

COURSE OUTLINE: ECONOMICS OF ARTIFICIAL INTELLIGENCE

GENERAL

SCHOOL	ECONOMICS AND BUSINESS		
ACADEMIC UNIT	ECONOMICS		
LEVEL OF STUDIES	UNDERGRADUATE		
COURSE CODE	OE810	SEMESTER	8th (Major C)
COURSE TITLE	ECONOMICS OF ARTIFICIAL INTELLIGENCE		
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		3	6
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i>			
COURSE TYPE <i>general background, special background, specialized general knowledge, skills development</i>	SPECIAL BACKGROUND SPECIALISED GENERAL KNOWLEDGE		
PREREQUISITE COURSES:	NO		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	GREEK		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	YES		
COURSE WEBSITE (URL)	https://www.econ.uth.gr/		

LEARNING OUTCOMES

Learning outcomes

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.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

The course focuses on understanding the nature and characteristics of Artificial Intelligence and its development in the context of interaction with the economic sphere. The course's aim is for students to acquire the necessary knowledge to face the challenges of Artificial Intelligence in the modern economic and social environment.

After successful completion of the course students will be able to:

- Understand the basic concepts, technological features, and the significance of developments in the field of Artificial Intelligence.
- Understand the interaction of Artificial Intelligence with other technologies, especially Industry 5.0.
- Understand the economic factors that influence these developments.
- Know how to evaluate the economic magnitudes/metrics of Artificial Intelligence.
- Be able to assess the impacts of Artificial Intelligence on the economy, work, organizations, and society.
- Analyze policies and strategies for leveraging Artificial Intelligence in the context of digital and green transition.
- Have knowledge of the factors that affect the diffusion and successful adoption of Artificial Intelligence.

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?

<i>Search for, analysis and synthesis of data and information, with the use of the necessary technology</i>	<i>Project planning and management</i>
<i>Adapting to new situations</i>	<i>Respect for difference and multiculturalism</i>
<i>Decision-making</i>	<i>Respect for the natural environment</i>
<i>Working independently</i>	<i>Showing social, professional and ethical responsibility and</i>
<i>Team work</i>	<i>sensitivity to gender issues</i>
<i>Working in an international environment</i>	<i>Criticism and self-criticism</i>
<i>Working in an interdisciplinary environment</i>	<i>Production of free, creative and inductive thinking</i>
<i>Production of new research ideas</i>	<i>.....</i>
	<i>Others...</i>
	<i>.....</i>

- Search for, analysis and synthesis of data and information, with the use of the necessary technology.
- Development of critical thinking skills.
- Respect for difference and multiculturalism.
- Production of free, creative and inductive thinking.
- Team work.
- Embedding the social side of economic science.

SYLLABUS

- What AI is and how it has evolved — future development prospects
- AI in its historical context (6th Industrial Revolution and the Second Machine Age)
- AI and Industry 4.0/5.0 technologies
- AI and Work
- The geopolitics of Artificial Intelligence
- Cost factors of Artificial Intelligence
- Technological strategy for Artificial Intelligence
- Strategies and impacts of AI on health, education, manufacturing, services, etc.
- Success factors for the adoption of Artificial Intelligence
- Policies for Artificial Intelligence

TEACHING and LEARNING METHODS - EVALUATION

DELIVERY <i>Face-to-face, Distance learning, etc.</i>	Face-to-face teaching														
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i>	• Use of the e-class electronic platform to post (a) lecture materials and (b) announcements • Use of electronic media for lecture presentations (PowerPoint)														
TEACHING METHODS <i>The manner and methods of teaching are described in detail. 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. 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>	<table border="1"> <thead> <tr> <th><i>Activity</i></th><th><i>Semester workload</i></th></tr> </thead> <tbody> <tr> <td>Lectures</td><td>90</td></tr> <tr> <td>Short homework and presentations</td><td>30</td></tr> <tr> <td>Semester homework</td><td>50</td></tr> <tr> <td>Homework presentation</td><td>10</td></tr> <tr> <td></td><td></td></tr> <tr> <td>Total Course</td><td>180</td></tr> </tbody> </table>	<i>Activity</i>	<i>Semester workload</i>	Lectures	90	Short homework and presentations	30	Semester homework	50	Homework presentation	10			Total Course	180
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STUDENT PERFORMANCE EVALUATION <i>Description of the evaluation procedure</i>	Student assessment is based on group or individual assignments completed by the students. Students present two case studies or theoretical papers														

<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> <i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</i>	during the semester and submit an essay on a topic related to the course content as a final assignment. The final grade takes into account: • The written text of each assignment • The presentation of each assignment ERASMUS students follow the same assessment methods but are taught and examined in English.
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ATTACHED BIBLIOGRAPHY

- Τεχνητή Νοημοσύνη /Κωδικός Βιβλίου στον Εύδοξο: 133025916 /Έκδοση: 1η έκδ.-2023/Συγγραφείς: ΑΝΤΩΝΗΣ ΜΑΥΡΟΠΟΥΛΟΣ/ ISBN: 9789604994861/Τύπος: Βιβλίο /Διαθέτης (Εκδότης): MOTIBO ΕΚΔΟΤΙΚΗ ΑΕ - ΕΚΔΟΣΕΙΣ ΤΟΠΟΣ
- Φιλοσοφία της τεχνητής νοημοσύνης/ Κωδικός Βιβλίου στον Εύδοξο: 133032396/ Έκδοση: 1/2023/ Συγγραφείς: Γιώργος Χατζηβασιλείου/ ISBN: 9786182204757, Τύπος: Σύγγραμμα / Διαθέτης (Εκδότης): Διόπτρα.
- Η θαυμαστή εποχή της νέας τεχνολογίας. Εργασία, πρόοδος και ευημερία στα χρόνια των έξυπνων τεχνολογιών / Κωδικός Βιβλίου στον Εύδοξο: 41955675 / Έκδοση: 1/2016/ Συγγραφείς: Brynjolfsson Eric, McAfee Andrew / ISBN: 9789602189887, Τύπος: Σύγγραμμα / Διαθέτης (Εκδότης): Κριτική.
- Artificial Intelligence and the Future of Work / Κωδικός Βιβλίου στον Εύδοξο: δ.ε. /Έκδοση: 1η-2025 /Συγγραφείς: National Academies of Sciences, Engineering, and Medicine /ISBN: 978-0-309-71714-4 /Τύπος: Μελέτη διαθέσιμη ψηφιακά /Διαθέτης (Εκδότης): The National Academies Press
- The Economics of Artificial Intelligence: An Agenda / Κωδικός Βιβλίου στον Εύδοξο: δ.ε. /Έκδοση: 1η-2019 /Συγγραφείς: Ajay Agrawal, Joshua Gans, and Avi Goldfarb /ISBN: 978-0-226-61347-5 /Τύπος: Μελέτη διαθέσιμη ψηφιακά /Διαθέτης (Εκδότης): The University of Chicago Press
- Prediction Machines, Updated and Expanded: The Simple Economics of Artificial Intelligence/ Κωδικός Βιβλίου στον Εύδοξο: δ.ε. /Έκδοση: 2η-2022 /Συγγραφείς: Ajay Agrawal, Joshua Gans, and Avi Goldfarb /ISBN: 9781647824679 /Τύπος: Σκληρόδετο /Διαθέτης (Εκδότης): Harvard Business Review Press.