

COURSE OUTLINE

(1) GENERAL

SCHOOL	ENGINEERING		
ACADEMIC UNIT	ELECTRICAL AND COMPUTER ENGINEERING DEPT.		
LEVEL OF STUDIES	Undergraduate		
COURSE CODE	ECE_GE910	SEMESTER	9
COURSE TITLE	Technical legislation - Health and safety at work		
INDEPENDENT TEACHING ACTIVITIES <i>if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i>		WEEKLY TEACHING HOURS	CREDITS
Lectures/ Practical Exercises		4	
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).</i>		4	5
COURSE TYPE <i>general background, special background, specialised, general knowledge, skills development</i>	General Knowledge		
PREREQUISITE COURSES:			
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	No.		
COURSE WEBSITE (URL)	https://www.ece.uop.gr/		

(2) LEARNING OUTCOMES

<p>Learning outcomes</p> <p><i>The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.</i></p> <p><i>Consult Appendix A</i></p> <ul style="list-style-type: none"> • <i>Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area</i> • <i>Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B</i> • <i>Guidelines for writing Learning Outcomes</i>
<p>Technical legislation</p> <p>The main goal of the course is to inform and familiarize students with the current technical legislation defining technical works and particularly professional activities of electrical and computer engineers as well as to inform them about their professional rights. More specifically, the information concerns articles of the constitution, presidential proclamations, governmental decisions, laws, regulations, concerning technical matters, constructions, installations, projects etc. of engineers and particularly electrical and computer engineers. At the end of the course the student is aware of the necessary legislation, constitutional and regulatory framework that defines the Electrical & Computer</p>

Engineering profession and determines its professional rights.

Health and safety at work

The main goal of the course is to equip students with the necessary knowledge in matters of safety and health in the workplace, so that they understand the relevant requirements of the professional legislation, be in a position to apply effectively the appropriate safeguards so as to prevent workplace-related accidents and illnesses, as well as know the obligations and rights of employers and employees stemming from the relevant legislation in order to properly handle relevant situations. This way, students will be in a position to know the legal framework and where to refer to regarding important issues of safety and hygiene in the workplace.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology

Adapting to new situations

Decision-making

Working independently

Team work

Working in an international environment

Working in an interdisciplinary environment

Production of new research ideas

Project planning and management

Respect for difference and multiculturalism

Respect for the natural environment

Showing social, professional and ethical responsibility and sensitivity to gender issues

Criticism and self-criticism

Production of free, creative and inductive thinking

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Others...

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- Search, analysis and composition of data and information, by use of the necessary theoretical concepts and technologies.
- Ability to adapt to new situations
- Decision making
- Autonomous work
- Teamwork

(3) SYLLABUS

Technical legislation

The main goal of the course is to inform and familiarize students with the current technical legislation that defines and regulates technical projects & construction site works, particularly professional activities of electrical engineers of technological education, as well as to inform them about their associated professional rights.

Contents of the course:

- Introduction to the urban planning law. Fundamentals of general urban planning & construction/structural law, key elements of construction site/installation & specification studies including preparation and editing, submitting and presenting in appropriate layout.
- Classification of E/M installations, formal presentation and submission of specification requirements for E/M installations, such as power & low-voltage electrical installations, electrical transportation systems (elevators, moving sidewalks, escalators), medium and low-voltage electrical substations, heating, A/C, ventilation and fire protection systems.
- Current regulations regarding the installation and operation of building and industrial E/M systems in construction sites and facilities.
- Public tender procedures: categories, implementation framework, public proclamation preparation, terms of contracts, committees, certification, warranties, supporting documentation, technical & financial offers.
- Public works: basic legislation, planning and construction, auctions, preparation and submission of offers, warranties, supervision of works, environmental legislation.

- Professional rights of electrical engineer of technological education.
- Energy performance inspection of buildings & certification. Improving energy efficiency in buildings. KENAK - Hellenic Regulation on the Energy Performance of Buildings. Energy Inspectors.
- Hellenic Organization for Standardization (ELOT)
- Solemn declaration of Certified Electrical Installator (YDE) & re-inspection of all electrical installations according to current regulatory inspection framework.

Health and safety at work

- Introduction to safety at work: understanding of the subject, worker legislation as a prerequisite for agreement with European guidelines, the role of the state, structure and services of ministry of labor regarding the application of legislation in the work, accidents in the workplace, vocational illnesses, classification of corporations in small, medium and high risk.
- Institutional demands of agreement with safety legislation and employer health: companies (definition of safety technician, occupational doctor, composition of a written assessment of hazards, document of advice) and technical works (definition of supervising engineer, health and safety measure coordinator, disclosure of work, safety measure calendar, health and safety plan and file).
- Practical application of legislation for health and safety matters in enclosed spaces of corporations: safe electrical installation in the workplace, building safety and stability, microclimate (rooftops, floors, lighting, ventilation), active and passive fire security, chemical hazards (existence of hazardous chemical substances, safe signalization, storage), means of personal protection (necessary equipment depending on the type of labor such as helmets, special shoes and uniforms, breath protection masks, ear plugs), dealing with biological dangers (biologic cleaning spaces, landfills, hospitals) dealing with noise, safe signalization, safety exits, safe labour with mechanical equipment and protective layouts, work machines, necessary certificates, user permits, office ergonomics, virtual visualization screens, safe handling of loads with a view to avoiding musculoskeletal conditions.
- Practical application of the legislation regarding health and safety matters in technical works: avoidance of electrocution and fall from a great height, safety of excavations, safe handling of work machines on scaffolds, demarcation of construction site.
- Analysis of special health and safety matters: safety measures during the dismantling of asbestos elements, safety measures during commercial transport, sick building syndrome.
- Case study: analysis of accidents in the workplace and their causes, investigation and reporting of such accidents to responsible services.

(4) TEACHING and LEARNING METHODS - EVALUATION

<p style="text-align: center;">DELIVERY</p> <p style="text-align: center;"><i>Face-to-face, Distance learning, etc.</i></p>	<p>Face-to-face</p>	
<p style="text-align: center;">USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</p> <p style="text-align: center;"><i>Use of ICT in teaching, laboratory education, communication with students</i></p>	<p>Use of information and education technology in teaching & communication with students.</p> <ul style="list-style-type: none"> • Power Point presentations • Further educational material and associated legislation is being handed out in electronic form during the class and/or e-class • Support of the learning process through the platform e-class 	
<p style="text-align: center;">TEACHING METHODS</p> <p style="text-align: center;"><i>The manner and methods of teaching are</i></p>	<p>Activity</p>	<p>Semester workload</p>

<p><i>described in detail.</i></p> <p><i>Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.</i></p> <p><i>The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</i></p>	Lectures	4 x 13=52
	Practical examples and exercises	-
	Homework study of lectures and bibliography	70
	Final written examination	3
	Course Total	125 hours (5 ECTS)
<p>STUDENT PERFORMANCE EVALUATION</p> <p><i>Description of the evaluation procedure</i></p> <p><i>Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other</i></p> <p><i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</i></p>	<p>Language: Greek</p> <p>Evaluation:</p> <p>a) Final written exam on the theoretical part with questions regarding Technical Legislation, as well as complex problem-solving.</p> <p>b) Final written exam on the theoretical part with multiple choice questions regarding Health and safety at work.</p> <p>Final grade= (a+b)/2</p> <p>(Priorly known to students)</p>	

(5) ATTACHED BIBLIOGRAPHY

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