

## COURSE OUTLINE

### 1. GENERAL

<b>SCHOOL:</b>	Engineering		
<b>DEPARTMENT:</b>	Electrical and Computer Engineering		
<b>LEVEL OF STUDY:</b>	Undergraduate		
<b>COURSE UNIT CODE:</b>	3.006	<b>SEMESTER</b>	3 <sup>rd</sup>
<b>COURSE TITLE:</b>	Technical Drawing		
<b>COURSEWORK BREAKDOWN</b>		<b>TEACHING WEEKLY HOURS</b>	<b>ECTS Credits</b>
Theory (Lectures)		1	2
Laboratory		2	1
<b>TOTAL</b>		<b>3</b>	<b>3</b>
<b>COURSE UNIT TYPE:</b>	General knowledge / Foundational course		
<b>PREREQUISITES:</b>	No		
<b>LANGUAGE OF INSTRUCTION/EXAMS:</b>	Greek		
<b>COURSE DELIVERED TO ERASMUS STUDENTS</b>	No		
<b>COURSE WEB PAGE (URL)</b>	<a href="https://eclass.hmu.gr/courses/ECE163/">https://eclass.hmu.gr/courses/ECE163/</a>		

### 2. LEARNING OUTCOMES

<b>Learning Outcomes</b>
<p>The course "Technical Drawing" aims to give students theoretical and practical knowledge related to the main rules of technical drawing, the basic elements of mechanical drawing, as well as basic and advanced knowledge of electrical drawing. In the laboratory of the course there is a practical exercise in AutoCAD software, focusing on aspects related to basic electrical installations.</p> <p>Upon successful completion of the course, the students will be able to:</p> <ol style="list-style-type: none"> <li>1. Acquire the necessary knowledge for technical and mechanical drawing</li> <li>2. Recognize the categories, basic elements and symbols of electrical drawing</li> <li>3. Implement electrical drawings, from the design of simple electrical wiring diagrams to the preparation of a complete basic electrical installation study</li> <li>4. Create and develop mechanical and electrical drawings with the AutoCAD software</li> </ol>
<b>General Skills</b>
<ul style="list-style-type: none"> <li>• Retrieve, analyse and synthesise data and information, with the use of necessary technologies</li> <li>• Autonomous work</li> <li>• Teamwork</li> <li>• Work in an international environment</li> <li>• Project planning and management</li> <li>• Work in an interdisciplinary environment</li> </ul>

### 3. SYLLABUS

<p><u>Theory:</u></p> <ul style="list-style-type: none"> <li>• Introduction to technical drawing</li> <li>• Introduction to mechanical drawing (views, sections, dimensions)</li> <li>• Introduction to electrical drawing (categories, standards (IEC 60617), component symbols)</li> <li>• Basic elements of electrical wiring installation diagrams (wires, switches, loads, protection devices, standards (EAOT HD 384), basic architectural drawing symbols, good practice guidelines in electrical wiring installations)</li> <li>• Basic elements of automation circuits (relays, sensors, control devices, power supplies)</li> </ul>
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Laboratory (AutoCAD software):

1. Basic mechanical drawing commands
2. Elementary architectural and structural elements – building top view
3. Drawing of simple electrical wiring diagrams
4. Complex electrical wiring installation diagrams
5. Component libraries and their use
6. Finalizing AutoCAD drawing (dimensions, text, printing)
7. Introduction to 3D design

#### 4. TEACHING METHODS - ASSESSMENT

<b>MODE OF DELIVERY</b>	In-Class Face-to-Face														
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGY</b>	<ul style="list-style-type: none"><li>• Use of ICTs in lecturing</li><li>• Use of ICT in Laboratory Teaching</li><li>• Use of ICTs for the communication with students via the e-class platform</li></ul>														
<b>TEACHING ORGANIZATION</b>	<table border="1"><thead><tr><th><i>Method description/Activity</i></th><th><i>Semester Workload</i></th></tr></thead><tbody><tr><td>Lectures</td><td>20</td></tr><tr><td>Laboratory Work</td><td>20</td></tr><tr><td>Project</td><td>15</td></tr><tr><td>Written Assignments</td><td>15</td></tr><tr><td>Independent study</td><td>20</td></tr><tr><td><b>Total Contact Hours</b></td><td><b>90</b></td></tr></tbody></table>	<i>Method description/Activity</i>	<i>Semester Workload</i>	Lectures	20	Laboratory Work	20	Project	15	Written Assignments	15	Independent study	20	<b>Total Contact Hours</b>	<b>90</b>
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<b>ASSESSMENT METHODS</b>	<p><b>Assessment Language: Greek</b> All announcements for the course regulations and complementary reading material are permanently posted in the course e-class. The course grade incorporates the following evaluation procedures:</p> <p><b>Student Assessment methods</b></p> <ol style="list-style-type: none"><li>1. Written final exam (40%) which includes:<ul style="list-style-type: none"><li>• Short answer questions</li><li>• Multiple choice questions</li></ul></li><li>2. Laboratory reports and project (60%)</li></ol>														

#### 5. RECOMMENDED BIBLIOGRAPHY

*-Recommended Bibliography:*

- P. Vovos and E. Topalis, Technical Drawing for Electrical Engineers, Zitis, 2016 (in Greek).
- S. Mouroutsos and G. Malliaris, Technical Drawing: Mechanical, Electrical, Industrial Automation Design, Tsotras, 2016 (in Greek).
- E. Sarafis, S. Tsebeklis and I. Kazanidis, Technical Drawing with AutoCAD, Disigma, 2016 (in Greek).
- A. Antoniadis, Mechanical Drawing, Tziolas, 2018 (in Greek).
- V. Papamitoukas, Mechanical Drawing, University Studio Press, 2002 (in Greek).