COURSE OUTLINE

(1) GENERAL

SCHOOL	Science and Technology
ACADEMIC UNIT	Science and Technology
PROGRAMME OF STUDIES	MSc in E-Business and Digital Marketing
LEVEL OF STUDIES	Postgraduate

COURSE CODE	EBC13	SEMESTER	1

COURSE TITLE	Data Science for Business: Theory and Practice
COURSE TYPE *Elective, compulsory*	Compulsory
INSTRUCTOR(S)	Assoc. Prof. Vassilios Peristeras

INDEPENDENT TEACHING ACTIVITIES *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*	WEEKLY TEACHING HOURS	CREDITS
	4,2	6
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

TEACHING ACTIVITIES BREAKDOWN	WEEKLY HOURS
Theory	2,3
Lab	0,7
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).	

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	General background
PREREQUISITE COURSES:	-
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	English
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://elearn-ucips.ihu.gr/

(2) 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*
On completing the course, the student will be able to: ● Understand the scope of data science and the role/function of data scientists.   ● Identify different types of data that are relevant in business environments.

- Know which data science solutions can address specific types of business problems.
- Contribute to the design of a data governance policy.
- Understand challenges and opportunity in the data-driven businesses, economy and public policy.

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	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*……*
Production of new research ideas	*Others…*
	…….

- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Decision Making
- Teamwork
- Production of free, creative, and inductive thinking

(3) SYLLABUS

The course examines the impact of data science in modern private and public organisations and presents challenges, opportunities and trends in the field. You gain the necessary conceptual understanding of the uprising "data economy" with its underlying technological and business characteristics. Business cases are presented and discussed, while specific business problems are matched with new data technologies. Data/information management and interoperability topics are also presented and discussed.

(1) Intro to Data Science for Business
(2) Important types of Data and Interoperability
(3) Data Strategy, Governance and the Data Value Chain
(4) Data-driven Organisations and Data Economy
(5) Challenges
(6) Group assignments and presentations

(7) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Hybrid: Face to face and synchronous distance learning
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	**Use of ICT in Teaching** During teaching, the material provided through the e-learning platform is utilized. The Kahoot online poll system is used to improve teacher-student interaction. Hybrid teaching method is carried out through modern lectures with the support of the Zoom teleconferencing tool. Students are taught about a range of key technologies relevant to the content and subject matter of the course. **Use of ICT in Communication with students**

	- The course material (slides, scientific articles, exercises, etc.) is posted on the course page at the e-learn platform (Moodle). - Use of Moodle Forums announcements. - Use of Kahoot for real-time polls and exercises - Live video meetings via Zoom/Teams. - Contact via email/Teams

TEACHING METHODS		
The manner and methods of teaching are described in detail. *Lectures, recitation, 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*	*Activity*	*Semester workload*
	Lectures	30 hrs.
	Lab	9 hrs.
	Group Assignment/Project	15 hrs.
	In-class Presentations	4 hrs.
	Exams	2 hrs.
	Non-Directed Study	90 hrs.
	Course total	**150 hrs.**

COURSE MATERIAL ARRANGEMENT		
	Theory/Recitation	
	Intro to Data Science for Business	1 hr.
	Important types of Data and Interoperability	5 hrs.
	Data Strategy, Governance and the Data Value Chain	3 hrs.
	Data-driven Organisations and Data Economy	4 hrs.
	Challenges	3 hrs.
	Group assignments and presentations	2 hrs.
		2 hrs.
	Lab	
	Support and guidance for group assignments	9 hrs.

STUDENT PERFORMANCE EVALUATION	
Description of the evaluation procedure *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* *Specifically-defined evaluation criteria are given, and if and where they are accessible to students*	Language of Evaluation: English Evaluation Procedure: - Written Exams (60%). Methods of evaluation: - Multiple choice questions - Group project (30%) - In-class presentation (10%) The evaluation procedure is announced to the students during the first lecture and is also accessible at the e-learn platform throughout the entire semester.

STUDENT OBLIGATIONS	
Compulsory attendance of lectures, labs, recitations, compulsory participation in midterms, exams, compulsory delivery of homework, projects, etc.	- Compulsory attendance of lectures - Optional attendance of labs - Compulsory participation in the exams - Compulsory in-class presentation - Compulsory delivery of project

(8) ATTACHED BIBLIOGRAPHY

- Suggested Textbooks
1. Data Science for Business, Foster Provost, Tom Fawcett, O'Reilly Media

- Additional Bibliography:

1. Over 100 papers, reports and references available via the elearning platform (Moodle), updated every year