavala, tsirigo@teikav.edu.gr)

Giorgos PAPADOURAKIS (Technological Educational Institute of Crete, papadour@cs.teiher.gr)

\*based on the first version by Gregory Zebekakis (Technological Educational Institute of Peiraias) and dedicated to his memory.

Review: Jean-Marc THIRIET (Université Joseph Fourier, Grenoble, France)

### 9.1. General information



Higher education system in Greece consists of two types of institutes: Universities which are oriented in theory and TEI which are oriented more in practical skills. National entrance examinations are required for access. Greece's 21 University institutions and its 16 Institutions of Technological Education (TEI) are self-governing and under the supervision of the Ministry of National Education and Religious Affairs which supports them financially and is responsible for educational policy concerning them.

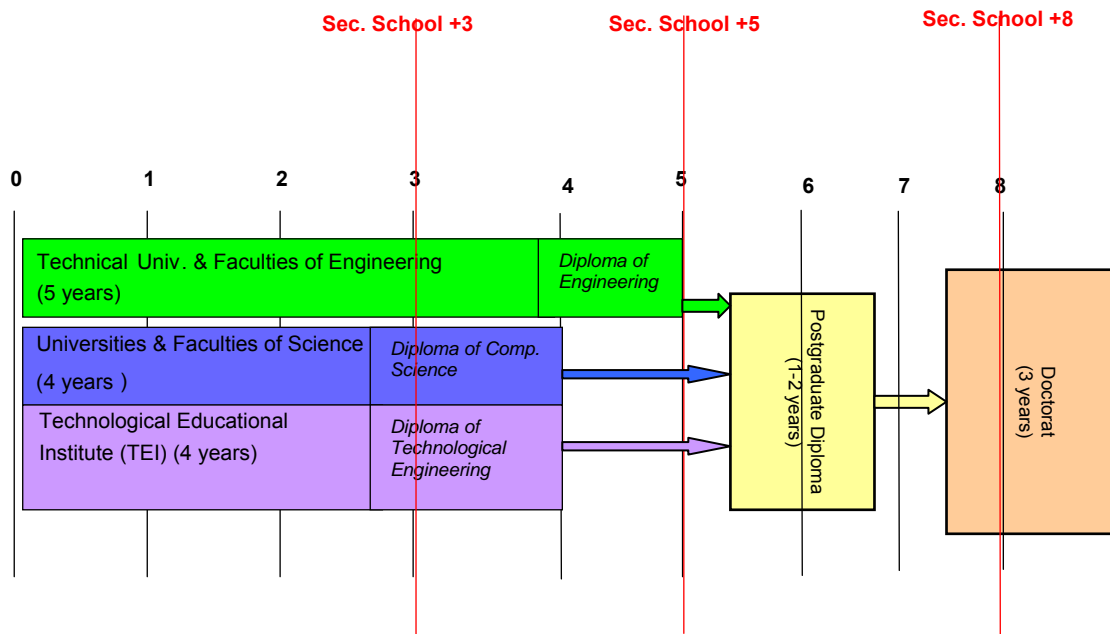


Figure 9.1: Greek Higher Education System in EIE disciplines.

Entrance requirements to the Institutions of Technological Education (TEI) are the same as for universities. Studies in TEI last for eight semesters, including the compulsory professional placement of one semester and the completion of a graduation project, and lead to the Degree of Technological Engineering. Subjects include general compulsory subjects, mandatory elective subjects and optional

subjects. The degree qualifies holders for immediate employment. It also allows them to continue their studies in a related university undergraduate course and, at postgraduate level.

Undergraduate degree programmes at universities normally last for four years (eight semesters) and lead to Degree in the relevant field. In Engineering studies last for ten semesters. The study programme contains compulsory and elective courses. Each semester, students are required to follow a number of compulsory courses consisting of the core programme and a number of elective courses. The total number of courses to be taken is decided by the respective course programme of the department. In some departments, the submission of a dissertation describing the final (graduation) project is required. For example, the 10th semester of all Engineering Departments is devoted to the preparation of a final year project and the submission of a dissertation and lead to Degree of Diploma in Engineering.

The first level of postgraduate studies, of duration of a minimum of two semesters, leads to (Postgraduate Diploma of Specialization Master Level). This study programme may be carried out and completed in a university or research institute outside Greece. The degree, however, is awarded in Greece. Furthermore, the TEI can deliver a masters program in collaboration with a Greek or foreign university. In this case the Master degree is awarded by the collaborating university.

Since 2008-09 academic year, TEI can deliver a master program, in condition to completed the evaluation procedure.

The studies for doctorate diploma, generally starts after obtaining Master degree and the duration is at least 3 years.

#### 9.1.1 *Electrical and Information Engineering in Greece, boundaries of the field of study*

There are three categories of studies dealing with the broad area of Electrical and Information Engineering in Greece.

First are the 5 year universities (Politexneia) that are producing Engineers which in most cases receive their diploma in Electrical and Computer Engineering. In this case the departments start courses with common subjects Electrical and Informatics and in the middle of the studies specializations split in Electrical or Computer Engineering.

The second category is the TEI which are producing Technical Engineers. In this category there are called Electrical, Electronic, Informatics.

The third category is the Universities that are producing scientists in the area of Informatics or Computer Science.

The main orientations of Electrical and Information Engineering specialisations are: Electrical Engineering, Automation Engineering, Telecommunications, Informatics, Computer and Electronics.

#### 9.1.2 *Content, degrees and accreditations*

Subjects taught are within the computer science, electrical and electronics fields. Subjects such as networks and telecommunications, programming languages, computer systems management,

operating systems, peripheral units, systems of development of microcomputers, systems of automatic control and digital systems, Microelectronics and Robotic systems.

Also general subjects are taught like mathematics, physics and others.

The duration of the studies is eight or ten semesters including the compulsory professional placement and the completion of a graduation project.

The Degrees of Electrical Engineers are also accredited by the Technical Chamber of Greece, only for 5 years diploma Engineers offered by universities.

### 9.1.3 Implementation of the Bologna-BMD system in Greece

All the institutes (Universities and TEI) conform in the ECTS (European Credit Transfer System) and can accept students from abroad to carry out subjects within their studies. The implementation of the courses and the operation of the institutes converge to the mean European status. Though the application of the Bologna BMD system in Greece finds some implementation difficulties and will need some time to be completed. There are departments that provide bachelor degree and the duration of studies varies from 4 years to 5 years.

## **9.2. Figures on the weight of EIE in Greece**

Following, there are 2 tables concerning the number of students that study in relevant subjects compared to the total number of students that study in each university and each TEI. These figures were given by the ministry of Education and are updated until the academic year 2005-2006.

<b>University/Department</b>	<b>Number of students in department</b>	<b>Total number of students of Institution</b>	<b>Percentage in total number of students</b>
<b>National and Kapodistrian University of Athens</b> Dept of Informatics & Telecommunications	904	33981	2,7%
<b>National Technical University of Athens</b> Dept of Electrical and Computer Science	2216	9938	22,3%
<b>Aristotle University of Thessaloniki</b> Dept of Electrical and Computer Engineering Dept of Informatics	1538 601	36945	5,8%
<b>Ionian University</b> Dept of Informatics	97	1519	6,4%
<b>University of Crete</b> Dept of Computer Science	535	7615	7%
<b>University of West Macedonia</b> Dept of Computer Engineering and Telecommunication	56	1813	3,1%
<b>University of Patras</b> Dept of Electrical and Computer	1246		

Engineering Dept of Computer Engineering and Informatics	1122	13501	17,5%
<b>University of Ioannina</b> Dept of Informatics	417	9426	4,4%
<b>Democritus University of Thrace</b> Dept of Electrical and Computer Engineering	716	11674	6,1%
<b>Technical University of Crete</b> Dept of Electronic and Computer Engineering	571	1772	32,2%
<b>University of the Aegean</b> Dept of Information & Communication Systems Engineering	352	6029	5,8%
<b>University of Thessaly</b> Dept of Computer & Communication Engineering	501	5337	9,4%
<b>University of Peloponnese</b> Dept of Computer Science and Technology Dept of Telecommunication Science and Technology	188 215	1335	30,2%
<b>University of Central Greece</b> Dept. of Informatics with application to biomedicine	139	203	68,5%
<b>TOTAL</b>	<b>11414</b>	<b>141088*</b>	<b>8,1%</b>

\*The total number refers to the number of students at all Greek Universities (some are not listed since they don't have related departments)

TEI/Department	Number of students in department	Total number of students of Institution	Percentage in total number of students
<b>Technological Educational Institute of Athens</b> Dept of Electronics Dept of Informatics	723 938	21291	7,8%
<b>Technological Educational Institute of Crete</b> Dept of Electronics Dept of Electrical Engineering Dept of Applied Informatics and Multimedia	836 633 1045	11159	22,5%
<b>Technological Educational Institute of Thessaloniki</b> Dept of Electronics Dept of Informatics Dept of Automation	580 903 571	15801	13%
<b>Technological Educational Institute of Kavala</b> Dept of Electrical Engineering Dept of Industrial Informatics	735 997	7219	24%
<b>Technological Educational Institute of West Macedonia</b> Dept of Electrical Engineering		13458	9%

EIE-Surveyor

Dept of Informatics and Computer Technology	1015 193		
<b>Technological Educational Institute of Larissa</b> Dept of Electrical Engineering Dept of Informatics and Telecommunications	682 1092	12767	13,9%
<b>Technological Educational Institute of Piraeus</b> Dept of Computer Systems Dept of Electrical Engineering Dept of Electronics Dept of Automation	833 930 679 625	8898	34,5%
<b>Technological Educational Institute of Patras</b> Dept of Electrical Engineering	1183	12311	9,6%
<b>Technological Educational Institute of Serres</b> Dept of Informatics and Communication Dept of Geoinformatics and Topography	1052 753	6285	28,7%
<b>Technological Educational Institute of Kalamata</b> Dept of Information Technology and Telecommunications	85	5051	1,7%
<b>Technological Educational Institute of Messolongh</b> Dept of Telecommunication Systems and Networks	277	5557	5%
<b>Technological Educational Institute of Chalkida</b> Dept of Electrical Engineering Dept of Automation	1072 436	5710	26,4%
<b>Technological Educational Institute of Lamia</b> Dept of Electrical Engineering Dept of Electronics Dept of Informatics and Computer Technology	806 680 916	4876	49,3%
<b>TOTAL</b>	<b>21270</b>	<b>130383 *</b>	<b>16,3%</b>

### **9.3. Degrees in EIE in Greece**

#### **9.3.1 Before bachelor (technician level)**

The Training College includes the following specialized departments: civil, mechanical, electrical and electronic engineering. Centres of Technical and Vocational Training (KETEK) offer short training courses (six to nine months) in over 20 fields. Specialized training is offered in certain areas. A recent Act of Parliament has established Institutes of Vocational Training (IEK). 14 have been set up in the major cities. They admit school leavers from Gymnasias, Technical-Vocational Schools and Lykeia. Training usually lasts for four semesters. A Certificate of Vocational Training which mentions the duration and specialization of the course is awarded following a final examination.

Technician level in Electronics: Radio and Television installations and maintenance, audio systems installation and repairs, electronic boards repair and installation, electronic appliances, automotive electronics, power electronics.

Technician level in Telecommunications: telephone systems installation and maintenance, radio communications, maritime communications, satellite communications, wireless communications, electronics.

Technician level in Automatic Control: Basic automation systems, industrial automation systems, automotive automation, marine automation systems, microcontrollers, PLCs.

#### **9.3.2 Bachelor level**

Bachelor degree programmes are designed to provide students with the knowledge and skills they will need to play a part in the future research, development and application of these technologies. The programmes are taught in Electronic, Electrical and Computer Engineering.

In the first two years students start with general topics in Mathematics and Physics learn about a range of computer programming languages, computer networks, microprocessor-based systems, electronics and systems engineering. The following years give students opportunities to study more deeply the areas that particularly interest them. They undertake a major project and study advanced technical options. Depending on which direction they choose, they can specialize in certain areas such as:

Informatics - Specialize in one of the areas of informatics or computer engineering, depending on the university or TEI taking courses such as computer systems, multimedia, artificial intelligence, pattern recognition, neural networks, human computer interaction, digital signal and speech processing, computer vision, computer security, game theory, advanced multimedia, web programming, medical informatics, FPGA design, VLSI, etc.

Electronics – Produces a multi-skilled with theoretical knowledge and practical experience

Topics: Electronics, Electrical and Electronic Principles, Experienced Methods, Engineering Applications, Systems Design, Microcontroller Systems, Power Electronics.

Telecommunications - course which will enable graduates to enter the telecommunications engineering profession. It is designed to give students a thorough understanding of the theoretical and practical aspects of telecommunications. The course will prepare for the challenge of a continually changing environment of new concepts, systems and telecommunication services.

Topics: Signals & Systems, Telecommunications networks, Analogue & Digital Electronics, Broadband Communications, Transmission Technology, Network Components, Wireless communications, Satellite Communications.

Automatic Control - The courses in Automatic Control have been developed to meet the need for professionals who are able to respond to a rapidly changing technological and commercial environment, as well as the continuing demand from industry for graduates with specialist knowledge of computer based control systems. Such systems are fundamental in our modern day way of life and arise in a variety of domestic, industrial, urban and natural environmental applications. Typical examples may be found in: aerospace, automotive and marine systems, refining, petroleum, chemical, food and pharmaceutical process industries, production lines, advanced automation, assembly and manufacturing industries, and in the optimization, logistics and scheduling of transportation systems.

Topics: Automation systems, Industrial Automation, Vehicle Automation Systems, Marine Automation Systems, Microcontrollers, PLCs, Control Systems Design and Implementation, Digital Control Systems, Industrial Control Networks, Engineering Systems Analysis, Non Linear Control Systems.

Electric Power Production – This study orientation gives to the student the knowledge in techniques of electric power production and distribution. Electrical installation, safety and international standards as well as electric motors are subjects.

Topics: Electric Power Production, Electrical Installations, Transformation, International standards, Installations safety.

### 9.3.3 Master level

There are different Master subjects around the following principal fields:

**Master in Informatics:** Information Systems, communication systems and technologies, multimedia, artificial intelligence, digital signal processing, data mining, electronic commerce, computer vision.

**Master in Electronics:** Audio Video Electronics, Power Electronics, Automotive Electronic Systems, Medical Electronic Systems, Microelectronics, Electronic Component Design.

**Master in Telecommunications:** Communication Networks, Data communications, Digital / Analog Communications, Management of Communication Networks, Telecommunication protocols, Standardisation, Telecommunications National Authorities policies and Strategies.

**Master in Automatic Control:** Industrial Automation, Aviation Automation, Marine Automation, Systems Design and Manufacturing, Telematics, Telematic Control Systems, Fuzzy Control Systems, Digital Signal Processing

#### 9.3.4 Other levels (Doctor)

The doctoral degree is conferred after the public defence of a thesis. The research must be original and show advances in research and science. A doctoral thesis requires at least three years' study since the student was admitted to doctoral studies. Students can be admitted to a doctoral research programme when they hold an undergraduate degree or Diploma or an equivalent qualification obtained abroad and recognized by DOATAP (organisation for foreign Diploma recognition). In certain university departments, students must also hold a Diploma of Postgraduate Specialization. This is the case when the department offers a postgraduate programme that is relevant to the doctoral research.

### 9.4. List of degrees

#### Before bachelor (technician level)

City	Institution	Faculty or Department
<b><i>Institutes of vocational training</i></b>		
Thessaloniki	I.E.K of Thessaloniki	<b>Department:</b> Computer engineering
Xanthi	I.E.K of Xanthi	<b>Department:</b> Computer engineering and Informatics
Karditsa	I.E.K of Karditsa	<b>Department:</b> Automation and Informatics
Volos	I.E.K of Volos	<b>Department:</b> Computer engineering
Lamia	I.E.K of Lamia	<b>Department:</b> Automation and Informatics
Patra	I.E.K of Patra	<b>Department:</b> Automation and Computer engineering
Ioannina	I.E.K of Ioannina	<b>Department:</b> Informatics
Heraklion	I.E.K of Heraklion(Crete)	<b>Department:</b> Informatics and Computer engineering
Kozani	I.E.K of Kozani	<b>Department:</b> Informatics
Veria	I.E.K of Veria	<b>Department:</b> Informatics
Ptolemaida	I.E.K of Ptolemaida	<b>Department:</b> Automation and Informatics
Larissa	I.E.K of Larissa	<b>Department:</b> Informatics



EIE-Surveyor

Kavala	I.E.K of Kavala	<b>Department:</b> Automation and Informatics
Drama	I.E.K of Drama	<b>Department:</b> Automation and Informatics
Komotini	I.E.K of Komotini	<b>Department:</b> Informatics
Orestiada	I.E.K of Orestiada	<b>Department:</b> Informatics
Argolida	I.E.K of Argolida	<b>Department:</b> Informatics
Pirgos	I.E.K of Pirgos	<b>Department:</b> Informatics
Athens	I.E.K of Alimos	<b>Department:</b> Informatics and Computer engineering
Athens	I.E.K of Galatsi	<b>Department:</b> Automation and Informatics
Athens	I.E.K of Aigaleo	<b>Department:</b> Computer engineering
Athens	I.E.K of Kalamaki	<b>Department:</b> Computer engineering
Athens	I.E.K of Pallini	<b>Department:</b> Automation and Informatics

**Bachelor level**

Undergraduate studies (Bachelor): 10 semesters OR Undergraduate studies (Bachelor): 8 semesters

City	Institution	Faculty or Department
<b><u>Universities</u></b>		
Thessaloniki	Aristotle University of Thessaloniki	<b>Faculty:</b> Polytechnic Faculty <b>Department:</b> Electrical and Computer Engineering
		<b>Faculty:</b> School of Sciences <b>Department:</b> Informatics
Xanthi	Democritus University of Thrace	<b>Faculty:</b> Polytechnic School <b>Department:</b> Electrical and Computer Engineering
Samos	Aegean University	<b>Faculty:</b> Applied Sciences <b>Department:</b> Informatics and Communication Systems Engineering
Volos	University of Thessaly	<b>Faculty:</b> Polytechnic School <b>Department:</b> Computer, Telecommunication and Network Engineering
Thessaloniki	University of Macedonia	<b>Department:</b> Applied Informatics

Patra	University of Patras	<b>Faculty:</b> Polytechnic School <b>Department:</b> Electrical and Computer Engineering
		<b>Faculty:</b> Polytechnic School <b>Department:</b> Computing and Informatics Engineering
Ioannina	University of Ioannina	<b>Faculty:</b> Applied Sciences <b>Department:</b> Informatics
Heraklion	University of Crete	<b>Faculty:</b> Applied and Technological Sciences <b>Department:</b> Computer Sciences
Heraklion	Technical University of Crete	<b>Faculty:</b> Polytechnic School <b>Department:</b> Electrical and Computer Engineering
Athens	National & Capodistrian University of Athens	<b>Faculty:</b> Applied Sciences <b>Department:</b> Informatics and Communications
Athens	Athens University of Economics and Business	<b>Department:</b> Informatics
Piraeus	University of Piraeus	<b>Department:</b> Informatics
		<b>Department:</b> Technology and Digital Systems Didactic
Athens	Harokopio University	<b>Department:</b> Informatics and Telematics
Tripoli	University of Peloponnese	<b>Department:</b> Telecommunications Science and Technology
		<b>Department:</b> Computer Science and Technology
<b><u>Technological Educational Institutes</u></b>		
Athens	Technological Educational Institute of Athens	<b>Faculty:</b> Faculty of Technological Applications <b>Department:</b> Informatics
		<b>Faculty:</b> Faculty of Technological Applications <b>Department:</b> Electronic Engineering
		<b>Faculty:</b> Faculty of Technological Applications <b>Department:</b> Energy Technology
		<b>Faculty:</b> Faculty of Technological Applications <b>Department:</b> Automation
Piraeus	Technological Educational Institute of Piraeus	<b>Faculty:</b> Faculty of Technological Applications <b>Department:</b> Electronics
		<b>Faculty:</b> Faculty of Technological Applications <b>Department:</b> Electrical Engineering
		<b>Faculty:</b> Faculty of Technological Applications <b>Department:</b> Electronic Computing Systems
		<b>Faculty:</b> Faculty of Technological Applications <b>Department:</b> Electronic Computing Systems

Arta	Technological Educational Institute of Epirus	<b>Faculty:</b> Management and Economy <b>Department:</b> Teleinformatics and Management
Thessaloniki	Technological Educational Institute of Thessaloniki	<b>Faculty:</b> of Technological Applications <b>Department:</b> Informatics
		<b>Faculty:</b> of Technological Applications <b>Department:</b> Automation
		<b>Faculty:</b> School of Technological Applications <b>Department:</b> Electronic Engineering
Kavala	Technological Educational Institute of Kavala	<b>Faculty:</b> School of Technological Applications <b>Department:</b> Industrial Informatics
		<b>Faculty:</b> School of Technological Applications <b>Department:</b> Electrical Engineering
		<b>Faculty:</b> School of Management and Economy <b>Department:</b> Information Management
		<b>Faculty:</b> School of Technological Applications <b>Department:</b> Electrical Engineering
Kozani	Technological Educational Institute of Western Macedonia	<b>Department:</b> Informatics and Computer Technology
		<b>Department:</b> Informatics Applications in Management and Economy
		<b>Faculty:</b> School of Technological Applications <b>Department:</b> Electrical Engineering
Lamia	Technological Educational Institute of Lamia	<b>Faculty:</b> School of Technological Applications <b>Department:</b> Informatics and Computer Technology
		<b>Faculty:</b> School of Technological Applications <b>Department:</b> Electrical Engineering
		<b>Faculty:</b> School of Technological Applications <b>Department:</b> Electronic Engineering
		<b>Faculty:</b> School of Technological Applications <b>Department:</b> Electrical Engineering
Larissa	Technological Educational Institute of Larissa	<b>Faculty:</b> School of Technological Applications <b>Department:</b> Informatics and Telecommunications Technology
		<b>Faculty:</b> School of Technological Applications <b>Department:</b> Electrical Engineering
Chalkida	Technological Educational Institute of Chalkida	<b>Faculty:</b> School of Technological Applications <b>Department:</b> Automation
		<b>Faculty:</b> School of Management and Economy <b>Department:</b> Informatics Applications in Management and Economy
Mesologgi	Technological Educational Institute of Mesologgi	<b>Department:</b> Telecommunication Systems and Networks
		<b>Faculty:</b> School of Technological Applications <b>Department:</b> Applied Informatics and Multimedia

EIE-Surveyor

	Crete	<p><b>Faculty:</b> School of Technological Applications <b>Department:</b> Electrical Engineering</p> <p><b>Faculty:</b> School of Technological Applications <b>Department:</b> Electronic Engineering</p> <p><b>Faculty:</b> School of Technological Applications <b>Department:</b> Telecommunication Systems and Networks</p>
Patra	Technological Educational Institute of Patra	<p><b>Faculty:</b> School of Technological Applications <b>Department:</b> Electrical Engineering</p> <p><b>Faculty:</b> School of Management and Economy <b>Department:</b> Informatics Applications in Management and Economy</p> <p><b>Faculty:</b> School of Management and Economy <b>Department:</b> Informatics and Media</p>
Serres	Technological Educational Institute of Serres	<p><b>Faculty:</b> School of Technological Applications <b>Department:</b> Informatics and Communications</p>

**Master level**

Postgraduate studies (Master): 5-6 years (Typical study program)

There are sometimes some interdepartmental post-graduate programme cooperations.

City	Institution	Faculty or Department	Degree
<b><u>Universities</u></b>			
Thessaloniki	Aristotle university of Thessaloniki	<b>Faculty:</b> Polytechnic <b>Department:</b> Electrical and Computer Engineering	M.Sc in Electrical and Computer Engineering M.Sc in Network Centred Computing M.Sc in Advanced Computing and Communications systems
		<b>Faculty:</b> School of Sciences <b>Department:</b> Physics	M.Sc in Electronic Physics (Radioelectrology)
		<b>Faculty:</b> School of Sciences <b>Department:</b> Mathematics	M.Sc in Theoretic Informatics and Control
		<b>Faculty:</b> School of Sciences <b>Department:</b> Informatics	M.Sc in Informatics and Communication Technology M.Sc in Informatics and Management M.Sc in Medical Informatics
		<b>Faculty:</b> School of sciences <b>Department:</b> Medicine	M.Sc. in Medical Informatics
Xanthi	Democritus University of Thrace	<b>Faculty:</b> faculty of Engineering <b>Department:</b> Electrical and Computer Engineering	M.Sc. in Engineering of the Department Electrical and Computer Engineering M.Sc. in Microelectronics and Informatics Technologies Systems M.Sc. in Communications and Satellite Telecommunication System Technologies
Lesvos, Chios, Samos, Syros and Rhodes	Aegean University	<b>Department:</b> Information and Communication Systems Engineering	M.Sc. in Technology and Management in Information and Communication systems
Thessaloniki	University of Macedonia	<b>Department:</b> Applied Informatics	Master's in Information Systems
			Master's in Applied Informatics
Patra	University of Patra	<b>Faculty:</b> Polytechnic <b>Department:</b> Electrical Engineering and Computer Technology	M.Sc. in Electrical Engineering and Computer Technology
		<b>Faculty:</b> Polytechnic <b>Department:</b> Computer Engineering and Informatics	MSc in Science and Computer Technology MSc in Hardware and Software Integrated Systems
		<b>Faculty:</b> Applied Sciences <b>Department:</b> Physics	M.Sc. in Physics
Ioannina	University of Ioannina	<b>Faculty:</b> Natural Sciences <b>Department of</b> Physics	M.Sc. in Applied Communications M.Sc. in Electronic Technology
		<b>Faculty:</b> Natural Sciences <b>Department of</b> Informatics	MSc in informatics

Heraklion	University of Crete	<b>Faculty:</b> School of Sciences <b>Department</b> of Physics	M.Sc. in Microelectronics and Optoelectronics M.Sc. in Advanced Physics
		<b>Faculty:</b> School of Sciences <b>Department</b> of Computer Science	M.Sc. in Information Systems M.Sc. in Computer Architecture and Digital Systems M.Sc. in Mechanical Vision and Robotics M.Sc. in Microelectronic System Architecture M.Sc. in Computer Networks and Telecommunications M.Sc. in Biomedical Informatics Technology M.Sc. in Electronic Commerce Technology M.Sc. in Multimedia
Heraklion	Technical university of Crete	<b>Department:</b> Electronics and Computer Engineering	M.Sc. in Electronics and Computer systems engineering
Athens	National & Capodistrian University of Athens	<b>Faculty:</b> School of Sciences (Interdepartmentals)	M.Sc. in Electronics, Radioelectrology and Automation M.Sc. in Logic and Theory in Algorithms Computation M.Sc. in Microelectronics M.Sc. in Medical Informatics M.Sc. in Economy and Management in Telecommunication Networks M.Sc. in Informatics Technology in Medicine and Biology
Athens	Athens University of Economics and Business	<b>Department:</b> Applied Informatics	M.Sc. in Information Systems M.Sc. in Computer Sciences
<b><u>Technological Educational Institutes</u></b>			
Athens	Technological Educational Institute of Athens	<b>Faculty:</b> Faculty of Technological Applications <b>Department:</b> Electronics	Master of Sciences in Data Communication Systems
		<b>Faculty:</b> Faculty of Technological Applications <b>Department:</b> Informatics	Master in Informatics and Sciences of Information and Communication
		<b>Faculty:</b> Faculty of Technological Applications <b>Department:</b> Energy Technology	M.Sc. in Science in Energy
Piraeus	Technological Educational Institute of Piraeus	<b>Faculty:</b> Faculty of Technological Applications <b>Department:</b> Automation	M.Sc. in Quality Management M.Sc. in Information Technology
		<b>Faculty:</b> Faculty of Technological Applications <b>Department:</b> Mathematics	M.Sc. in Electronic Commerce
		<b>Faculty:</b> Faculty of Technological Applications <b>Department:</b> Electronics	M.Sc. in <u>Networking and Data Communications</u>
Kozani	Technological Educational Institute of Western Macedonia	<b>Faculty:</b> Faculty of Technological Applications	M.Sc. in Applied Informatics M.Sc. in Mechatronics

Arta	Technological Educational Institute of Epirus		M.Sc. in Applied Telecommunications
Thessaloniki	Technological Educational Institute of Thessaloniki	<b>Faculty:</b> Faculty of Technological Applications	M.Sc. in Design of interactive and industrial products and systems
Heraklion	Technological Educational Institute of Crete	<b>Faculty:</b> Faculty of Technological Applications	M.Sc. in <u>ICS-Intensive Program in Intelligent Computer Systems</u> M.Sc. in <u>Applied Informatics &amp; Multimedia</u> M.Sc. in <u>Energy Systems</u> M.Sc. in Computer Systems - Web Development Emphasis <u>Υπολογιστικά Συστήματα με έμφαση στην Ανάπτυξη Διαδικτυακών Χώρων</u>
Larissa	Technological Educational Institute of Larissa	<b>Faculty:</b> Faculty of Technological Applications <b>Department:</b> Informatics and Telecommunication Technology	Master in Computer Science
Chalkida	Technological Educational Institute of Chalkida	<b>Faculty:</b> School of Technological Applications <b>Department:</b> Automation	Master in Automation in Irrigations, in agricultural constructions and in agriculture automatization

## 9.5. References

The information given in this monograph is based on the following documents and web links:

*Book:*

“Higher Education – Universities and Technological Educational Institutes”

Hellenic Republic, Ministry of National Education and Religious Affairs Edition 2003, Athens ISBN 960-87088-1-8

*Websites:*

Ministry of National Education and Religious Affairs: <http://www.ypepth.gr>

Euroeducation: <http://www.euroeducation.net/prof/greece.htm>



## **9.5. Doctoral Studies in Greece**

### **9.5.1. Supervision**

#### ***Scientific Board or Supervisor***

The Scientific board is composed by three members, specified by the Faculty or Department, including supervisor, where can participate external professors.

The student, in most cases, has the same personal supervisor during its Thesis work on an active research area of the supervisor.

#### ***Subject Assignment***

Subject assigned at the beginning of the doctoral studies, by agreement between the student and the supervisor.

#### ***Who can be a Supervisor***

Any professor or associate or assistant professor in the department.

#### ***Tasks of Scientific Board/Supervisor***

- |    |                                    |     |
|----|------------------------------------|-----|
| 1. | General management                 | YES |
| 2. | Deciding/advising layout of course | YES |
| 3. | Assigning a thesis subject         | YES |

#### ***Duration***

Minimum: three years.



## **9.5.2. Development**

### ***Courseware?***

Yes.

### ***Course Work***

1. The students in general have to take course work during their doctoral degree preparation and is offered as specialist graduate course units. The course work in some cases can be assessed by examinations. When it is not, it consists of personal work directly linked to the research. If the student fails in the course work, he/she can retake the exam, take a diff. course unit, or develop non-course-work activities.
2. Extension: 300 hours or more, in the first year and sometimes in the second year.
3. Credit system: It starts to adopt the ECTS. 3 to 4 credits/subject. 30 credits are allocated to course work.
4. Monitoring of the doctoral student when the course work is assessed by examinations.

### ***Contribution to Teaching***

1. Supervision of undergraduate laboratory work; tutoring of undergraduate groups; marking of undergraduate assessments/homework.
2. Supervision of final projects thesis work.

### ***Presentation of Work***

1. In the department.
2. At national conferences.
3. At international conferences.
4. At international journals.

### **9.5.3 Thesis Work**

#### **Submission of Doctoral Written Thesis**

1. Language used: Greek (in general).
2. No credits are allocated to the doctoral thesis.
3. The doctoral thesis is a dissertation. Some of this work must be published in International Scientific Congress or Journals.

#### **Oral Presentation of Thesis Work**

1. Language used: Greek (in general).
2. Oral presentation with oral examination for open audience.
3. Duration: typical duration from 1 to 2 hours including examination

### **9.5.4. Examination**

#### **Thesis Examination Board**

1. Composition: Five internal examiners and two external examiners. In totally must be seven members.
2. Selection by special scientific committee of the Department.

#### **Evaluation**

1. Results based on the reading of the thesis and the oral presentation of the thesis work, with grading system: Good, Very Good, Excellent.
2. If the student fails, he/she may resubmit a revised thesis within a few months or do further work as specified by the examination board. Normally, the Scientific Board only advises the faculty for the presentation of the thesis when she thinks the student is ready.

## 9.6. Questionnaires

### Greece

#### 3 – ACTIVITIES DURING DOCTORAL STUDIES

##### 3.1- SUPERVISION OF DOCTORAL STUDIES

<b>3.1.1</b>	Are the doctoral studies supervised by a Scientific Board/supervisor? If no, please proceed to 3.1.5.	Y
<b>3.1.2</b>	<b>How many members are in the Scientific Board?</b>	3
	<b>3 members, specified by the Faculty or Department, including supervisor, where can participate external professors.</b>	
<b>3.1.3</b>	How are the members of the Scientific Board chosen?	
<b>3.1.3.1</b>	Specified by the Faculty, Department?	Y
<b>3.1.3.2</b>	Chosen by the student?	N
<b>3.1.3.3</b>	Chosen in another way? Please specify:	N
	Professors, Associate professors or Assistant professors.	
<b>3.1.4</b>	Which are the main tasks of the Scientific Board/ Supervisor?	
<b>3.1.4.1</b>	General management of the doctoral studies.	Y
<b>3.1.4.2</b>	Deciding the layout of the course, advising the students on their coursework.	Y
<b>3.1.4.4</b>	Assigning the thesis subject.	Y
<b>3.1.4.5</b>	Other. Please specify:	
<b>3.1.5</b>	Does the student need a personal supervisor during her/his studies?	Y
<b>3.1.5.1</b>	Does the same person supervise her/his thesis work?	Y
<b>3.1.6</b>	Must the subject of the doctoral thesis be an active research area in the department?	Y

3.1- SUPERVISION OF DOCTORAL STUDIES

3.1.7 The doctoral thesis subject is normally assigned:

- 3.1.7.1 At the beginning of the doctoral studies? N
- 3.1.7.2 After a specified period of coursework? Y
- 3.1.7.3 Other. Please specify: Y

3.1.8 The thesis supervisor of a doctoral student can be:

- 3.1.8.1 Any professor or lecturer in the department? Y
- 3.1.8.2 Any researcher in the department? N
- 3.1.8.2.1 In this case, is there a need for a second supervisor who is a professor or lecturer in the department?
- 3.1.8.3 Any researcher in another institution? N
- 3.1.8.3.1 In the latter case, is there a need for an internal supervisor?
- 3.1.8.4 Other methods. Please specify: Y

3.1.9 The thesis subject is assigned by:

- 3.1.9.1 Agreement between the student and the proposed supervisor? Y
- 3.1.9.2 Other methods. Please specify: N

3.2- COURSE WORK

3.2.1 Do the students have to take coursework during their doctoral degree preparation? If no, please proceed to 3.3. Y

3.2.2 **Extension and assessment.**

3.2.2.1 What is the number of contact hours spent in coursework in each year?

Year 1	Year 2	Year 3	Year 4
312hrs	0	0	0

3.2.2.2 **In which form is this coursework offered?**

- As specialist graduate course units. Y
- As course units taken from the undergraduate programme. N
- Other. Please specify. N

3.2- COURSE WORK

**3.2.2.3** Is the coursework assessed by examinations?  
If not, please give details: Y

**3.2.3 Credit system**

**3.2.3.1** Is the coursework in your institution described by a credit system? N

**3.2.3.2** Is it the ECTS system? N  
If not, what is the relationship with ECTS?

**3.2.3.3** How many credits are allocated to coursework?

**3.2.4 Monitoring**

**3.2.4.1** Do you monitor the performance of the doctoral student taking coursework? Y

**3.2.4.2 What regulations apply in case of failure in one or more course units?**

- Retake the exam. Y

- Take a different course unit. Y

3.3- PRESENTATION OF WORK RESULTS:

**3.3.1** In the department. Y

**3.3.2** At national conferences. Y

**3.3.3** At international conferences and Journals Y<sup>1</sup>

<sup>1</sup>This point naturally should be achieved before the PhD can be passed.

3.4- CONTRIBUTION TO TEACHING:

**3.4.1** Supervision of undergraduate laboratory. Y

**3.4.2** Teaching undergraduate courses. N

**4 - AWARDING OF DOCTORAL DEGREE**

4.1- SUBMISSION OF DOCTORAL THESIS

4.1.1	Which language is normally used for the thesis?	Greek
4.1.2	Are alternative languages used for the thesis? Please Specify: <b>It could be in some specific cases (international juries, bi-national theses).</b>	Y
4.1.3	Which language is normally used for the oral presentation and/or examination?	Greek
4.1.4	Are alternative languages used in the oral presentation and examination? Please Specify: <b>It could be in some specific cases (international juries, bi-national theses).</b>	Y
4.1.5	Are credits allocated to the doctoral thesis?	N
4.1.6	<b>The doctoral thesis is:</b>	
4.1.6.1	A previously unpublished substantial written report.	Y
4.1.6.2	A collection of individual or co-authored scientific papers with an introduction and/or commentary.	N
4.1.6.3	Other. Please specify:	

4.2- THESIS EXAMINATION AND DEGREE AWARDING

4.2.1	Is there an oral presentation of the thesis work for an open audience as part of the evaluation procedure?	Y
4.2.2	Composition of the thesis examination board. Please, give the typical number of:	
4.2.2.1	Internal examiners.	5
4.2.2.2	External examiners.	2
4.2.2.3	TOTAL.	7
4.2.3	How is the examination board chosen?	
4.2.3.1	By the supervisor.	N
4.2.3.2	By the scientific committee of the institution.	Y
4.2.3.3	By the rector or equivalent.	N

4.2- THESIS EXAMINATION AND DEGREE AWARDING

<b>4.2.3.4</b>	By the national ministry.	N
<b>4.2.3.5</b>	Other. Please specify:	
<b>4.2.4</b> Do the examiners base their evaluation mark on:		
<b>4.2.4.1</b>	Reading the thesis.	Y
<b>4.2.4.2</b>	The oral presentation of the thesis work.	Y
<b>4.2.4.3</b>	Both.	Y
<b>4.2.4.4</b>	What is the typical duration of the oral part of the thesis examination, if applicable?	1 to 2 hours
<b>4.2.4.5</b>	Is there an upper limit to the duration of the thesis examination?	N <sup>4</sup>
	<b><sup>4</sup> Not formally, but there is a "tradition".</b>	
<b>4.2.5</b>	Is the oral part of the examination taken behind closed doors?	N
<b>4.2.6</b> What happens if the student fails?		
<b>4.2.6.1</b>	May not resubmit for doctorate.	5
<b>4.2.6.2</b>	May resubmit revised thesis.	Y <sup>6</sup>
<b>4.2.6.3</b>	May do further work as specified by examination board.	Y
<b>4.2.6.4</b>	If the thesis is to be re-submitted is there a time limit for this to occur? Please specify:	N
	<b><sup>5</sup> If he is allowed to proceed his oral session He never fails.</b>	
	<b><sup>6</sup> Only for the manuscript.</b>	
<b>4.2.7</b>	Is there a grading system for the doctoral degree based on the quality of the work? <b>Only with mention Good, Very Good, Excellent.</b>	Y

**GR: Ελλάς (Greece)***Universities*

<b>Town</b>	<b>Institute</b>	<b>http address</b>
Athens	National & Capodistrian University of Athens	<a href="http://www.uoa.gr/">http://www.uoa.gr/</a>
Athens	National Technical University of Athens	<a href="http://www.ntua.gr/">http://www.ntua.gr/</a>
Thessaloniki	Aristotle university of Thessaloniki	<a href="http://www.auth.gr/">http://www.auth.gr/</a>
	Ionian University	<a href="http://www.ionio.gr/">http://www.ionio.gr/</a>
Rethimnon, Heraklion	University of Crete	<a href="http://www.uoc.gr/">http://www.uoc.gr/</a>
	University of West Macedonia	<a href="http://www.uowm.gr/">http://www.uowm.gr/</a>
Patra	University of Patras	<a href="http://www.upatras.gr/">http://www.upatras.gr/</a>
Ioannina	University of Ioannina	<a href="http://www.uoi.gr/">http://www.uoi.gr/</a>
Xanthi, Alexandroupoli, Komotini	Democritus University of Thrace	<a href="http://www.duth.gr/">http://www.duth.gr/</a>
Chania	Technical University of Crete	<a href="http://www.tuc.gr/">http://www.tuc.gr/</a>
Lesvos, Chios, Samos, Syros and Rhodes	Aegean University	<a href="http://www.aegean.gr/">http://www.aegean.gr/</a>
Volos, Larissa	University of Thessaly	<a href="http://www.uth.gr/">http://www.uth.gr/</a>
Thessaloniki	University of Macedonia	<a href="http://www.uom.gr/">http://www.uom.gr/</a>

*Technological Educational Institutes*

<b>Town</b>	<b>Institute</b>	<b>http address</b>
Athens	Technological Educational Institute of Athens	<a href="http://www.teiath.gr/">http://www.teiath.gr/</a>
Piraeus	Technological Educational Institute of Piraeus	<a href="http://www.teipir.gr/">http://www.teipir.gr/</a>
Arta	Technological Educational Institute of Epirus	<a href="http://www.teiep.gr/">http://www.teiep.gr/</a>
Thessaloniki	Technological Educational Institute of Thessalonica	<a href="http://www.teithe.gr/">http://www.teithe.gr/</a>
Kavala	Technological Educational Institute of Kavala	<a href="http://www.teikav.edu.gr/">http://www.teikav.edu.gr/</a>
Kozani	Technological Educational Institute of Western Macedonia	<a href="http://www.teikoz.gr/">http://www.teikoz.gr/</a>
Lamia	Technological Educational Institute of Lamia	<a href="http://www.teilam.gr/">http://www.teilam.gr/</a>
Larissa	Technological Educational Institute of Larissa	<a href="http://www.teilar.gr/">http://www.teilar.gr/</a>
Chalkida	Technological Educational Institute of Chalkida	<a href="http://www.teihal.gr/">http://www.teihal.gr/</a>
Messolonghi	Technological Educational Institute of Mesologgi	<a href="http://www.teimes.gr/">http://www.teimes.gr/</a>
Patra	Technological Educational Institute of Patra	<a href="http://www.teipat.gr/">http://www.teipat.gr/</a>
Serres	Technological Educational Institute of Serres	<a href="http://www.teiser.gr/">http://www.teiser.gr/</a>