HELLENIC REPUBLIC
UNIVERSITY OF PATRAS

«COMPUTATIONAL AND STATISTICAL DATA ANALYTICS (MCDA)»
SCHOOL OF NATURAL SCIENCES
DEPARTMENT OF MATHEMATICS

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DIPLOMA SUPPLEMENT

This Diploma Supplement model was developed by the European Commission, Council of Europe and UNESCO/CEPES. The purpose of the supplement is to provide sufficient independent data to improve the international 'transparency' and fair academic and professional recognition of qualifications (diplomas, degrees, certificates etc.). It is designed to provide a description of the nature, level, context, content and status of the studies that were pursued and successfully completed by the individual named on the original qualification to which this supplement is appended. It should be free from any value judgments, equivalence statements or suggestions about recognition. Information in all eight sections should be provided. Where information is not provided, an explanation should give the reason why.

1. INFORMATION IDENTIFYING THE HOLDER OF THE QUALIFICATION

1.1 Family Name(s):

1.2 Given Name(s):

1.3 Student identification number or code:

1.4 Date of birth (day/month/year): **Place, Country of Birth:**

2. INFORMATION IDENTIFYING THE QUALIFICATION

2.1 Name of the qualification (in original language):

Postgraduate Diploma in "Computational and Statistical Data Analytics, MCDA"

2.2 Main field(s) of study for the qualification:

Mathematical Science

2.3 Name and status of awarding institution/s (in original language):

University of Patras, Public Higher Education Institute (HEI), Panepistimio Patron

2.4 Name and status of institution/s administering studies (in original language)

University of Patras, Public Higher Education Institute (HEI), Panepistimio Patron

2.5 Language(s) of instruction/examination:

Greek or/and English

3. INFORMATION ON THE LEVEL OF THE QUALIFICATION

3.1 Level of qualification: 2nd cycle (*Postgraduate studies*)

3.2 Official length of programme: *Minimum length 3 academic semesters*

3.3 Access requirement(s):
Students who apply for the Postgraduate Diploma in "Computational and Statistical Data Analytics, MCDA", are graduates with a STEM (Science, Technology, Engineering and Mathematics) or an Economics, Management, Military Schools degree, who have a background in statistics and a good knowledge of fundamental concepts of databases and programming. If degree or diploma has been awarded from an Institution outside Greece, it should be certified by the Hellenic National Academic Recognition Information Center (NARIC).

4. INFORMATION ON THE CONTENT AND RESULTS GAINED

4.1 Mode of study: *Fulltime attendance offered by conventional training methods.*

4.2 Program requirements:

The post-graduate student will have completed his/her studies and will receive his/her diploma, provided the following requirements have been fulfilled:

(i) Collection of sixty (60) ECTS credits from attendance and successful examination in eight (8) semester courses in the 1st and 2nd semester (6 of them being Core and 2 Elective). Every course is taught for for three (3) hours per week and corresponds to seven and half (7.5) ECTS credits.

(ii) Collection of (30) ECTS credits from successful presentation - examination of the Postgraduate Diploma Thesis at the end of the 3rd semester.

The Postgraduate Program "Computational and Statistical Analytics in Data Science" aims at providing a specialized interdisciplinary post-graduate education in data management, representation and processing, as well as training students in the required related computational techniques. Following the successful completion of this program, students should be able to:

- *utilise data processing models and/or empirical techniques of Mathematics, Informatics and Statistics;*
- *understand, process and analyse various kinds of data using modern algorithmic techniques;*
- *apply statistics on different data sets in the appropriate, for each case, manner;*
- *represent, store and present complicated data;*
- *manage data in a flexible, efficient and effective way.*

The Postgraduate Program provides its graduates with the necessary scientific knowledge and skills to be able to choose the appropriate tools of Information Systems, Operations and Statistical Analysis for the optimal management of all kinds of data in industry, public management and business. Graduates of this Postgraduate Program are often employed in senior positions in either the public or the private sector, as they are able to offer high quality products and/or services by solving any emerging problems in the most beneficial manner.

4.3 Program details

CODE	COURSE	TYPE	Year/Semester	ECTS credits	Grade	Examination period
MCDA101	*Methods for Statistical Data Analysis*	C	1st Semester	7.5		
MCDA201	*Natural Computing and Neural Networks*	C	1st Semester	7.5		
MCDA102	*Optimization and Decision Models*	C	1st Semester	7.5		
MCDA202	*Algorithms Analysis and Data Structures*	C	1st Semester	7.5		
MCDA203	*Databases and Data Mining*	C	2nd Semester	7.5		
MCDA103	*Data-driven Probabilistic Models in Decision Making Process*	C	2nd Semester	7.5		
MCDA211	*Machine Learning*	E	2nd Semester	7.5		
MCDA212	*Numerical Methods for Data Science*	E	2nd Semester	7.5		
MCDA111	*Applied Bayesian Statistics and Simulation*	E	2nd Semester	7.5		
MCDA112	*Survival and Reliability Models*	E	2nd Semester	7.5		
MCDA113	*Time Series Analysis*	E	2nd Semester	7.5		
MCDA114	*Multivariate Data Analytics and Statistical Inference*	E	2nd Semester	7.5		
MCDA001	*Postgraduate Diploma Thesis*	C	3rd Semester	30		
DIPLOMA GRADE					**(GRADE)**	

For obtaining the postgraduate title, the successful examination at six 6 compulsory (C) and 2 elective (E) courses of a total 60 ECTS credit required. In addition, every postgraduate student must submit a Diploma Thesis at 30 ECTS credit; hence the total number of ECTS credits required for the degree is 90.

Postgraduate Diploma Thesis: «……..»

4.4 Grading scheme and, if available, grade distribution guidance:

Student performance is evaluated as follows:

8.50 -10.00	*EXCELLENT*
6.50 -8.49	*VERY GOOD*
5.00-6.49	*GOOD*

The above grading scheme corresponds exclusively to the grades and description indicated in the awarded postgraduate degree.

4.5 Overall classification of the qualification (in original language):

e.g. 7,25 (VERY GOOD)

5. INFORMATION ON THE FUNCTION OF THE QUALIFICATION

5.1 **Access to further study:** *Doctoral Studies (Ph.D.)*

5.2 **Professional status (if applicable):**

Depending on the focus of studies and skills, there are several career paths to follow; the list below, although non-exhaustive, covers the spectrum of roles that can be played in an organization of public or private sector:

- *Data management professional;*

- *Data engineer/data architect;*
- *Data analyst/data scientist;*
- *Machine learning researcher.*

6. ADDITIONAL INFORMATION

6.1 Additional information:

Other information relevant with the training of the title holder (e.g. further information for voluntary courses, exemptions, scholarships, Erasmus mobility etc).

6.2 Further information sources:

University of Patras: http://www.upatras.gr/el/post-grads

Department of Mathematics: https://www.math.upatras.gr

Ministry of Education and Religious Affairs: http://www.minedu.gov.gr/

European Union: http://www.ec.europa.eu

7. CERTIFICATION OF THE SUPPLEMENT

7.1 Date:

7.2 Signature and full name:

Head of the Department

Secretary/Deputy Secretary

Capacity:

Official stamp

8. INFORMATION ON THE NATIONAL HIGHER EDUCATION SYSTEM

https://eacea.ec.europa.eu/national-policies/eurydice/content/greece_en