

## COURSE OUTLINE

### 1. GENERAL

<b>FACULTY</b>	ENGINEERING TECHNOLOGY		
<b>DEPARTMENT</b>	ELECTRICAL ENGINEERING DEPARTMENT		
<b>EDUCATION LEVEL</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	<b>ZN15</b>	<b>SEMESTER</b>	<b>7<sup>TH</sup></b>
<b>COURSE TITLE</b>	<b>RESEARCH METHODOLOGY</b>		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <i>in the case of credits being awarded in distinct parts of the course eg. Lectures, Laboratory Exercises, etc. If credit units are awarded uniformly for the whole course, indicate the weekly hours of teaching and the total number of credits</i>		<b>WEEKLY COURSE HOURS</b>	<b>CREDITS</b>
Lectures and Practice Exercises, Laboratory		2	3
<i>Add rows if needed. The teaching organization and the teaching methods used are described in detail at 4.</i>			
<b>COURSE TYPE</b> <i>Background, General Knowledge, Scientific Area, Skills Development</i>	Scientific Area		
<b>PREREQUISITE COURSES:</b>			
<b>LANGUAGE OF COURSE AND EXAMINATIONS:</b>	Greek - English		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	YES		
<b>COURSE WEBPAGE (URL)</b>	<a href="http://msc.petrotech.teikav.edu.gr/">http://msc.petrotech.teikav.edu.gr/</a>		

### 2. LEARNING RESULTS

<p><b>Learning Results</b>  <i>The learning outcomes of the course describe the specific knowledge, skills and competences of an appropriate level that students will acquire after successfully completing the course. Refer to Appendix A.</i></p> <ul style="list-style-type: none"> <li>• <i>Description of the level of learning outcomes for each cycle of study according to the European Higher Education Area Qualifications Framework</i></li> <li>• <i>Descriptive Indicators of Levels 6, 7 &amp; 8 of the European Qualifications Framework for Lifelong Learning and Annex B.</i></li> <li>• <i>Curriculum Vitae Summary Guide</i></li> </ul>
<p>After completing the course, the student will be able to:</p> <ul style="list-style-type: none"> <li>• Level 1 (Knowledge): Be aware of all types of publications and their rules.</li> <li>• Level 2 (Understanding): Write scientifically, distinguishing and avoiding all types of plagiarism.</li> <li>• Level 3 (Apply) &amp; Level 4 (Analysis):             <ul style="list-style-type: none"> <li>○ Examine and correct scientific texts.</li> <li>○ Use reporting management systems</li> <li>○ Check texts for possible plagiarism.</li> </ul> </li> <li>• Level 5 (Composition): Create their own styles or modify existing ones.</li> <li>• Level 6 (Evaluation): Evaluate assignments taking into account the academic criteria of different universities across the globe.</li> </ul>
<p><b>General Abilities</b>  <i>Considering the general competencies that the graduate must have acquired (as listed in the Diploma Supplement and listed below), which one (s) is the course intended for?</i></p> <ul style="list-style-type: none"> <li>• <i>Search, analyze and synthesize data and information, using the necessary technologies</i></li> <li>• <i>Adapt to new situations</i></li> <li>• <i>Decision making</i></li> </ul>

- *Autonomous work*
- *Teamwork*
- *Work in an international environment*
- *Working in an interdisciplinary environment*
- *Production of new research ideas*
- *Design and project management*
- *Respect for diversity and multiculturalism*
- *Respect for the natural environment*
- *Demonstration of social, professional and moral responsibility and sensitivity to gender issues*
- *Exercise of criticism and self-criticism*
- *Promote free, creative and inductive thinking*

#### Abilities

- Autonomous work.
- Exercise of criticism and self-criticism.
- Promote free, creative and inductive thinking.
- Familiarity with the use of objective evaluation criteria.

### 3. COURSE CONTENT

This course teaches the student about the scientific way of research writing, using modern IT tools. In addition, it helps the student to better understand the requirements and guidelines for the preparation and critical review of a scientific publications. In particular, the thematic units that are covered are:

- Correct bibliographic review
- Types of publications
- Electronic Scientific libraries
- Smart search for scientific publications
- Report Management Systems
- Avoiding plagiarism
- Preparing an article
- Preparation of a dissertation
- Critical review of works, presentations

### 4. TEACHING AND LEARNING METHODS - EVALUATION

<b>DELIVERY METHOD</b> <i>Face to face, distance learning etc.</i>	Face to face	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in Teaching, in Laboratory Education, in Communication with Students</i>	Use of ICT Teaching (PowerPoint lectures, flash animations, videos), but also via e-class communication.	
<b>TEACHING ORGANIZATION</b> <i>Teaching methods described in detail: Lectures, Seminars, Laboratory Exercise, Field Exercise, Study &amp; Analysis of Bibliography, Tutorial, Practice (Placement), Clinical Exercise, Artistic Lab, Interactive Teaching, Educational Visits, Project Work, etc. .;</i>  <i>The student's study hours for each learning activity and the hours of non-guided study are indicated so that the total workload at the semester corresponds to the ECTS</i>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	20
	Laboratory Exercise	20
	Study & analysis of bibliography	20
	Written paper	30
	<b>Course Total</b>	<b>90</b>
<b>STUDENT EVALUATION</b> <i>Description of the evaluation process</i>  <i>Assessment Language, Assessment Methods, Formulation or Conclusion, Multiple Choice</i>	Assessment Language: Greek	

<p><i>Test, Short Response Questions, Test Questions, Problem Solving, Written Paper, Reporting, Oral Examination, Public Presentation, Laboratory Work, Clinical Patient Examination, Artistic Interpretation, Other</i></p> <p><i>Evaluation criteria are identified and examined to check if they are accessible to students.</i></p>	<p>Written Work (100%). The evaluation criteria will be made known to the students in the first lecture and are posted in the e-class.</p>
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## 5. **RECOMMENDED BIBLIOGRAPHY**

- Suggested bibliography:

1. M. Alley, *The Craft of Scientific Writing*, Springer, 1998.
2. R. Day, *Scientific English: A Guide for Scientists and Other Professionals*, Oryx Pr, 1992.