UNIVERSITY OF PATRAS
ΠΑΝΕΠΙΣΤΗΜΙΟ ΠΑΤΡΩΝ
School of Economics and Business
Department of Management Science and Technology

D.I.MA
ΠΜΣ "Ψηφιακή Καινοτομία και Διοίκηση"
MSc in Digital Innovation and Management

Study Guide

(Academic Year 2023-2024)

Postgraduate studies Programme:

Digital Innovation & Management

Department of Management Science and Technology (MST) – University of Patras

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Administrative Organization & Operation of the MSc

The Department of Management Science and Technology, of the University of Patras, organizes from the Academic Year 2019-20 the Postgraduate Programme "DIGITAL INNOVATION AND MANAGEMENT".

The MSc includes the following two specializations:

1) Digital Marketing
2) e-Government

The **total duration** of the full-time programme is **three academic semesters**. The courses are taught in two academic semesters, while the last semester includes the preparation of a thesis. The **courses will be conducted** at the Department of Management Science and Technology **in Patras**, **on Friday afternoons and weekends**, taking into account the availability of the postgraduate students' employees or via a digital platform if the conditions require it. A total **tuition fee** of 3.500 euros is foreseen for the attendance of the MSc and the award of the Postgraduate Diploma, which will be paid in instalments.

Object of Studies and Aims of the Programme

The scope of the Postgraduate Studies Programme is interdisciplinary and covers the fields of Business Administration and Information and Communication Technologies.

The MSc "DIGITAL INNOVATION AND MANAGEMENT" [Master of Science (MSc)] awards two different titles, depending on the specialization that the postgraduate student has pursued in the second semester of studies:

1. Digital Innovation and Management – Digital Marketing
2. Digital Innovation and Management – e-Government

A. Digital marketing specialization

The aim of this specialization is to provide graduates with all the innovative knowledge about the modern strategies and practices applied in digital marketing and to be able to investigate, manage and analyze the needs and preferences of the large volume of consumers in order to design, implement market research and evaluate marketing campaigns, using modern digital media. With the help of neuroscience, graduates will be able to know the ways of influencing consumers, will be able to highlight and exploit innovative ideas, while at the same time they will have the appropriate cognitive background for making sound marketing decisions and all the necessary managerial and technological skills for a successful career in the field of e-business.

B. e-Government specialization

The purpose of this specialization is to provide graduates with all the necessary knowledge on the modern techniques of analysis, design, development and management of Information Systems related to Public Administration, aiming at improving the services provided, reducing costs, saving time and improving the service of citizens, companies and organizations. In addition, graduates will be equipped with all the necessary administrative and technological skills relevant to public and private sector issues.

LEARNING OUTCOMES OF GRADUATES OF BOTH SPECIALISATIONS

Ability to identify and apply:

- Ø Tools for conducting research, collecting and processing research data (google forms, survey monkey, etc., SPSS) - Installation - Importing research data
- Ø The principles of object-oriented programming and how the Internet works
- Ø The models and tools related to the analysis of the internal and external strategic environment of companies in order to create competitive advantage
- Ø The legal protection granted to digital goods and the safe conduct of online advertisements
- Ø Data Protection rules and methods (based on the new GDPR regulatory framework)

GRADUATE LEARNING OUTCOMES A) Digital marketing specialization

- Are familiar with modern e-commerce platforms
- Gain the ability to create a digital marketing strategy, design and implement a digital campaign and create a digital business model canvas
- Design a service based on User Experience (UX) models and modern quality standards such as ISO25000
- Develop marketing strategies and plans based on consumer psychology
- Build digital business websites by applying principles of digital consumer psychology
- Identify qualitative and quantitative methods for measuring consumer behaviour
- Manage systems with large volumes of data

GRADUATE LEARNING OUTCOMES B) digital governance specialization

- Understand and describe how to use eGovernment applications in areas such as digital document management, democratic processes, social networks, health and smart cities
- Know and apply the design principles of eGovernment systems
- Apply electronic project management techniques and tools
- Know good practices and representative case studies at European and international level
- Know the basic ways of attacking and defending networks and information systems
- Analyze different proposals for the implementation of basic information security techniques of a company's or organization's information systems and evaluate them
- Configure information resources according to management/administration/governance tasks
- Define stages of interoperability of digital government
- Formulate the strategic planning for the alignment of e-government initiatives
- Analyze the requirements of information systems in public administration
- Operate Enterprise Resource Management Information Systems and specifically MicrosoftDynamicsNA

Duration of Studies and Course Structure

The awarding of the MSc is possible after the completion of three (3) academic semesters, after which the postgraduate students have successfully passed the respective courses and completed the required credit units (ECTS).

In more detail, the Course Schedule for the MSc is established as follows:

Semester 1 - Compulsory Courses (Common for both specializations)

- Research Methodology and Planning of Postgraduate Thesis (DIM-101) ECTS 7
- Strategic Management of Organisations and Digital Innovation (DIM-102) ECTS 7

- Programming Technologies and Applications in Management (DIM-103) ECTS 8,5
- Legal Issues of the Information Society (DIM-104) ECTS 7,5

Semester 2 - Specialization A: DIGITAL MARKETING

- Digital marketing and Social Media (DIM-2A1) ECTS 7,5
- Digital Economy (DIM-2A2) ECTS 7,5
- Digital Consumer Behaviour (DIM-2A3) ECTS 7,5
- Software Systems for Big Data Management and Analysis (DIM-2A4) ECTS 7,5

Semester 2 - Specialization B: e-Government

- Electronic Government (DIM-2B1) ECTS 7,5
- Information Systems Security (DIM-2B2) ECTS 7,5
- Information Systems in Public Administration (DIM-2B3) ECTS 7,5
- Digital Governance and Interoperability (DIM-24B) ECTS 7,5

Semester 3

- Postgraduate Diploma Thesis (DIM-301) ECTS 30

The MSc is full-time. During the course of studies, postgraduate students, whatever specialization they choose, are required to attend. During the first two semesters they must successfully complete eight (8) courses, corresponding to a total of sixty (60) Credit Units (ECTS). The thesis corresponds to thirty (30) credits. A total of 90 credits of ECTS are required for the award of the M.Sc. degree.

Necessary Application Documents

The application is submitted electronically through the University's portal https://matrix.upatras.gr/sap/bc/webdynpro/sap/zups_pg_adm **and *must be submitted in hard copy to the Secretariat of the MSc***.

The documents that candidates must submit in paper form are as follows:

1. Certificate of grades analytically
2. Detailed CV with recent photo
3. A copy of a degree or degrees from universities or technical colleges of the Greek language or equivalent departments of similar institutions abroad. If the qualification was obtained abroad, a certificate of recognition from the Interdisciplinary Organization for the Recognition of Academic and Information Titles (I.O.R.A.I.T.) is required.

4. Scientific Publications (if available)
5. Proof of foreign language
6. Photocopy of Identity Card
7. For foreigners, documentation of knowledge of the Greek language is required
8. Certificate of computer use
9. Certificate of work experience
10. Two letters of recommendation to be submitted to the Secretariat of the Department of MST, marked on the envelope:

Department of Management Science and Technology, University of Patras, MSc in Digital Innovation and Management
Megalou Alexandrou 1, 26334, Πάτρα

Account shall be taken (optionally if available) of:

1. Other qualifications (if any)
2. Other recognized postgraduate qualifications (if any)
3. Any other document certifying the qualifications declared by the candidates when submitting the above Application Form - CV (certificates, etc.). Otherwise, the qualifications declared will not be taken into account.
4. Any other supporting documents which, in his/her opinion, would help the Evaluation Committee to form a more informed opinion

Note: All supporting documents shall be submitted in single copies in accordance with the provisions of Law No. 4250/2014, on the abolition of the obligation of certified copies, with the prescribed solemn declaration in an envelope bearing the relevant numbering.

Candidate selection criteria

50 graduates of Greek universities (University, TEI) or recognized peer institutions abroad are admitted to the MSc. Applications can be submitted by graduates of Universities and Technical Institutes of the Greek Federation, provided that they have submitted their Certificate of Completion of Studies no later than one day before the date of the meeting of the Candidate Evaluation Committee of the MSc to validate the list of successful candidates. In this case, a copy of their degree or diploma shall be submitted before the start date of the programme.

If the number of candidates is greater than 50, the selection of postgraduate students is based on the following criteria, each of which assigns a specific number of points:

1. Degree grade: rounded to the first decimal place x 4 points.
2. Recognized language certificates that certify good (B2) knowledge of the foreign (English) language (as defined by article 1 of P.D.146/2007, par.1 of article 1 of P.D.116/2006 and the A.S.E.P.: 5 points (in case there is no recognized certificate, the language proficiency is evaluated by a special examination).
3. Postgraduate degree or doctorate: 0-5 points.

4. Scientific activity of the candidate (publications in scientific journals, participation in research projects, conference presentations): 0-5 points.
5. Interview of the candidate before the Candidate Evaluation Committee: qualitative assessment: 0-35 points.
6. Previous experience in public services or organizations or in positions related to digital marketing, from 0-10 points.

The candidate's interview shall take into account:

(i) the assessment of his personality,

(ii) the assessment of his/her potential research activity,

(iii) the quality of the two letters of recommendation required.

Academic Staff of the MSc.

The MSc in Digital Innovation and Management is taught by distinguished faculty members of the Department of Management Science and Technology of the University of Patras, as well as faculty members from other departments of the University of Patras and distinguished external collaborators.

More specifically:

Full Professors

ANTONOPOULOU HERA – MANAGEMENT SCIENCE & TECHNOLOGY DEPARTMENT [hera@upatras.gr]

Hera Antonopoulou holds a BSc. in Mathematics from Department of Mathematics and PhD. from Department of Computer Engineering & Informatics of the University of Patras in Greece. Since 2019, is a Full Professor in the Department of Management Science and Technology of the University of Patras. Also, is Director of the Laboratory of Entrepreneurship and Digital Innovation with the acronym E.D.I. Lab (International title: Entrepreneurship & Digital Innovation Lab). Regarding administrative positions, she was Vice-President of the Technological Educational Institute (TEI) of Patras, Chairman of the Research Committee of the same institution and also Deputy Rector of Academic Affairs of Technological Educational Institute of Western Greece. Her Academic experience is long lasting in Higher Education at Undergraduate and Postgraduate Level. As far as her research interests are concerned, these are: Mathematical Logic, ICT in Education, Online learning platforms, Learning Theories, Adult and Lifelong education, Intersection of Technology and Learning, Protection of Individual Privacy in the Information Society, Programming & Applications in various fields of knowledge as well as in business and education, issues of Organizational Behavior Management and Leadership in Business Administration. Additionally, she has published over 100 original publications in international journals and conferences and has authored 5 books.

GARBIS ARISTOGIANNIS - MANAGEMENT SCIENCE & TECHNOLOGY DEPARTMENT [agarbis@upatras.gr]

Dr. Aristogiannis Garmpis is a Professor in the Department of Management Science and Technology at the University of Patras, Greece, specialized in operating systems, and designing interactive information systems. He holds a Ph.D. in applied informatics from London South Bank University, London and a Master's degree in Computing and Information Systems from the University of Greenwich, London. He is a graduate of the Mathematics department of the National & Kapodistrian University of Athens, Greece and director of the research laboratory "Data Science – DataLab".

His primary research interests include Information Systems, Operating Systems, E-Learning, Internet Programming, Data Mining, and Interactive Information Systems Design, for which he has published several papers in scientific international journals and Conferences. He has also authored three books and a chapter in book.

He is a reviewer of international journals and conferences and a member of editorial advisory board and his research work has many citations. He has done several research projects and is actively involved in scientific associations. He has extensive academic teaching experience at both Undergraduate and Postgraduate level, at Universities in Greece or abroad under the Erasmus+ program.

Former Head of the "Management Science and Technology" Department of University of Patras, Greece. He has served also as head both at "Business Administration" department in Messolonghi, Greece, and "Applied Informatics in Management and Economy" department of former TEI of Western Greece, Vice-President of the Research Committee of former TEI of Western Greece as well as Vice-President of former Technological Educational Institute (TEI) of Messolonghi, Greece.

SPIROS SIOUTAS – COMPUTER ENGINEERING & INFORMATICS DEPARTMENT [sioutas@ceid.upatras.gr]

SPYROS SIOUTAS is a Full Professor of "Data Structures and Software Systems for Big Data Management" in Computer Engineering and Informatics Department (CEID) (School of Engineering, University of Patras) and Head of "Information Systems and Artificial Intelligence" Lab in the Computer Software Division of the same department. His current research interests include: Algorithmic Data Management, Database systems, Big Data Systems, Large Scale Machine Learning and Cloud Data Engineering, Indexing, Query Processing and Query Optimization. He has published over 220 papers in various high quality scientific journals and refereed conferences (amongst others SIGMOD, SODA, PODC, SIGKDD, CIKM, ESA, ICALP, CCGRID, ICDT/EDBT, SIGMOD Record, Algorithmica, Theoretical Computer Science, Computer Journal, Data and Knowledge Engineering, Journal of Discrete Algorithms, Distributed and Parallel Databases, Journal of Systems and Software, Knowledge and Information Systems, Information Science, ACM Computing Reviews, TLDKS) and he has more than 2500 citations. He served as editor, chair and invited speaker in more than 40 scientific and prestigious journals, conferences and international technological forums.

He has 25 years working experience as a Developer, Software Tester, Database Administrator and Project Manager at Computer Technology Institute (Research Unit 5), MMLab (https://mmlab.ceid.upatras.gr/en/), ISD Lab (http://di.ionio.gr/isdlab/) and ML@Cloud Lab (https://www.ceid.upatras.gr/en/research/labs/laboratory-large-scale-machine-learning-and-cloud-data-engineeringy).

YANNIS STAMATIOU – DEPARTMENT OF BUSINESS ADMINISTRATION [stamatiu@ceid.upatras.gr]

Yannis Stamatiou graduated from the University of Patras, Department of Computer Engineering and Informatics and is currently Professor at the Business Administration Department of the same University. He also holds an MSc on Distant Learning from the Greek Open University. His interests lie in cryptography, modeling of computer viruses/worms in computer networks, cryptanalysis and ICT security with a focus on eGovernment and Educational applications. Moreover, he studies how new technologies, such as the Internet of Things and Artificial Intelligence, can lead to the creation of secure and effective Immersive Learning environments. Finally, he has developed several software applications based on Deep Learning algorithms for the study of the behavior of aggregate parameters of the student population of Primary and Secondary Education in Greece as a consultant of the Computer Technology Institute and Press in Patras, Greece.

PAVLOS PEPPAS – ELECTRICAL & COMPUTER ENGINEERING DEPARTMENT [pavlos@upatras.gr]

Pavlos Pippas graduated from the Department of Computer and Information Technology of the University of Patras in 1988. He received his PhD degree from the University of Sydney in 1994, with a thesis on Knowledge Representation and Logic. From 1993 to 1999 he worked at Macquarie University, first as a Lecturer and then as a Senior Lecturer. He was then employed at Intrasoft, and later at AIT (Athens Information Technology) as Senior Scientist. In 2003 he was appointed at the University of Patras as Associate Professor in the Department of Business Administration, and became Professor in 2013 in the same department. In 2021 he moved to the Department of Electrical Engineering and Computer Technology. Alongside his employment at the University of Patras, for some years Pavlos Pippas also worked seasonally as a Professor at the University of Technology Sydney. His research interests are in the field of Artificial Intelligence, and in particular in the area of Knowledge Representation and Logic where he has been active for more than 30 years. He has published numerous articles in international journals and conferences, participated in the organization of leading conferences such as IJCAI, AAAI, ECAI, KR, etc., in various roles (PC member, Senior PC member, Local Arrangement Chair, Area Chair), and since 2021 he is a member of the Steering Committee of Principles of Knowledge Representation and Reasoning, Incorporated (KR Inc.). Pavlos Pippas maintains a close research relationship with the Board of Directors of the Research Council of the European Union, the Steering Committee of the Research Council of KR, Inc.

Associate Professors

GEORGIADOU NIKI - MANAGEMENT SCIENCE & TECHNOLOGY DEPARTMENT [ngeorgiadou@upatras.gr]

Dr. Niki's Georgiadou research interests focus on topics such as internet legal issues, personal data protection, labor relations in the digital environment, digital governance regulation. Some of her research is indicated below:

1. (2019) Facebook as a means of evidence in civil litigation and the concerns arising from the rights of privacy and personal data protection, DEN 2019, p. 304. [In Greek].
2. (2020) Dignity in the workplace: The aspect of moral harassment and concerns about the adequacy of Greek legislation. Global Journal of Politics and Law Research. Vol.8, No.5, pp.59-72, September 2020.
3. (2021) the protection of personal data in schools, Academia Edu. [In Greek].
4. (2023) Standby periods as working time in the view of European Directives 2003/88/EC and (EU) 2019/1152, Global Journal of Politics and Law Research Vol.11, No.5, pp.1-7, 2023. DOI: https://doi.org/10.37745/gjplr.2013/vol11n517
5. (2023) Measurement of Working Time in Telecommuting, International Journal of Management Technology, 10 (1), 59-69. DOI: https://doi.org/10.37745/ijmt.2013
6. (2024) Processing of big data in education: Challenges, risks and legal protection framework. First International Scientific Conference on Innovation and Education. March 2024. (Presentation accepted).

PIERRAKEAS CHRISTOS - MANAGEMENT SCIENCE & TECHNOLOGY DEPARTMENT [pierrakeas@upatras.gr]

Brief Curriculum Vitae: Ass Professor, Dr Christos J. Pierrakeas

Christos Pierrakeas holds a BSc in Mathematics (1986) and a PhD in Medical Informatics (1994) from the University of Patras, Greece. He also holds two Postgraduate Certificates in 'Open and Distance Learning' and 'Adults Education' from the Hellenic Open University (HOU). He is currently, Associate Professor of Design, Analysis, and Development of Information Technologies with emphasis on Educational Technology, with the University of Patras at the Department of Management Science & Technology and Tutor with the Hellenic Open University at the Department of Informatics (since 2000).

His research interests include: Educational technology, applications of new ICT technologies in education, applications of innovative technologies in education (e-learning systems, tools, techniques, methodologies, applications in MOOC, STEM / STEM education, etc.), digital competences development (tools, techniques, applications, methodologies), development and evaluation of educational material and educational processes, user modeling and learning analytics, design and development of information (and educational information) systems, and distance education.

He has participated as researcher / project coordinator in more than 40 National and European R&D projects. He has co-authored 3 books and over 60 papers in international journals and conferences and he has more than 2000 citations on his published work (https://scholar.google.com/citations?user=d5ybCLIAAAAJ&hl=en). He is member of Hellenic Mathematics Society and Hellenic AI Society.

For more information on published work/reports see also:
https://scholar.google.com/citations?user=d5ybCLIAAAAJ&hl=en

Assistant Professors

GIANNOUKOU IOANNA - MANAGEMENT SCIENCE & TECHNOLOGY DEPARTMENT [igian@upatras.gr]

Ioanna Giannoukou is an Assistant Professor of Strategic Development and Operation of Hospitality Enterprises at the Department of Management Science and Technology of the University of Patras. She graduated from the Department of Business Administration of the University of Patras. She holds Master Degree from Cass Business School, City University London and from the Hellenic Open University. She received her PhD in Strategic Management of International Business from the Department of Business Administration of the University of Patras. She has taught Business Management, Total Quality Management, Business Strategy and Entrepreneurship at the former TEI of Western Greece and Business Administration at the Department of Computer Engineering and Informatics of the University of Patras. She is an Associate Teaching Staff at the Hellenic Open University where she teaches at undergraduate and postgraduate level. She has significant research activity in National and mainly International Research Programs through the University of Patras, former TEI of Western Greece and former TEI of Epirus and ITYE "Diofantos". She has published her work in International Scientific Journals and has given presentations in International and Greek Conferences. Her scientific interests are in strategic business development, entrepreneurship and international business.

THANASAS L. GEORGIOS - MANAGEMENT SCIENCE & TECHNOLOGY DEPARTMENT [thanasasgeo@upatras.gr]

Georgios L. Thanasas is currently an Assistant Professor of Accounting at Dept. of Management Science and Technology (University of Patras) and Director of MSc Programme entitled "Tax and Financial Services Digital Transformation". He had studied Accounting at TEI of W. Macedonia, Business Administration at TEI of West Greece and he had attended the department of Accounting and Finance of Athens University of Economics and Business. He holds an MBA form University of Patras and an MSc in Conflicts Management from National and Kapodestrian University of Athens. He has a PhD from the Department of Business Administration (University of Patras) in fields of Accounting with specialization in Managerial Accounting.

He has worked in ERT SA as an Accountant and he was up until now a Customs Officer at Interdependent Authority For Public Revenues in Greece. Moreover, he has been teaching at undergraduate and postgraduate programmes in several universities of Greece. His research activity is published in international journals and conferences, while he is a reviewer in international journals.

The research interests of Dr Thanasas are focused on Cost Accounting, Managerial Accounting, Financial Analysis, Business Analytics, Business Bankruptcy, Corporate Governance and Business Diversity.

GIOTOPOULOS KONSTANTINOS - MANAGEMENT SCIENCE & TECHNOLOGY DEPARTMENT [kgiotop@upatras.gr]

Dr. Konstantinos C. Giotopoulos is Assistant Professor on "Management Information Systems in Administration and Economy" at the Department of Management Science and Technology, School of Economics and Business at the University of Patras.

Education

- **BSc in Computer Engineering and Informatics** (1999, University of Patras)
- **Postgraduate Diploma in Computer Science and Technology** (2002, Thesis: "Using Evolutionary Methods to Optimize the Student Model Finding Process")
- **Ph.D. in Computer Engineering and Informatics** (2007, Dissertation: "Intelligent Agents in Virtual Learning Environments")

Research Interests

Dr. Giotopoulos focuses on several cutting-edge domains within computer science and information systems. His primary interests include:

- **Digital Transformation of Businesses:** Specializing in the integration of advanced technologies such as AI, IoT, and cloud computing to streamline operations, enhance customer experience, and drive innovative business models.
- **Artificial Intelligence and Machine Learning:** Specializing in the development and application of AI and ML algorithms in various sectors.
- **Data Science and Big Data Analytics:** Exploring innovative methods for data clustering, analysis, and interpretation in large datasets.
- **Information Systems in Business and Management:** Investigating the role of information systems in enhancing business processes and decision-making.
- **E-Government and Digital Transformation:** Researching the impact of digital technologies on government processes and public services.

Professional Experience

- **IT Research and Development Engineer** (2000-2004): Involved in European Commission co-financed IST Projects.
- **Project Manager** (2004-2013): Led Regional Development projects co-financed by the European Commission across various regional organizations in Western Greece.
- **General Manager** (2011-2013): Prefectural Development Company of the Region of Western Greece, overseeing company-wide co-financed projects.
- **Scientific Consultant** (Since 2014): Chamber of Achaia, managing all EU Projects.

Teaching Experience

- **Assistant Professor** (Current): Department of Management Science and Technology, University of Patras. Subjects: Management Information Systems, ERP, CRM, E-Business, Databases, AI, Computational Intelligence.
- **Postgraduate Courses** (Current): "Interoperability and e-governance" in Master's "Digital Innovation and Management" and "Digital Transformation of Accounting" in Master's "Digital Transformation of Tax and Financial Services".

Publications

Dr. Giotopoulos has published several research papers in international scientific journals and at international scientific conferences (all peer-reviewed). Indicative list:

- Giotopoulos, K.C.; Karras, A.; Karras, C.; Avlonitis, M.; Sioutas, S. Consensus Big Data Clustering for Bayesian Mixture Models. Algorithms 2023, 16, 245. https://doi.org/10.3390/a16050245
- Giotopoulos, K.C.; Michalopoulos, D.; Karras, A.; Karras, C.; Sioutas, S. Modelling and Analysis of Neuro Fuzzy Employee Ranking System in the Public Sector. Algorithms 2023, 16, 151. https://doi.org/10.3390/a16030151

Additional Information

More information about Dr. Giotopoulos can be found at:

- https://www.dept.upatras.gr/en/faculty-members/konstantinos-giotopoulos/
- https://scholar.google.com/citations?hl=en&user=CLFE9sAAAAAJ
- https://www.scopus.com/authid/detail.uri?authorId=6507690329

PAPADOPOULOS DIMITRIOS - MANAGEMENT SCIENCE & TECHNOLOGY DEPARTMENT [dimfpap@upatras.gr]

Dimitris Papadopoulos is an Assistant Professor in the Department of Management Science and Technology, University of Patras. He holds a PhD from the Department of Computer Science and

Technology, University of Peloponnese in the scientific area of Computational Methods – Numerical Analysis. His research interests include education technology, STEM education, evaluation of technology use in education, numerical methods, and ANN. Since 2008 he worked as an adjunct professor in the Technological Educational Institute of Western Greece (lecturer of various subjects such as Information Systems, Forecasting Techniques and Applications of New Information Technologies (ICT) in Educational Practice and Educational Administration). He has also participated in several research programmes (e.g., Technological and Business innovation services to stimulate the local Agro-food ecosystems and to support a Cross Border Collaboration among Local Action Groups, CYBEREMA - Development and Commercialization of Cyber Metering Technology for Energy Management). Furthermore, during his academic career, he was member of the organizing committee in several conferences, and he was also a member of the Greek Operational Research Society.

In his research activity, publications in international journals and international conferences are included, while he is a reviewer for international journals of recognized standing.

Indicative publications and citations - references listed in the following link: http://scholar.google.gr/citations?user=CthH5ZwAAAAJ&hl=el

RIGOU MARIA - MANAGEMENT SCIENCE & TECHNOLOGY DEPARTMENT [rigou@upatras.gr]

Maria Rigou was elected Assistant Professor at the Department of Management Science and Technology at the University of Patras in 2019 (discipline: "Analysis, Design and Mining Techniques for Web Applications"). She holds a Diploma in Computer Engineering and Informatics (1997, University of Patras, School of Engineering), an MSc in Computer Science (2000, Dept. of Computer Engineering and Informatics, thesis: "Interactive Systems Evaluation"), a Ph.D. in Computer Science (2005, Dept. of Computer Engineering and Informatics, dissertation: "Effective Algorithms for Web Personalization based on Web Mining") and a Master in Arts (2011, Hellenic Open University, School of Humanitarian Studies, "Graphic Arts-Multimedia", thesis: "Learning and Entertainment by Casual Gaming"). She has taught courses at undergraduate and postgraduate levels, including Software Design, Object-oriented Programmeming, Databases, Human-Computer Interaction, IT Project Management, eGovernment, and e-Business. She has been a tutor at the Hellenic Open University for more than 15 years (Postgraduate Programmeme in Information Systems, "Software Design and Management" course). She has over 18 years of experience designing, developing and technically managing national and international R&D IT projects. Her research interests lie primarily in the fields of web applications with an emphasis on web mining techniques, digital marketing technology and interaction design, where she has a significant number of publications in international journals, books, and conference proceedings.

Webpage: https://dept.upatras.gr/en/maria-rigou/
Google Scholar profile: https://scholar.google.com/citations?user=tMwtXM0AAAAJ
ORCID: https://orcid.org/0000-0003-3743-3777

Indicative recent publications

Scientific journals

Leonardou, A., Rigou, M., Panagiotarou, A., & Garofalakis, J. (2021). The case of a multiplication skills game: Teachers' viewpoint on MG's dashboard and OSLM features. Computers, 10(5), 65.

Balaskas, S., & Rigou, M. (2021). Effect of Personality Traits on Banner Advertisement Recognition. Information, 12(11), 464.

Mallas, A., Rigou, M., & Xenos, M. (2022). Comparing the Performance and Evaluation of Computer Experts and Farmers when Operating Agricultural Robots: A Case of Tangible vs Mouse-Based UIs. Human Behavior and Emerging Technologies, 2022.

Leonardou, A., Rigou, M., Panagiotarou, A., & Garofalakis, J. (2022). Effect of OSLM features and gamification motivators on motivation in DGBL: pupils' viewpoint. Smart Learning Environments, 9(1), 1-26.

Balaskas, S., Panagiotarou, A., & Rigou, M. (2022). The Influence of Trustworthiness and Technology

Acceptance Factors on the Usage of e-Government Services during COVID-19: A Case Study of Post COVID-19 Greece. Administrative Sciences, 12(4), 129.
Balaskas, S.; Panagiotarou, A.; Rigou, M. (2023). Impact of Personality Traits on Small Charitable Donations: The Role of Altruism and Attitude towards an Advertisement. Societies, 13, 144. https://doi.org/10.3390/soc13060144
Balaskas, S.; Panagiotarou, A.; Rigou, M. (2023). Impact of Environmental Concern, Emotional Appeals, and Attitude toward the Advertisement on the Intention to Buy Green Products: The Case of Younger Consumer Audiences. Sustainability, 15, 13204. https://doi.org/10.3390/su151713204
Sofronas, D.; Margounakis, D.; Rigou, M.; Tambouris, E.; Pachidis, T. (2023). SQMetrics: An Educational Software Quality Assessment Tool for Java. Knowledge, 3, 557-599. https://doi.org/10.3390/knowledge3040036
Balaskas, S.; Koutroumani, M.; Komis, K.; Rigou, M. FinTech Services Adoption in Greece: The Roles of Trust, Government Support, and Technology Acceptance Factors. FinTech 2024, 3, 83-101. https://doi.org/10.3390/fintech3010006
Balaskas, S.; Zotos, C.; Koutroumani, M.; Rigou, M. Effectiveness of GBL in the Engagement, Motivation, and Satisfaction of 6th Grade Pupils: A Kahoot! Approach. Educ. Sci. 2023, 13, 1214. https://doi.org/10.3390/educsci13121214

Conference proceedings

Zacharopoulos, E., & Rigou, M. (2021, December). "Measuring personal branding in social media: a tool for visualizing influence". In 2021 International Conference on Electrical, Computer and Energy Technologies (ICECET) (pp. 1-6). IEEE.
Dimitrios, Krallis, Stefanos, Balaskas and Maria, Rigou. 2022. Flat vs Skeuomorphic Design for Smart Home Devices: An Exploratory Eye-Tracking Study. In 26th Pan-Hellenic Conference on Informatics PCI 2022), November 25-27, 2022, Athens, Greece. ACM, New York, NY, USA, 11 Pages. https://doi.org/10.1145/3575879.3575965
M. Katsis, P. Papadatos, M. Rigou, S. Sirmakessis and D. Vossos, "Harnessing Skills for Sustainable Development: A Skills Matchmaking System for Smart Cities, Green Energy, Blue Economy and Precision Agriculture," 2023 International Conference on Control, Artificial Intelligence, Robotics & Optimization (ICCAIRO), Crete, Greece, 2023, pp. 86-93, doi: 10.1109/ICCAIRO58903.2023.00021.
M. Katsis, P. Papadatos, M. Rigou, S. Sirmakessis and D. Vossos, "Skills matching to support Europe's Blue Economy Skills Passport," 2023 3rd International Conference on Electrical, Computer, Communications and Mechatronics Engineering (ICECCME), Tenerife, Canary Islands, Spain, 2023, pp. 1-6, doi: 10.1109/ICECCME57830.2023.10253415.
Koutroumani, M., Balaskas, S., Leonardou, A., & Rigou, M. (2023, September). An Eye-Tracking Study of GBL Motivators and Learner Behavior. In European Conference on Games Based Learning (Vol. 17, No. 1, pp. 344-350).
Stefanos Balaskas, Maria Rigou (2023). The effects of emotional appeals on visual behavior in the context of green advertisements: An exploratory eye-tracking study. In 27th Pan-Hellenic Conference on Informatics (PCI 2023), November 25-27, 2022, Athens, Greece. ACM, New York, NY, USA, in press.

HALKIOPOULOS CONSTANTINOS - MANAGEMENT SCIENCE & TECHNOLOGY DEPARTMENT [halkion@upatras.gr]

Constantinos Halkiopoulos is an Assistant Professor (Data Mining with Application in Marketing) in the Department of Management Science and Technology at the University of Patras in Greece. He has a University Degree in Mathematics (BSc) and expertise in the Information Technology field. He has a postgraduate degree (MSc) majoring in «Mathematics of Computers and Decision-Making» and «Mathematics Foundations of Computer Science and Applications on Artificial Conclusion Drawing and Decision-Making» from the Interdepartmental Postgraduate Studies Programme of the Mathematics Department and the Department of Computer Science and Engineering of the University of Patras. He also holds an MEd in «Leadership and Management in Education» from the School of Education, the University of Rome «Roma TRE» He is a doctor (Ph.D.) in the Department of Mathematics and Computer Engineering

& Informatics of the University of Patras. He is also a member of the Entrepreneurship and Digital Innovation Laboratory (EDILAB) of the Department of Management Science and Technology at the University of Patras, Greece. His scientific and research interests lie in the fields of Artificial Intelligence and Neural Networks, Expert Machines, and Intelligence Knowledge Systems, as well as Data Mining with applications in Computer Vision, such as Image Recognition, in Marketing and utilization of Psychometric Tools for Behavioral Data Analysis, with an emphasis on fields such as Digital Marketing, Neuromarketing, Neuroeducation, Neuroimaging Methods, Gamification, and Cognitive Science. He has professional and research experience in developing and managing multimedia applications and developing integrated electronic content management platforms utilizing Semantic Web technologies, Relational Database Management Systems (RDBMS), and Convolutional Neural Networks (CNN) for use in Decision-making Support Tools.

External Collaborators

THEODORAKOPOULOS LEONIDAS – ADJUNCT PROFESSOR, MANAGEMENT SCIENCE & TECHNOLOGY DEPARTMENT [theodleo@upatras.gr]

Leonidas Theodorakopoulos is a graduate in Computer Engineering, holds a Master's Degree in Education Administration, and has been awarded a PhD from the Department of Business Administration of the University of Patras with the thesis title "Big Data Analysis in Humanities and Economics with Machine Learning techniques and use of Cloud Computing Technologies". He is also a member of the Entrepreneurship and Digital Innovation Laboratory [EDILAB] of the Department of Management Science and Technology. His research interests include: Big Data Analysis, Machine Learning, Information Retrieval, Big Data Analysis in Financial Databases, Internet Technologies and Applications, Distributed Computing Systems. His research work is reflected in publications in international journals and conferences in lists relevant to his field.

Tuition Fees

With the start of the MSc in October 2023, a total tuition fee of 3,500 euros is foreseen for attending and obtaining the postgraduate diploma, which will be paid in instalments according to the following:

- Pre-payment of 1.000€ upon registration.
- 1.000€ paid at the end of the first semester.
- At the end of the second semester, the following are paid upon approval of the thesis 1.500€.

Tuition fees will be deposited in a bank account of the Research Committee of the Foundation and the respective receipt will be presented to the Secretariat of the MSc.

Scholarships

Scholarships are available under Law 4957/2022 (141/A/21-07-2022). The purpose of the scholarships is to reward and motivate students of the programme to achieve improved performance.

Benefits to Students

Postgraduate students, who have no other medical and hospital care, are entitled to full medical and hospital care in the National Health System (NHS) with coverage of the relevant costs by the National Organization for Health Services (E.O.P.Y.Y.).

In addition, postgraduate students are entitled to use the University's sports facilities (for more information, click on http://gym.upatras.gr/), the Foreign Language Teaching Centre (for more information, click on http://languages.upatras.gr/el) and to become members of various student clubs and cultural groups of the University of Patras. Finally, by registering for the MSc, students can access various services of the University of Patras through the Upnet ID account. In particular, these services are the following:

3. Academic E-mail (Email)
4. Virtual Private Network (VPN)
5. Wireless Internet Access (Eduroam)
6. Microsoft Imagine
7. IBM SPSS Statistics software
8. Microsoft Office 365 Education
9. Google Apps for Education
10. Academic Repository (Nemertes)
11. Online file saving service (Pithos+)
12. Virtual machine services (VM)
13. ArcGIS software
14. Helpdesk (Alma)

SEMESTER 1

Research Methodology and Planning of Postgraduate Thesis (DIM-101)

COURSE OUTLINE

1. GENERAL

SCHOOL	ECONOMICS AND BUSINESS								
ACADEMIC UNIT	MANAGEMENT SCIENCE AND TECHNOLOGY								
LEVEL OF STUDIES	POST-GRADUATE								
COURSE CODE	DIM-101	**SEMESTER**	1st	2nd	3rd	4th	5th	6th	7th	8th
			x							
COURSE TITLE	Research Methodology and Planning of Postgraduate Thesis								

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**
Lec: Lectures, Lab: Laboratory exercises	3(Lec)	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*	Specialised general knowledge
PREREQUISITE COURSES:	Not required
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek (including English bibliography)
IS THE COURSE OFFERED TO ERASMUS STUDENTS	No
COURSE WEBSITE (URL)	https://eclass.upatras.gr/courses/MST170/

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*

The course Research Methodology and Planning of Postgraduate Thesis, aims to present research methodology issues and refers to concepts and characteristics of scientific research. After successful completion of the course, students are expected to be able to:

- know the basic concepts and characteristics of scientific research.
- understand the types of research, to distinguish the types of research, to know the phases, models and stages of scientific research and to choose the most appropriate ones for his research.
- be aware of and integrate research ethics issues into his research.

- understand the process of choosing a topic and method for his research.
- carry out bibliographic research.
- understand the process of determining the purpose and selecting research questions and hypotheses.
- select the correct sample and carry out a sampling process.
- know and use the appropriate means for research data collection.
- know and use the appropriate tools for conducting research, collecting, and processing research data.
- extract descriptive results of a survey using SPSS.
- implement reliability and validity checks using SPSS to evaluate their research and results.
- extract inductive results of a survey using SPSS.
- interpret research results and derive, evaluate, and interpret research conclusions.
- design and implement a postgraduate thesis.

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
- Working independently
- Team work
- Working in an interdisciplinary environment
- Project planning and management
- Project planning and management
- Respect for difference and multiculturalism
- Showing social, professional and ethical responsibility and sensitivity to gender issues
- Production of free, creative and inductive thinking

3. SYLLABUS

The course Research Methodology and Planning of Postgraduate Thesis aims to present research methodology issues and refers to concepts and characteristics of scientific research. It describes the research process, its methods, and parameters such as general methodological approaches, techniques, tools, means, materials while at the same time selected examples and exercises are implemented through the statistical package SPSS. Also, the course presents methods and practices for Designing a Master's Thesis. The course is designed to contain both theoretical presentation and selected applications of the subjects it deals with. In more detail it contains:

1. Basic concepts and characteristics of scientific research, Research process - methods.
2. Types of research, Distinguishing types of research, Phases – Models and stages of scientific research – Ethics of research – Plagiarism.
3. Research / topic selection, Research categories – Method selection – Literature review – Bibliographic references.
4. Research design of a postgraduate thesis: Research problem, determination of the purpose, research questions and hypotheses.
5. Population – Sample – Sampling process
6. Research data collection tools (questionnaire, interview, etc.). Categorization of questions, Qualitative -

Quantitative data, Coding.
7. Tools for conducting research, collecting, and processing research data (google forms, survey monkey, etc., SPSS)
8. Tools for conducting research, collecting, and processing research data (google forms, survey monkey, etc., SPSS) – Installation – Importing research data.
9. Research results – Descriptive statistics – Application through SPSS.
10. Research results - The concepts of reliability and validity in the quantitative and qualitative research and results – Application through SPSS
11. Research results – Inductive statistics (Relationships, Correlations / Parametric, Non-parametric tests).
12. Research results – Inductive statistics (Relationships, Correlations / Parametric, Non-parametric tests) – Application through SPSS.
13. Interpretation of research results and conclusions – Writing the Master Thesis – Publication of results.

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face to face	x
	Distance learning (asynchronous)	
	Distance learning (synchronous)	
	Others:	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	Slides	x
	E-class	x
	Virtual (simulated) laboratory training	x

TEACHING METHODS *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*	***Activity***	***Semester workload***
	Lectures	39
	Tutorials	
	Laboratory Practice	
	Essay writing	
	Seminars	
	Projects	
	Study and analysis of bibliography	26
	Placements	
	Clinical practice	
	Art workshop	
	Interactive teaching	
	Educational visits	
	Artistic creativity	
	Independent study	110
	Other:	
	Total number of hours for the Course (25 hours of work-load per ECTS credit)	**175 hours (total student work-load)**

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*	Written work, essay/report		
	Problem solving		
	Multiple choice questionnaires		
	Final exam with Multiple choice questionnaires		

Specifically-defined evaluation criteria are given, and if and where they are accessible to students.	Oral examination			
	Project			
	Mid-term exam (concluding)			
	Final exam with developing questions	X	100%	
	Public presentation			
	Mid-term exam (formative)			
	Laboratory work			
	Written work, essay/report			

5. ATTACHED BIBLIOGRAPHY

Books in Greek

- Μεθοδολογία Έρευνας και Εισαγωγή στη Στατιστική Ανάλυση Δεδομένων με το IBM SPSS Statistics, Χαλικιάς Μιλτιάδης, Μανωλέσσου Αλεξάνδρα, Λάλου Παναγιώτα, (2015), ISBN: 978-960-603-123-6, Εκδόσεις ΣΕΑΒ, Ελληνικά Ακαδημαϊκά Ηλεκτρονικά Συγγράμματα και Βοηθήματα (www. kallipos .gr).
- Μεθοδολογία της Έρευνας στις Επιστήμες Υγείας, (2015), Λαγουμιντζής Γεώργιος, Βλαχόπουλος Γεώργιος, Κουτσογιάννης Κωνσταντίνος, ISBN: 978-960-603-223-3, Εκδόσεις ΣΕΑΒ, Ελληνικά Ακαδημαϊκά Ηλεκτρονικά Συγγράμματα και Βοηθήματα (www. kallipos .gr).
- Μεθοδολογία Έρευνας στην Οδοντική Τεχνολογία, (2015), Προμπονάς Αντώνης, ISBN: 978-960-603-432-9, Εκδόσεις ΣΕΑΒ, Ελληνικά Ακαδημαϊκά Ηλεκτρονικά Συγγράμματα και Βοηθήματα (www. kallipos .gr).
- Cohen L, Manion L. & Morrison K. (2007). Μεθοδολογία Εκπαιδευτικής Έρευνας. ISBN: 978-960-455-284-9, Αθήνα: Μεταίχμιο.
- Το εκπαιδευτικό λογισμικό και η αξιολόγησή του, (2003), Παναγιωτακόπουλος Χ., Πιερρακέας Χ., Πιντέλας Π., ISBN 978-960-375-579-1, Εκδόσεις Μεταίχμιο.

Books in English

- Creswell, J. W. (2012, 2008, 2005, 2002). Educational research: Planning, conducting, and evaluating quantitative. ISBN 978-013-136-739-5, Upper Saddle River, N.J: Pearson/Merrill Prentice Hall.

Strategic Management of Organisations and Digital Innovation

COURSE OUTLINE

1. GENERAL

SCHOOL	ECONOMICS AND BUSINESS		
ACADEMIC UNIT	DEPARTMENT OF MANAGEMENT SCIENCE AND TECHNOLOGY		
LEVEL OF STUDIES	MASTER		
COURSE CODE	DIM -102	**SEMESTER**	A'
COURSE TITLE	Strategic Management of Organizations and Digital Innovation		

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**
Lectures	3	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*	Specialized general knowledge
PREREQUISITE COURSES:	No prerequisite courses
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek (including English bibliography)
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://eclass.upatras.gr/courses/MST169/

6. 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*

This course draws examples from large and small Greek and international businesses to introduce students to the theory and practice of strategic thinking. At the same time it familiarizes them with the relevant tools for understanding the internal and external environment of an enterprise, the developing a competitive advantage and innovation management.

The objectives of the course are:

- understanding the terms strategic, strategic management and innovation
- familiarity with the application of models and tools for the analysis of the internal and external strategic environment of enterprises, with the aim of creating a competitive advantage,
- the cultivation of students' strategic thinking by presenting and analyzing examples of business placement and strategy from a large number of Greek and international companies,
- the presentation and discussion of the benefits of the various development and consolidation strategies, and
- the analysis of implementation and evaluation issues of strategic organizations in the private and non-profit sector.

At the end of this course, the student will be able to:

- understand the key visions of strategy and innovation,

- identify factors and resources that lead to competitive business activity,
- analyze strategically the external and internal environment of an organization,
- recognize and analyze the advantages of strategies to achieve a competitive advantage.

Student will have developed the following skills:

- Formulation and theoretical analysis of general strategic problems,
- Analyze the nature of competition within the industry and identify factors that determine the degree of attractiveness,
- Assessing the competitive advantage of an organization,
- Theoretical interpretation of general business strategies.
- Understanding the concepts of innovation and their management.

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…*
	……

- Adapting to new situations
- Decision-making
- Working independently
- Team work
- Working in an interdisciplinary environment
- Working in an international environment

7. SYLLABUS

The course examines a set of concepts, frameworks, methods and tools, from the strategy formation of a business to its realization. It also aims at acquiring application skills of concepts and tools. It refers to both theories that have developed in the field and business practices with examples from the Greek and international spheres. The aim is to understand the strategic issues in the complex processes that take place in the business environment. Specifically:

- Introduction to the strategy. Conceptual approaches, and documentation of necessity, modern concepts of strategy.
- Strategic goals, strategic levels, corporate strategies, competitiveness strategies.
- Analysis of the wider-macro of the external environment.
- Analysis of the competitive environment of the company, structural analysis of competition, analysis of strategic groups - determination of competitive position.
- Strategic analysis of the indoor environment - resource and competence analysis, "value chain".
- Corporate mission-vision, formulation of effective strategic intent.
- Porter's general business strategies.
- Strategies to achieve a competitive advantage.
- Implementation and evaluation of strategy.
- Innovation Management.

8. TEACHING and LEARNING METHODS - EVALUATION

<table>
<tr><td>DELIVERY
Face-to-face, Distance learning, etc.</td><td>Face-to-face, Distance learning</td></tr>
<tr><td>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
Use of ICT in teaching, laboratory education, communication with students</td><td>ICT is used for communicating with students and for sharing educational material, mainly through the eclass platform (announcements, lecture slides and additional educational resources, posting and receiving projects and assignments, students groups, for a, email, exercises, glossary, multimedia resources), as well as via typical email.</td></tr>
<tr><td>TEACHING METHODS
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</td><td>
<table>
<tr><th>Activity</th><th>Semester workload</th></tr>
<tr><td>Lectures</td><td>65</td></tr>
<tr><td>Essay writing</td><td>20</td></tr>
<tr><td>Study and analysis of bibliography</td><td>20</td></tr>
<tr><td>Unsupervised study</td><td>20</td></tr>
<tr><td></td><td></td></tr>
<tr><td></td><td></td></tr>
<tr><td></td><td></td></tr>
<tr><td></td><td></td></tr>
<tr><td></td><td></td></tr>
<tr><td>Course total</td><td>125</td></tr>
</table>
</td></tr>
<tr><td>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.</td><td>• Written examination (70% of the final grade)
• Essay (written report with oral examination, 30% of final grade)</td></tr>
</table>

9. ATTACHED BIBLIOGRAPHY

- *E-class notes.*

- *Books and relevant articles:*

Papadakis, V. (2016). Business Strategy: Hellenic and International Experience, Volume I: Theory, Athensy, Mpenou Publications (7th Edition).
Thompson.,A, Strickland III., A.J. & Gamble, J.E. (2010). Σχεδιασμός & Υλοποίηση Επιχειρησιακής Στρατηγικής: Η Αναζήτηση Ανταγωνιστικού Πλεονεκτήματος. Αθήνα, Εκδόσεις Utopia.
Porter, M (1996). What is Strategy? Harvard Business Review. 74(3), November-December, 61-78.
Porter, Michael E. (1987): "From competitive advantage to corporate strategy." Harvard Business Review, 65(3):43-59.
Bowman, E., & Helfat C. (2001). Does Corporate Strategy Matter?. Strategic Management Journal, 22, 1-23.
Wu, Q., He, Q., Duan, Y., & N. O'Regan (2012). Implementing Dynamic Capabilities for Corporate Strategic Change Toward Sustainability. Strategic Change, 21, 231-247.
Tsoukas, H. and E. Vladimirou (2001).'What is organisational knowledge?', Journal of Management Studies 38(7), pp.974–93.
Hitt, M., D.R., Ireland and R.E. Hoskisson (2013). Strategic Management: Competitiveness and Globalization, South-Western Cengage Learning, 10th edition.
Grant, R.M .(2010). Contemporary Strategy Analysis, Blackwell Publishing, seventh edition.
Hill, C. and G. Jones (2012). Strategic Management Theory: An Integrated Approach, South-Western Cengage

Learning, 10th edition.
Johnson G., R. Whittington and K. Scholes (2011). Exploring Strategy: Text and Cases, Prentice Hall, 9th edition.
Thompson, A.A., M.A. Peteraf, J.E. Gamble and A.J. Strickland III (2012). Crafting and Executing Strategy: Concepts and Readings, 18th edition, McGraw-Hill Irwin.
Lynch R. (2012). Strategic Management, Pearson, 6th Edition.
David, F.R. (2013). Strategic Management, Pearson, 14th Edition.
Wheelen, T.L. and D.J. Hunger (2012). Strategic Management and Business Policy: Toward Global Sustainability, 13th Edition, Pearson.
Pearce J. II and R. Robinson (2012). Strategic Management: Planning for Domestic and Global Competition, 13th Edition, Pearson.
Markides, C. (2008). Game-Changing Strategies, Jossey-Bass.
Markides C. (2000). All the Right Moves: A Guide to Crafting Breakthrough Strategy, Boston, Harvard Business School Press.

Programming Technologies and Applications in Management

COURSE OUTLINE

1. GENERAL

SCHOOL	ECONOMICS AND BUSINESS			
ACADEMIC UNIT	DEPARTMENT OF MANAGEMENT SCIENCE AND TECHNOLOGY			
LEVEL OF STUDIES	POSTGRAGUATE			
COURSE CODE	DIM-103	**SEMESTER**	1st	
COURSE TITLE	PROGRAMMING TECHNOLOGIES AND APPLICATIONS IN MANAGEMENT			
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**
L: lectures			3 (L)	8,5
Lab: laboratory exercises			2 (Lab)	
Ex: demonstrated exercises				
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*	Specialized general knowledge			
PREREQUISITE COURSES:	None			
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek			
IS THE COURSE OFFERED TO ERASMUS STUDENTS	No			
COURSE WEBSITE (URL)	http://dima.upatras.gr/			

1. 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*

This course examines the basic principles of object-oriented programming (with the use of Java), and Internet-related technologies, with the aim of providing practical skills for use in Management.

Upon completion of this course, students will have an understanding of:

- the core syntax of the Java programming language
- the way basic algorithms can be implemented in Java
- the principles of object-oriented programming
- the basics of the operation of the Internet
- introductory concepts of HTML and CSS

Moreover, at the lab of the course the students will be exposed to:

- Content Management Systems (CMS), related tools, and their extension.
- introductory aspects of PHP and MySQL.

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	*Others*
Production of new research ideas	

Upon completion of this course, students will be able to:

- Solve small programming problems and implement the solution in Java.
- Develop statics (and to some extend) dynamic websites
- Design and develop small application with CMS tools.

2. SYLLABUS

The course includes the following topics:

- introduction to object-oriented programming.
- data types in Java
- basic Java statements (assignment, control, and loop statements)
- arrays in Java
- classes, objects, and methods in Java
- basic algorithms in Java
- introduction to the Internet, its operation
- introduction to HTML and CSS

Moreover the syllabus of the course's lab includes:

- introduction to Content Management Systems (CMS)
- CMS tools (Joomla, Worldpress or Drupal) and their extensions, modules, plugins, and templates.
- introduction to PHP and MySQL.

3. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	• Face-to-face • Distance learning (synchronous) • Face-to-face with concurrent broadcasting via an electronic platform for students wishing to attend remotely.
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	• Slides • eclass
TEACHING METHODS *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	
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.*	• Final exam with multiple choice questionnaires or developing questions (or a combination of the two) and/or project • Oral examination (in special cases) • Distance/Online examination if a face-to-face classroom exam is not possible.

Activity	*Semester workload*
Lectures	39
Laboratory	26
Private study	60
Course total	***125***

4. ATTACHED BIBLIOGRAPHY

Suggested bibliography:

- Y. Liang, "Introduction to Java Programming, Brief Version", 11th edition, 2017.
- C. Rafe, J. Kyrnin, L. Lemay, “Πλήρες Εγχειρίδιο HTML 5, CSS και JavaScript”, Εκδόσεις Γκιούρδας & ΣΙΑ,2016.
- iCode Academy, “Programming: Python Programming, JAVA Programming, HTML and CSS Programming for Beginners", 2017.

LEGAL ISSUES OF THE INFORMATION SOCIETY

COURSE OUTLINE

10. GENERAL

SCHOOL	ECONOMICS AND BUSINESS		
ACADEMIC UNIT	MANAGEMENT SCIENCE AND TECHNOLOGY		
LEVEL OF STUDIES	POSTGRADUATE		
COURSE CODE	DIM-104	SEMESTER	**1**
COURSE TITLE	LEGAL ISSUES OF THE INFORMATION SOCIETY		

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**
Lectures	3	7,5
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).	3	

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Specialised general knowledge
PREREQUISITE COURSES:	Not required
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek (including English bibliography)
IS THE COURSE OFFERED TO ERASMUS STUDENTS	No
COURSE WEBSITE (URL)	https://eclass.upatras.gr/courses/MST166/

11. 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 presents the rules governing the information society, from the viewpoint of private, commercial, public and criminal law.

Upon completion of the course, students will be able to:

- understand the legal framework that governs the use of the internet in the whole range of private activity (e-commerce, e-contracts, and e-advertisements).
- be aware of the procedures and appropriate actions required for successful electronic transactions.
- be aware of the risks involved in the use of the internet and the means of protection from them.
- obtain knowledge about the legal protection provided to digital goods (software, databases, multimedia, websites, digital works, etc.) based on intellectual and industrial property law.
- realize the conditions, limitations and safe conduct of online purchases with respect to the consumer.
- get to know electronic governance (electronic documents, electronic signatures).
- realize the need to protect personal data based on the new GDPR regulatory framework.
- be aware of the impact of technology and robotics on the organization of work.
- be introduced in electronic crime, the typology of criminal acts, means of prevention and means of protection.

At the end of the course, the student will have developed the following skills:

- Ability to evaluate the internet tools for the development of business activity and the improvement of its

organization.

• Ability to implement international and national legal rules for a successful deal with the issues arising from the involvement in the internet and electronic transactions.

- Immediate, modern and detailed approach to the legal protection of personal data.

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
- Adapting to new situations
- Working independently
- Team work
- Decision-making
- Working in a multidisciplinary environment

12. SYLLABUS

The course includes the following topics:

1/ Introduction to international and European law.

2/ Rights related to the information society, the right to free expression and their restrictions – internet neutrality – restrictions to legal rights in accordance to the principle of proportionality.

3/ The protection of privacy and personal data based on the new regulatory framework of GDPR.

4/ Protection of intellectual property in the internet (software, databases, digital works, etc.).

5/ The legal framework of e-commerce and consumer protection.

6/ Electronic transactions (contracts, digital signature, means of payment and general terms

7/ The legal framework of e-Government

8/ New forms of work organisation - the legal framework of Remote working and employees' surveillance.

9/ Basic issues on cybercrime – computer crime.

13. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face to face	x	
	Distance learning (asynchronous)		
	Distance learning (synchronous)		
	Others:		
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	Slides	x	
	E-class	x	
	Virtual (simulated) laboratory training		
TEACHING METHODS *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*	***Activity***	***Semester workload***	
	Lectures	39	
	Tutorials		
	Laboratory Practice		

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

Essay writing	40
Seminars	
Projects	
Study and analysis of bibliography	43,50
Placements	
Clinical practice	
Art workshop	
Interactive teaching	
Educational visits	
Artistic creativity	
Independent study	65
Other:	
Total number of hours for the Course (25 hours of work-load per ECTS credit)	***187,50 hours (total student work-load)***

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.

Written work, essay/report	x	15%
Problem solving		
Multiple choice question naires		
Final exam with Multiple choice questionnaires		
Oral examination		
Project		
Mid-term exam (concluding)		
Final exam with developing questions	X	85%
Public presentation		
Mid-term exam (formative)		
Laboratory work		

	Written work, essay/report			

14. ATTACHED BIBLIOGRAPHY

- Igleszakis, Law of Computer Technology, 4rd Edition, Sakkoulas, 2021
- G. Zekos, Internet, Computers & Telecommunications in Greek Law, Sakkoulas, 2017
- Giannopoulos, Introduction to legal informatics, 2017.
- P. Jougleux, European Law of the Internet, Sakkoulas, 2016
- Delouka – Igglesi, Legal issues of e-commerce, 2015.
- Igglezakis, The right to digital oblivion and its limitations, 2014.
- Alexandridou, E-commerce law, 2010.
- Karakostas, Law and Internet, Legal issues of the Internet, 3rd Edition, Sakkoulas, 2009.
- P. Jougleux, European Law of the Internet, Legal aspects of the internet in Europe, 2016

SEMESTER 2

SPECIALIZATION A:
DIGITAL MARKETING

DIGITAL MARKETING & SOCIAL MEDIA (DIM – 2A1)

COURSE OUTLINE

15. GENERAL

SCHOOL	ECONOMICS AND BUSINESS									
ACADEMIC UNIT	MANAGEMENT SCIENCE AND TECHNOLOGY									
LEVEL OF STUDIES	POSTGRADUATE									
COURSE CODE	DIM_2A1	**SEMESTER**	1st	2nd	3rd	4th	5th	6th	7th	8th
				x						
COURSE TITLE	DIGITAL MARKETING & SOCIAL MEDIA									

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**
Lectures	3	7,5
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).	3	5

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Specialised general knowledge
PREREQUISITE COURSES:	Not required
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek (including English bibliography) / English, if requested
IS THE COURSE OFFERED TO ERASMUS STUDENTS	No
COURSE WEBSITE (URL)	

16. 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*

At the end of this course the student will:

- Innovative techniques and tools of digital marketing
- Techniques and tools of digital marketing techniques and tools
- Strategic planning of digital marketing of an organisation or company
- Organisation of a company's marketing strategy or a company's strategy for the creation of an organisation or an organisation's marketing strategy
- Business models of e-business
- Ability to measure the effectiveness of the tools applied through data collection and analysis
- Up-to-date knowledge of modern e-commerce platforms, how to configure usable material and new technologies (virtual/augmented reality)
- Creation of a digital marketing strategy, definition of objectives, selection of techniques (KPIs) for

measuring effectiveness, selection of tools and platforms for optimal promotion
- Setting up an infrastructure for a successful career in digital marketing and online advertising
- Ability to plan, design and implement digital marketing campaigns

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
……
Others…
…….

- Adapting to new situations
- Decision making
- Autonomous work
- Teamwork
- Working in an interdisciplinary environment
- Searching, analyzing, and synthesizing data and information, using the necessary technologies
- Exercising criticism and self-criticism
- Promotion of free, creative, and deductive thinking

17. SYLLABUS

1. Introduction to Digital Marketing
2. Modern Tools of Digital Marketing
3. Search Engine Marketing (SEM)
4. Search Engine Optimization (SEO)
5. Digital Marketing and Entrepreneurship
6. Introduction to Social Media
7. Digital Marketing in Social Media
8. Digital Content Marketing
9. Basic Principles of Email Marketing
10. Introduction to Digital Advertising
11. Digital Advertising and Promotion Tools
12. Web Analytics & Insights
13. Implementation of an e-shop

18. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face to face	x	
	Distance learning (asynchronous)		
	Distance learning (synchronous)		
	Others:		
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	Slides	x	
	E-class	x	
	Virtual (simulated) laboratory training		

TEACHING METHODS

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

Activity	***Semester workload***
Lectures	39
Tutorials	
Laboratory Practice	
Essay writing	50
Seminars	
Projects	
Study and analysis of bibliography	43,50
Placements	
Clinical practice	
Art workshop	
Interactive teaching	
Educational visits	
Artistic creativity	
Independent study	55
Other:	
Total number of hours for the Course (25 hours of work-load per ECTS credit)	***187,50 hours (total student work-load)***

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.

Written work, essay/report	X	[20% of the final grade]
Problem solving		
Multiple choice question naires		
Final exam with Multiple choice questionnaires		
Oral examination		
Project		
Mid-term exam (concluding)		
Final exam with developing questions	X	(theory,short case studies) [80% of the final grade]
Public presentation		

	Mid-term exam (formative)			
	Laboratory work			
	Written work, essay/report			

19. ATTACHED BIBLIOGRAPHY

- E-class notes
- Social Media Marketing Guide, Manarioti Agapi, Rosili Edition, 2019
- Digital Marketing, Vlahopoulou Maro, Rosili Edition, 2019
- E-business and Marketing, Vlahopoulou Maro & Dimitriadis Sergios, Rosili Edition, 2014
- Synchronous marketing, Kyriazopoulos Panagiotis, Benou E. Edition, 2019
- Marketing 4.0: the transition from traditional to digital marketing, Philip Kotler, Keydarithmos, 2020

Digital Economy (DIM_2A2)

COURSE OUTLINE

20. GENERAL

SCHOOL	ECONOMICS AND BUSINESS								
ACADEMIC UNIT	MANAGEMENT SCIENCE AND TECHNOLOGY								
LEVEL OF STUDIES	POSTGRADUATE								
COURSE CODE	DIM_2A2	**SEMESTER**	1st	2nd	3rd	4th	5th	6th	7th	8th
				x						
COURSE TITLE	INTRODUCTION TO BUSINESS ADMINISTRATION								

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**
Lectures	3	7,5
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).	3	5

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Specialised general knowledge
PREREQUISITE COURSES:	Not required
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek (including English bibliography)
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	https://eclass.upatras.gr/courses/MST304/

21. 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 addresses issues related to how digital technology influences, changes, and transforms the administrative and business models of enterprises. Upon successful completion of the course, students are

expected to be able to:

- Define the concept of the digital economy and distinguish the key characteristics of informational goods.
- Specify the concept of electronic business, describe its forms, and distinguish the business models of digital enterprises.
- Define the basic theoretical concepts for the operation of cryptocurrencies (algorithm complexity, cryptographic hash functions, and digital signatures) and describe the architecture and function of specific cryptocurrencies, such as bitcoin.
- Recognize the concept of intellectual property rights (especially in informational goods) and explain "open" concepts, such as open knowledge, open data, Creative Commons licenses, and Free/Open Source Software.
- Study cases of digital enterprises and recognize elements of their business models.
- Create a business model canvas for a new digital enterprise.
- Design a service based on User Experience (UX) models and modern quality standards such as ISO25000.
- Construct a prototype of a digital enterprise website using Web tools and open content

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
- Adapting to new situations
- Decision-making
- Project planning and management
- Production of free, creative and inductive thinking

22. SYLLABUS

● Digital Economy, Entrepreneurship, and Information Goods. Electronic Business, Internet Services, Software as a Service, Cloud Services.
● Service Quality and International Quality Standards.
● Models of E-Commerce and Networked Enterprises.
● The concept of User Experience (UX). Creating a mockup of a digital enterprise: Basic principles of creating HTML web pages and styling them with CSS. The structure of web pages and objects on a website. Basic functions of digital enterprise software.
● Cryptocurrencies and Bitcoin: Basic theoretical concepts for the operation of cryptocurrencies: algorithm complexity, cryptographic hash functions, and digital signatures. The architecture and operation of Bitcoin.
● Blockchain Technology.

23. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*		
	Face to face	x
	Distance learning (asynchronous)	
	Distance learning (synchronous)	

	Others:		
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	Slides	x	
	E-class	x	
	Virtual (simulated) laboratory training		
TEACHING METHODS *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*	***Activity***	***Semester workload***	
	Lectures	39	
	Tutorials		
	Laboratory Practice		
	Essay writing		
	Seminars		
	Projects		
	Study and analysis of bibliography		
	Placements		
	Clinical practice		
	Art workshop		
	Interactive teaching		
	Educational visits		
	Artistic creativity		
	Independent study	86	
	Other:		
	Total number of hours for the Course (25 hours of work-load per ECTS credit)	***125 hours (total student work-load)***	

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.*	Written work, essay/report			
	Problem solving			
	Multiple choice question naires			
	Final exam with Multiple choice questionnaires			
	Oral examination			
	Project			
	Mid-term exam (concluding)			
	Final exam with developing	X	(theory,short case studies)	

	questions			
	Public presentation			
	Mid-term exam (formative)			
	Laboratory work			
	Written work, essay/report			

24. ATTACHED BIBLIOGRAPHY (in Greek)

- Ηλεκτρονικό Εμπόριο 2018, 14η Έκδοση, Laudon Kenneth, Traver Carol Guercio
- ΨΗΦΙΑΚΗ ΟΙΚΟΝΟΜΙΚΗ, ΣΤΕΙΑΚΑΚΗΣ ΕΜΜΑΝΟΥΗΛ
- Η Ψηφιακή Οικονομία, Tapscott Don
- ΨΗΦΙΑΚΕΣ ΕΠΙΧΕΙΡΗΣΕΙΣ ΚΑΙ ΗΛΕΚΤΡΟΝΙΚΟ ΕΜΠΟΡΙΟ: ΣΤΡΑΤΗΓΙΚΗ, ΥΛΟΠΟΙΗΣΗ ΚΑΙ ΕΦΑΡΜΟΓΗ, DAVE CHAFFEY

DIGITAL CONSUMER BEHAVIOR (DIM – 2A3)

COURSE OUTLINE

25. GENERAL

SCHOOL	ECONOMICS AND BUSINESS								
ACADEMIC UNIT	MANAGEMENT SCIENCE AND TECHNOLOGY								
LEVEL OF STUDIES	POSTGRADUATE								
COURSE CODE	DIM_2A3	**SEMESTER**	1st	2nd	3rd	4th	5th	6th	7th	8th
				x						
COURSE TITLE	DIGITAL CONSUMER BEHAVIOR								

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**
Lectures	3	7,5
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).	3	5

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Specialised general knowledge
PREREQUISITE COURSES:	Not required
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek (including English bibliography) / English, if requested
IS THE COURSE OFFERED TO ERASMUS STUDENTS	No
COURSE WEBSITE (URL)	

26. 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*

At the end of this course the student will:

- Understand the preferences and processes that influence the behaviour and decision-making process of both traditional consumers and digital consumers.
- Explain the theoretical concepts related to consumer psychology.
- Develop marketing strategies and plans based on consumer psychology.
- To identify qualitative - quantitative methods for measuring consumer behaviour.
- To know and understand the psychology of web design to influence the digital consumer.
- Know and understand the psychology of 'paid' advertising and 'social' advertising.

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…*
	…….

- Adapting to new situations
- Decision making
- Autonomous work
- Teamwork
- Working in an interdisciplinary environment
- Searching, analyzing, and synthesizing data and information, using the necessary technologies
- Exercising criticism and self-criticism
- Promotion of free, creative, and deductive thinking

27. SYLLABUS

14. The World of the Consumer - Introduction
15. Market Segmentation & Product Positioning
16. Factors influencing buying behavior - Political factors
17. Factors influencing buying behavior - Personal factors
18. Factors influencing buying behavior - Social factors
19. Factors influencing purchasing behavior - Psychological factors
20. Models of consumer behavior.
21. Consumer decision making
22. Non-rational decisions and paradoxes
23. Recording of metabolic activity, electrical activity, and brain biometrics
24. Neuromarketing
25. Digital neuromarketing
26. Design of web pages and digital advertisements according to consumer psychology

28. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face to face	x	
	Distance learning (asynchronous)		
	Distance learning (synchronous)		
	Others:		
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	Slides	x	
	E-class	x	
	Virtual (simulated) laboratory training		
TEACHING METHODS *The manner and methods of teaching are described in detail.* *Lectures, seminars, laboratory practice,*	***Activity***	***Semester workload***	
	Lectures	39	
	Tutorials		

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*	Laboratory Practice		
	Essay writing	50	
	Seminars		
	Projects		
	Study and analysis of bibliography	43,50	
	Placements		
	Clinical practice		
	Art workshop		
	Interactive teaching		
	Educational visits		
	Artistic creativity		
	Independent study	55	
	Other:		
	Total number of hours for the Course (25 hours of work-load per ECTS credit)	***187,50 hours (total student work-load)***	

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.*	Written work, essay/report	X	[20% of the final grade]	
	Problem solving			
	Multiple choice question naires			
	Final exam with Multiple choice questionnaires			
	Oral examination			
	Project			
	Mid-term exam (concluding)			
	Final exam with developing questions	X	(theory,short case studies) [80% of the final grade]	
	Public presentation			
	Mid-term exam (formative)			

	Laboratory work			
	Written work, essay/report			

29. ATTACHED BIBLIOGRAPHY

- E-class notes
- Michael Diamantstein, “The Age of Digital Consumer Behavior“, Publisher Shakespeare & Company 2020 (ISBN1951121422)
- Angeline Close Scheinbaum,”Online Consumer Behavior Theory and Research in Social Media, Advertising and E-tail”, Routledge 2017

Software Systems for Big Data Management and Analytics(DIM_2A4)

COURSE OUTLINE

30. GENERAL

SCHOOL	ECONOMICS AND BUSINESS								
ACADEMIC UNIT	MANAGEMENT SCIENCE AND TECHNOLOGY								
LEVEL OF STUDIES	POSTGRADUATE								
COURSE CODE	**DIM_2A4**	**SEMESTER**	1st	2nd	3rd	4th	5th	6th	7th	8th
				x						
COURSE TITLE	Software Systems for Big Data Management and Analytics								

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**
Lectures	3	7.5
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).	3	7.5

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Specialised general knowledge
PREREQUISITE COURSES:	Data Management, Object Oriented Programming
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek (including English bibliography)
IS THE COURSE OFFERED TO ERASMUS STUDENTS	No
COURSE WEBSITE (URL)	https://eclass.upatras.gr/courses/MST183/

31. 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's aim is to introduce students to the Advanced Decentralized Computing and Software Systems for Big Data Management and Analytics. Especially, it will focus on the following topics:

1. P2P infrastructures for Big Data Management and analytics
2. DHT infrastructures. The use case of Chord
3. DHT infrastructures. The use case of Pastry
4. Internet Caching Protocols and Bloom Filters – Locality Sensitive Hashing (LSH)
5. Multidimensional Data and Similarity Metrics
6. Data Mining algorithms for classification
7. Data Mining algorithms for clustering

8. Distributed File Systems (HDFS – GFS)
9. Map – Reduce Programming Framework for Big Data Management and Analytics
10. NoSQL Databases
11. Introduction to Apache Spark Software

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…*
	…….

After having successfully completed the course the student will be able to:

- Understand the advanced concepts of Decentralized Large Scale Computing Systems
- Implement and manage the basic DHT-based Large Scale Computing Systems
- Understand the basic tools of design and analysis of Map-Reduce algorithms for solving problems, especially in NoSQL software computing Systems
- Understand the Apache Spark software tool for implementing large-scale machine learning and big-data engineering projects

32. SYLLABUS

Week #1: Introduction to Advanced Distributed Systems
Week #2: P2P Systems
Week #3: DHT-based Decentralized Systems
Week #4: DHT-based Decentralized Systems (Cont.)
Week #5 Internet Caching Protocols and Bloom Filters – Locality Sensitive Hashing (LSH)
Week #6: Multidimensional Big Data and Similarity Query Processing
Week #7: Data Mining Algorithms (Classification)
Week #8: : Data Mining Algorithms (Clustering)
Week #9: HDFS (Hadoop Distributed File Systems)
Week #10: Map – Reduce and NoSQL Databases
Week #11: Map – Reduce and NoSQL Databases (Cont.)
Week #12: Apache Spark
Week #13: Apache Spark (Cont.)

33.

34. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face to face	x
	Distance learning (asynchronous)	
	Distance learning (synchronous)	x
	Others:	Research Paper Presentation
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY	Slides	x

Use of ICT in teaching, laboratory education, communication with students	E-class	x
	Virtual (simulated) laboratory training	x

TEACHING METHODS *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*	***Activity***	***Semester workload***
	Lectures	39
	Tutorials	
	Laboratory Practice	
	Essay writing	26
	Seminars	
	Projects	26
	Study and analysis of bibliography	
	Placements	
	Clinical practice	
	Art workshop	
	Interactive teaching	
	Educational visits	
	Artistic creativity	
	Independent study	96,5
	Other:	
	Total number of hours for the Course (25 hours of work-load per ECTS credit)	***187,5 hours (total student work-load)***

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.*			
	Written work, essay/report		
	Problem solving		
	Multiple choice question naires		
	Final exam with Multiple choice questionnaires		
	Oral examination		
	Project		
	Mid-term exam (concluding)		
	Final exam with developing questions		

	Public presentation			
	Mid-term exam (formative)			
	Laboratory work		50%	
	Written work, essay/report		50%	

35. ATTACHED BIBLIOGRAPHY

- MINING OF MASSIVE DATASETS: RAJARAMAN ANAND, ULLMAN D. JEFFREY ΜΕΤΑΦΡΑΣΗ: 2013 ISBN: 9789606759833
- Big Data Research (Elsevier)
- IEEE Transactions on Knowledge and Data Engineering (IEEE)
- ACM Transactions on Database Systems (ACM)
- International Journal of Business Intelligence Research (IGI Clobal)

SEMESTER 2

SPECIALIZATION B:

e-GOVERNMENT

Electronic Government (DIM-2B1)

COURSE OUTLINE

36. GENERAL

SCHOOL	ECONOMICS AND BUSINESS		
ACADEMIC UNIT	MANAGEMENT SCIENCE AND TECHNOLOGY		
LEVEL OF STUDIES	POSTGRADUATE		
COURSE CODE	DIM-2B1	**SEMESTER**	**2ND**
COURSE TITLE	ELECTRONIC GOVERNMENT		
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**
Lectures		3	7,5
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*	Specialised general knowledge		
PREREQUISITE COURSES:	Not required		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek (including English bibliography)		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	NO		
COURSE WEBSITE (URL)	https://eclass.upatras.gr/courses/MST182/		

37. 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 aim of this course is for students to acquire the basic knowledge of the field of Electronic Government and its close relationship with Information and Communication Technologies (ICT). These technologies offer enormous possibilities for improving the functions of public services, reducing operational costs, improving citizen service, and in general the value offered to society, planning and implementing better and more efficient public policies, but also more direct communication and cooperation of the state with the citizens.

After successfully completing the course, students will be able to:

1. define the basic concepts of the scientific field of Electronic Government
2. state the main priority axes of the e-Government strategy in Greece and the EU
3. understand the basic technologies used in Electronic Government systems
4. understand and describe E-Government maturity levels
5. understand and describe how to use e-Government applications in areas such as digital document management, democratic processes, social networks, health and smart cities
6. know and apply design principles of Electronic Government systems
7. apply electronic project management techniques and tools
8. apply good practices and discuss representative case studies at European and international level

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
- Working independently
- Working in an interdisciplinary environment
- Project planning and management
- Production of free, creative and inductive thinking

38. SYLLABUS

27. Introduction to the objectives and importance of the course, basic concepts and definitions
28. National strategy and EU framework for e-Government
29. E-Government maturity levels, E-transactions and services
30. Technologies used in Electronic Government systems (Web technologies, server and client-side scripting, cookies)
31. Technologies used in Electronic Government systems (Cloud Computing, Blockchain, IoT, 5G)
32. Technologies used in Electronic Government systems (Big Data, Machine Learning, Artificial Intelligence)
33. Systems and methodologies of electronic Participation and Democracy, Social Networks
34. Open Government Data and applications, crowdsourcing
35. Smart cities: infrastructure and applications
36. Digital Signature, crisis management systems, health, education
37. Principles of user-friendly design of Electronic Government systems and Accessibility
38. Electronic Project Management, techniques and tools
39. Case studies of European countries and Future perspectives

39. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face to face	X	
	Distance learning (asynchronous)	X (for studying the material students can find in eclass)	
	Distance learning (synchronous)	X (in case of need, when face-to-face is not possible)	
	Others:		
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	Slides	x	
	E-class	x	
	Virtual (simulated) laboratory training		
TEACHING METHODS *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***	***Semester workload***	
	Lectures	39	
	Tutorials		
	Laboratory Practice		
	Essay writing		
	Seminars		
	Projects	54	

activity are given as well as the hours of non-directed study according to the principles of the ECTS	Study and analysis of bibliography	
	Placements	
	Clinical practice	
	Art workshop	
	Interactive teaching	
	Educational visits	
	Artistic creativity	
	Independent study	94.5
	Other:	
	Total number of hours for the Course (25 hours of work-load per ECTS credit)	***187.5 hours (total student work-load)***

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.*	Written work, essay/report		
	Problem solving		
	Multiple choice question naires		
	Final exam with Multiple choice questionnaires	X	Part of the final exam is in this form – contributes to the 70% of final course grade
	Oral examination		
	Project		
	Mid-term exam (concluding)		
	Final exam with developing questions	X	Part of the final exam is of this form (theory, short case studies) – contributes to the 70% of final course grade
	Public presentation		
	Mid-term exam (formative)		

	Laboratory work			
	Written work, essay/report	X	Individual project on topics related to eGovernment technologies, applications and case studies. Students present their project in class (30% of final grade)	

40. ATTACHED BIBLIOGRAPHY

Books in Greek:

- Ταμπούρης, Ε., Ταραμπάνης, Κ. (2023). «Ηλεκτρονική Διακυβέρνηση». Εκδόσεις Κάλλιπος.
- Λαζακίδου Α., 2019. Ηλεκτρονική Διακυβέρνηση & Ηλεκτρονικές Υπηρεσίες προς Πολίτες και Επιχειρήσεις (2η έκδοση). Δίσιγμα Εκδόσεις.
- Παρασκευάς, Μ., Ασημακόπουλος, Γ., Τριανταφύλλου, Β., 2015. Κοινωνία της πληροφορίας. [ηλεκτρ. βιβλ.] Αθήνα: Σύνδεσμος Ελληνικών Ακαδημαϊκών Βιβλιοθηκών. Διαθέσιμο στο: http://hdl.handle.net/11419/378
- Καλογήρου, Γ., Παναγιωτόπουλος, Π., Τσακανίκας, Ά., Σιώκας, Ε., Καρούνος, Θ., Μάγκλαρης, Β., Τρούλος, Κ., Καλογεράς, Δ., Τσιαβός, Π., Κανέλλος, Ν., Μερεκούλιας, Β., 2016. Κοινωνία της πληροφορίας και οικονομία της γνώσης. [ηλεκτρ. βιβλ.] Αθήνα: Σύνδεσμος Ελληνικών Ακαδημαϊκών Βιβλιοθηκών. Διαθέσιμο στο: http://hdl.handle.net/11419/6206

Scientific journals:

- Journal of Information Technology and Politics, Francis & Taylor
- International Review of Administrative Sciences, SAGE
- Government Information Quarterly, Elsevier
- International Journal of Electronic Government Research, IGI Global

Information Systems Security

COURSE OUTLINE

41. GENERAL

SCHOOL	SCHOOL OF BUSINESS ADMINISTRATION		
DEPARTMENT	DEPARTMENT OF MANAGEMENT SCIENCE AND TECHNOLOGY		
LEVEL OF COURSE	GRADUATE		
COURSE CODE	DIM-282	**SEMESTER OF STUDIES**	2nd
COURSE TITLE	INFORMATION SYSTEMS SECURITY		

INDEPENDENT TEACHING ACTIVITIES *σε περίπτωση που οι πιστωτικές μονάδες απονέμονται σε διακριτά μέρη του μαθήματος π.χ. Διαλέξεις, Εργαστηριακές Ασκήσεις κ.λπ. Αν οι πιστωτικές μονάδες απονέμονται ενιαία για το σύνολο του μαθήματος αναγράψτε τις εβδομαδιαίες ώρες διδασκαλίας και το σύνολο των πιστωτικών μονάδων*	**TEACHING HOURS PER WEEK**	**ECTS CREDITS**
Lectures and term project (survey work)	3	7,5
Προσθέστε σειρές αν χρειαστεί. Η οργάνωση διδασκαλίας και οι διδακτικές μέθοδοι που χρησιμοποιούνται περιγράφονται αναλυτικά στο 4.		

COURSE TYPE *Υποβάθρου , Γενικών Γνώσεων, Επιστημονικής Περιοχής, Ανάπτυξης Δεξιοτήτων*	Field of Science
PREREQUISITE COURSES:	None
TEACHING AND ASSESSMENT LANGUAGE:	Greek
THE COURSE IS OFFERED TO ERASMUS STUDENTS	No
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/courses/MST179/

42. LEARNING OUTCOMES

Leraning outcomes

Περιγράφονται τα μαθησιακά αποτελέσματα του μαθήματος οι συγκεκριμένες γνώσεις, δεξιότητες και ικανότητες καταλλήλου επιπέδου που θα αποκτήσουν οι φοιτητές μετά την επιτυχή ολοκλήρωση του μαθήματος.

Συμβουλευτείτε το Παράρτημα Α (ξεχωριστό αρχείο στο e-mail)

- *Περιγραφή του Επιπέδου των Μαθησιακών Αποτελεσμάτων για κάθε ένα κύκλο σπουδών σύμφωνα με Πλαίσιο Προσόντων του Ευρωπαϊκού Χώρου Ανώτατης Εκπαίδευσης*
- *Περιγραφικοί Δείκτες Επιπέδων 6, 7 & 8 του Ευρωπαϊκού Πλαισίου Προσόντων Διά Βίου Μάθησης*

και Παράρτημα Β

- *Περιληπτικός Οδηγός συγγραφής Μαθησιακών Αποτελεσμάτων*

The aim of this course is to help perspective executives in the field of business and organization administration acquire a basic knowledge about the security of information systems and the protection of individuals' privacy.
Upon successful completion of the course, the students will be able to:
1. Explain the main risks of personal data security and how privacy breaches occur in the deployment of information systems
2. Understand the principles and effectiveness level of the most well-known data protection methods
3. Discuss the advantages and disadvantages of the basic data encryption algorithms
4. Understand and describe, comparatively, the basic methods of user authentication and access control
5. Explain the basic network and application attacks as well as countermeasure strategies
6. Analyze and evaluate different proposals for information security policies in information systems

General Abilities

Λαμβάνοντας υπόψη τις γενικές ικανότητες που πρέπει να έχει αποκτήσει ο πτυχιούχος (όπως αυτές αναγράφονται στο Παράρτημα Διπλώματος και παρατίθενται ακολούθως) σε ποια / ποιες από αυτές αποσκοπεί το μάθημα;.

Αναζήτηση, ανάλυση και σύνθεση δεδομένων και *Σχεδιασμός και διαχείριση έργων*

πληροφοριών, με τη χρήση και των απαραίτητων τεχνολογιών *Προσαρμογή σε νέες καταστάσεις* *Λήψη αποφάσεων* *Αυτόνομη εργασία* *Ομαδική εργασία* *Εργασία σε διεθνές περιβάλλον* *Εργασία σε διεπιστημονικό περιβάλλον* *Παράγωγή νέων ερευνητικών ιδεών*	*Σεβασμός στη διαφορετικότητα και στην πολυπολιτισμικότητα* *Σεβασμός στο φυσικό περιβάλλον* *Επίδειξη κοινωνικής, επαγγελματικής και ηθικής υπευθυνότητας και ευαισθησίας σε θέματα φύλου* *Άσκηση κριτικής και αυτοκριτικής* *Προαγωγή της ελεύθερης, δημιουργικής και επαγωγικής σκέψης*

In the end of the course the student will have developed the following skills/competences:

1. Understanding of the main risks to the security of information systems and privacy
2. Understanding of the advantages and disadvantages of the basic techniques for managing information systems security and privacy breach attacks
3. Understanding of the organizational and technological changes that must be established to minimize the data security and privacy breach risks

43. COURSE CONTENT

1. Introduction to the objectives and importance of the course - current issues of information systems security
2. Data security and privacy protection strategies
3. The human factor in information systems security
4. Legal and ethical aspects of information systems security
5. Risk analysis of information systems
6. Introduction to cryptography
7. Symmetric cryptography
8. Asymmetric cryptography
9. User authentication and access control
10. Public Key Infrastructures (PKIs) - the authentication service "KERBEROS"
11. Malicious programs - attacks and defenses
12. Denial of Service (DoS) Attacks
13. Physical security of information systems

14. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD *Πρόσωπο με πρόσωπο, Εξ αποστάσεως εκπαίδευση κ.λπ.*	In class lectures, asynchronous tele-education and synchronous tele-education (distant learning) whenever this is deemed necessary
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES *Χρήση Τ.Π.Ε. στη Διδασκαλία, στην Εργαστηριακή Εκπαίδευση, στην Επικοινωνία με τους φοιτητές*	Video projector, asynchronous tele-education and synchronous tele-education platforms (when required)
TEACHING ORGANIZATION *Περιγράφονται αναλυτικά ο τρόπος και μέθοδοι διδασκαλίας.* *Διαλέξεις, Σεμινάρια, Εργαστηριακή Άσκηση, Άσκηση Πεδίου, Μελέτη & ανάλυση βιβλιογραφίας, Φροντιστήριο, Πρακτική (Τοποθέτηση), Κλινική Άσκηση, Καλλιτεχνικό Εργαστήριο, Διαδραστική διδασκαλία, Εκπαιδευτικές επισκέψεις, Εκπόνηση μελέτης (project), Συγγραφή εργασίας / εργασιών, Καλλιτεχνική δημιουργία, κ.λπ.* *Αναγράφονται οι ώρες μελέτης του φοιτητή για κάθε μαθησιακή δραστηριότητα καθώς και οι ώρες μη καθοδηγούμενης μελέτης ώστε ο συνολικός φόρτος εργασίας σε επίπεδο εξαμήνου να αντιστοιχεί στα standards του ECTS*	

Δραστηριότητα	***Φόρτος Εργασίας Εξαμήνου***
Lectures	39
Term project	52
Self study	96,5
Total number of hours for the Course (25 hours of work-load per ECTS credit)	***187,5 hours (total student work-load)***

STUDENT ASSESSEMENT	I. Written exam (60%) that includes:

Περιγραφή της διαδικασίας αξιολόγησης *Γλώσσα Αξιολόγησης, Μέθοδοι αξιολόγησης, Διαμορφωτική ή Συμπερασματική, Δοκιμασία Πολλαπλής Επιλογής, Ερωτήσεις Σύντομης Απάντησης, Ερωτήσεις Ανάπτυξης Δοκιμίων, Επίλυση Προβλημάτων, Γραπτή Εργασία, Έκθεση / Αναφορά, Προφορική Εξέταση, Δημόσια Παρουσίαση, Εργαστηριακή Εργασία, Κλινική Εξέταση Ασθενούς, Καλλιτεχνική Ερμηνεία, Άλλη / Άλλες* *Αναφέρονται ρητά προσδιορισμένα κριτήρια αξιολόγησης και εάν και που είναι προσβάσιμα από τους φοιτητές;*	• Basic understanding questions • Questions of situation analysis and judgement The final exam may be conducted using a synchronous tele-education (distant learning) platform whenever this is deemed necessary II. Term project (40%) • A group survey project which is focused on a specific subject in the domain of Information System Security which is selected jointly by the student and the instructor.

15. **RECOMMENDED LITERATURE**

-Προτεινόμενη Βιβλιογραφία

1. Ασφάλεια υπολογιστών: Αρχές και πρακτικές, William Stallings, Lawrie Brown
2. Ασφάλεια Δικτύων Υπολογιστών, Γκρίτζαλης Στέφανος,Γκρίτζαλης Δημήτρης, Κάτσικας Σωκράτης
3. Ασφάλεια Πληροφοριακών Συστημάτων, Σωκτ. Κάτσικας - . Γκρίτζαλης - Στεφ. Γκρίτζαλης
4. ΛΑΜΠΡΙΝΟΥΔΑΚΗΣ – ΜΗΤΡΟΥ - ΓΚΡΙΤΖΑΛΗΣ Σ. – ΚΑΤΣΙΚΑΣ (2010), Προστασία της Ιδιωτικότητας & Τεχνολογίες Πληροφορικής & Επικοινωνιών, ΠΑΠΑΣΩΤΗΡΙΟΥ, Αθήνα

-Συναφή επιστημονικά περιοδικά:

1. Computers & Security, Elsevier
2. IEEE Transactions on Dependable and Secure Computing, IEEE
3. International Journal of Information Security, Springer
4. IEEE Security and Privacy Magazine, IEEE
5. Journal of Information Security and Applications, Elsevier

Information Systems in Public Administration

COURSE OUTLINE

44. GENERAL

SCHOOL	ECONOMICS AND BUSINESS									
ACADEMIC UNIT	MANAGEMENT SCIENCE AND TECHNOLOGY									
LEVEL OF STUDIES	POSGRADUATE									
COURSE CODE	DIM-2B3	**SEMESTER**	1st	2nd	3rd	4th	5th	6th	7th	8th
				x						
COURSE TITLE	INFORMATION SYSTEMS IN PUBLIC ADMINISTRATION									

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**
Lec: Lectures, Lab: Laboratory exercises	3(Lec) + 1(Lab)	8
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).	4	8

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Specialised general knowledge
PREREQUISITE COURSES:	Not required
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek (including English bibliography)
IS THE COURSE OFFERED TO ERASMUS STUDENTS	No
COURSE WEBSITE (URL)	https://eclass.upatras.gr/courses/MST192/

45. 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 presents basic concepts of information systems related to infrastructure and their role in organizations. The main categories of Information Systems are analyzed with an emphasis on Management IS and an analysis of applications in Public Administration is carried out.
After successful completion of the course, students are expected to be able to:

- understand basic concepts related to technology and the stages of the life cycle of information systems,
- categorize information systems using different categorization criteria.
- understand and develop simple business process modeling diagrams,
- understand the general methodologies and tools of analysis and design of Information Systems,

- analyze the requirements of information systems in public administration
- operate Enterprise Resource Planning Systems, specifically Microsoft Dynamics NAV.

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
- Team work
- Project planning and management

46. SYLLABUS

40. Basic concepts in Information Systems
41. Development and Life Cycle of Information Systems
42. Categories of Management Information Systems (DSS, ERP, CRM, SCM)
43. Data Flow Diagrams (DFD)
44. Entity-Relationship Diagrams
45. Business Process Modeling,
46. Analysis and Planning Methodologies and Tools
47. Applications of Information Systems in Public Administration
48. Microsoft Dynamics NAV software (Familiarity with its basic functions, through the example of a virtual company, such as: the toolbar, function keys, value selection symbols on screens, finding, field-table filter, flowfilter, classification, help, company creation, backup process and backup restore process).
49. Microsoft Power BI Software Demo
50. Application design and development.

47. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face to face	x	
	Distance learning (asynchronous)		
	Distance learning (synchronous)		
	Others:		
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	Slides	x	
	E-class	x	
	Virtual (simulated) laboratory training	x	
TEACHING METHODS *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*	***Activity***	***Semester workload***	
	Lectures	39	
	Tutorials		
	Laboratory Practice	13	
	Essay writing		

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*	Seminars	
	Projects	
	Study and analysis of bibliography	13
	Placements	
	Clinical practice	
	Art workshop	
	Interactive teaching	
	Educational visits	
	Artistic creativity	
	Independent study	60
	Other:	
	Total number of hours for the Course (25 hours of work-load per ECTS credit)	***125 hours (total student work-load)***

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.*	Written work, essay/report		
	Problem solving		
	Multiple choice question naires		
	Final exam with Multiple choice questionnaires		
	Oral examination		
	Project		
	Mid-term exam (concluding)		
	Final exam with developing questions	X	80%
	Public presentation		
	Mid-term exam (formative)		
	Laboratory work	X	20%

	Written work, essay/report			

48. ATTACHED BIBLIOGRAPHY

1. E-class notes
2. *McKinney E., Kroenke D., Εισαγωγή στα Πληροφοριακά Συστήματα Διοίκησης: Διεργασίες, Συστήματα και Πληροφορίες, Broken Hill Publishers LTD, 2017.*
3. *ΚΕΝΝΕΤΗ C. LAUDON, JANE P. LAUDON, ΠΛΗΡΟΦΟΡΙΑΚΑ ΣΥΣΤΗΜΑΤΑ ΔΙΟΙΚΗΣΗΣ, εκδόσεις Κλειδάριθμος ΕΠΕ, 11η Αμερικάνικη Έκδοση, 2014.*
4. *Hoffer J., George J., Valacich J., Πληροφοριακά Συστήματα: Σύγχρονη Ανάλυση & Σχεδίαση (6η έκδοση), Εκδόσεις Τζιόλα, 2012*
5. *Wallace Patricia , Πληροφοριακά συστήματα διοίκησης, εκδόσεις Κριτική ΑΕ, 2014.*
6. *Γιαννακόπουλος Δ., Παπουτσής Ι., Διοικητικά Πληροφοριακά Συστήματα, 2η έκδοση, Σύγχρονη Εκδοτική ΕΠΕ, ISBN: 978-960-6674-78-5, 2012.Διοίκηση Επιχειρήσεων και Πληροφοριακά Συστήματα, Δουκίδης Γεώργιος, Εκδόσεις Σιδέρη, 2009.*
7. *D. Avison, G. Fitzgerald, (Επιμέλεια: Ν.Σ. Βώρος, Γ.Ν. Μπεληγιάννης, Γ.Α. Τσιρογιάννης), «Ανάπτυξη Προηγμένων Πληροφοριακών Συστημάτων: Μεθοδολογίες & Εργαλεία», Εκδόσεις Νέων Τεχνολογιών, 2006.*
8. *Γ. Οικονόμου & Ν. Γεωργόπουλος, «Πληροφοριακά συστήματα για τη διοίκηση επιχειρήσεων», 2004*
9. *Ν. Ματσατσίνης, «Συστήματα Υποστήριξης Αποφάσεων», Εκδόσεις Νέων Τεχνολογιών, 2010.*

Digital Governance and Interoperability

COURSE OUTLINE

49. GENERAL

SCHOOL	ECONOMICS AND BUSINESS								
ACADEMIC UNIT	MANAGEMENT SCIENCE AND TECHNOLOGY								
LEVEL OF STUDIES	POSTGRADUATE								
COURSE CODE	DIM-2B4	**SEMESTER**	1st	2nd	3rd	4th	5th	6th	7th	8th
				X						
COURSE TITLE	DIGITAL GOVERNANCE & INTEROPERABILITY								

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**
Lectures and semester assignment	3	7
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).	3	7
COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Specialised general knowledge	
PREREQUISITE COURSES:	Not required	
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek (including English bibliography)	
IS THE COURSE OFFERED TO ERASMUS STUDENTS	No	
COURSE WEBSITE (URL)	https://eclass.upatras.gr/courses/MST181/	

50. 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 aim of this course is to provide future executives in the field of business administration and organizations with the basic knowledge on information systems interoperability practices in digital governance.
After successfully completing the course, students will be able to:

- identify any interoperability barriers and formulate solutions to address them,
- contribute to value creation through interoperability in their domain,
- configure information resources according to management/administration/governance tasks,
- define interoperability stages of digital governance,
- formulate strategic planning for the alignment of e-government initiatives.

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…*
	…….

At the end of this course the student will have developed the following skills:

1. Understand the main points of implementing interoperability in digital government.
2. Understand the main problems in implementing interoperability and determine the techniques to address these problems.
3. Understanding the stages of interoperability in digital government
4. Formulate strategic planning for successful integration of information systems

51. SYLLABUS

1. Introduction to the objectives and relevance of the course - contemporary issues of digital governance and interoperability
2. Transaction cost theory
3. Use of Information Systems in organizations and creating added value in business processes
4. Resource Management in Organizations (effectiveness and efficiency within organizations and maintaining advantage over time)
5. Integration of Information Resources
6. Interoperability stages of digital governance
7. Aligned Information Systems development frameworks
8. Strategic Planning for Information Systems Development
9. Organisational support for the integration of interoperability
10. Information Management and Governance in the Agency
11. Cross-sectoral interoperability applications
12. Levels of organisational interoperability
13. Digital Governance dynamics using complex systems and behavioural modelling.

52. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face to face	x	
	Distance learning (asynchronous)		
	Distance learning (synchronous)		
	Others:		
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	Slides	x	
	E-class	x	
	Virtual (simulated) laboratory training		
TEACHING METHODS *The manner and methods of teaching are described in detail.* *Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography,*	***Activity***	***Semester workload***	
	Lectures	39	
	Projects	48	
	Independent study	88	

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*	***Total number of hours for the Course (25 hours of work-load per ECTS credit)***	***175 hours (total student work-load)***	
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.*	Written work, essay/report		
	Problem solving		
	Multiple choice question naires		
	Final exam with Multiple choice questionnaires		
	Oral examination		
	Project	X	40% (Semester project)
	Mid-term exam (concluding)		
	Final exam with developing questions	X	60 % (theory, short case studies)
	Public presentation		
	Mid-term exam (formative)		
	Laboratory work		
	Written work, essay/report		

53. ATTACHED BIBLIOGRAPHY

- E-class notes
- ELECTRONIC PUBLIC ADMINISTRATION - ORGANISATION, TECHNOLOGY AND APPLICATIONS, APOSTOLAKIS IOANNIS, LOUKIS EURIPIDES, CALARIS IOANNIS
- E-Government Interoperability and Information Resource Integration Frameworks for Aligned Development, by Petter Gottschalk & Hans Solli-Saether, published by Idea Group Inc (IGI), Mar 31, 2009, ISBN: 978-1605666488

- Organizational Interoperability in E-Government Lessons from 77 European Good-Practice Cases, Herbert Kubicek, Ralf Cimander and Hans Jochen Scholl, published by Springer-Verlag Berlin Heidelberg, ISBN: 978-3-642-22502-4

Scientific Journals:

1. International Journal of Electronic Government Research (IJEGR)
2. International Journal of Computer Applications (IJCA), Foundation of Computer Science (FCS)
3. Government Information Quarterly, An International Journal of Information Technology Management, Policies, and Practices, Elsevier

SEMESTER 3