



Student number code: 5537529

Page 1 of 9

## Diploma Supplement

Number Register : CE2015B059110000001

The Diploma Supplement was developed by the European Commission, Council of Europe and by 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 is free from any value-judgements, equivalence statements or suggestions about recognition. Information is provided in eight sections. Where information is not provided, an explanation will give the reason why.

### 1. Information identifying the holder of the qualification

- 1.1 Family name: PAPINI  
1.2 Given name: TOMMASO  
1.3 Date of birth: 30/SEP/1990  
1.4 Student identification number or code (if available) 5537529

### 2. Information identifying the qualification

- 2.1 Name of the qualification and title conferred COMPUTER SCIENCE Qualification and title conferred: DOTTORE MAGISTRALE  
2.2 Main fields of study for the qualification: LM-18 - COMPUTER SCIENCE  
2.3 Name and status of awarding institution: UNIVERSITY OF FLORENCE - P.ZZA SAN MARCO N.4 50121 FIRENZE(ITALY) (State University)  
2.4 Name and status of institution administering studies UNIVERSITY OF FLORENCE - P.ZZA SAN MARCO N.4 50121 FIRENZE(ITALY) (State University)  
2.5 Language(s) of instruction/examination: Italian.

### 3. Information on the level of the qualification

- 3.1 Level of qualification: LAUREA MAGISTRALE (Second cycle)  
3.2 Official length of programme: Years 2 Credits 120 (1 Credit = 1 ECTS)  
3.3 Access requirements(s): Degree - Entry Not Restricted

### 4. Information on the contents and result gained



**4.1 Mode of study:** FULL TIME

**4.2 Programme requirements:**

LM-18 - COMPUTER SCIENCE

Graduates will:

- possess in-depth knowledge of both the fundamentals and the applicative aspects of the various sectors of IT;
- have in-depth knowledge of the scientific method of research and understand and use discrete and continuous mathematical instruments, as well as instruments for applied mathematics and physics, which act as a support to IT and its applications;
- have in-depth knowledge of the principles, structures and use of elaboration systems;
- know the fundamentals, techniques and methods for planning and carrying out computer systems of the base and applicative types;
- have knowledge of the various sectors of application;
- possess knowledge of company and professional culture;
- be able to speak and write fluently in at least one European Union language, other than Italian, for professional purposes.
- be able to work autonomously and take on responsibility for projects and structures.

120 credits are usually earned subdivided into:

B - COMPULSORY SUBJECTS, CHARACTERISTIC OF THE CLASS	63 credits
C - SUPPLEMENTARY COMPULSORY SUBJECTS	12 credits
D - OPTIONAL SUBJECTS	12 credits
E - A FOREIGN LANGUAGE, FINAL EXAMINATION	32 credits
F - VARIOUS EDUCATIONAL ACTIVITIES	1 credits

**4.3 Programme details and the individual grades/marks/credits obtained in the study plan :**

FIRST YEAR Courses	Date	CF U	AF	Disciplinary Area	Grades	SSD	Conv/ Disp
DESIGN AND ANALYSIS OF ALGORITHMS	20/01/2016	9.00	B	114	30/30 LODE	INF/01	
DATA WAREHOUSING	18/09/2013	6.00	B	114	30/30 LODE	INF/01	
NON STANDARD ARCHITECTURES	18/09/2015	6.00	B	114	30/30 LODE	INF/01	
FOUNDATIONS OF PROGRAMMING LANGUAGES	13/06/2013	6.00	B	114	30/30	INF/01	
QUANTITATIVE ANALYSIS OF SYSTEMS	26/07/2013	9.00	B	114	30/30 LODE	INF/01	
ADVANCED NUMERICAL ANALYSIS	16/06/2015	6.00	C	780	30/30	MAT/08	



MODELS OF SEQUENTIAL AND CONCURRENT SYSTEMS	29/02/2016	9.00	B	114	30/30	INF/01
HUMAN COMPUTER INTERACTION	08/06/2015	6.00	B	114	28/30	INF/01
INFORMATION RETRIEVAL AND SEMANTIC WEB TECHNOLOGIES	29/06/2015	6.00	B	114	30/30	INF/01

Total of Credits: 63.00 Simple Arithmetic Average: 29.78 Weighted Arithmetic Average based on CFU: 29.81

SECOND YEAR Courses	Date	CF U	AF	Disciplinary Area	Grades	SSD	Conv/ Disp
MACHINE LEARNING	01/02/2016	6.00	B	114	28/30	ING-INF/05	
VERIFICATION AND TESTING METHODS	27/11/2015	6.00	B	114	30/30 LODE	ING-INF/05	
DATA MINING	27/01/2016	6.00	B	114	30/30 LODE	INF/01	
Final Exam: The Indico KT Project: Improving the worldwide impact of Indico	20/04/2016	32.00	E	831	Test taken	0	
STAGE	09/03/2016	1.00	F	785	Test taken	0	
INFORMATION THEORY	20/09/2013	6.00	C	780	30/30	FIS/02	
Total of Credits: 57.00	Simple Arithmetic Average: 29.50			Weighted Arithmetic Average based on CFU:	29.50		

#### Educational Activities Classification

- B - COMPULSORY SUBJECTS, CHARACTERISTIC OF THE CLASS  
C - SUPPLEMENTARY COMPULSORY SUBJECTS  
D - OPTIONAL SUBJECTS  
E - A FOREIGN LANGUAGE, FINAL EXAMINATION  
F - VARIOUS EDUCATIONAL ACTIVITIES

#### Scientific Disciplinary Sectors (S.S.D.) Classification

INF/01	Computer Science
MAT/08	Numerical Analysis
ING-INF/05	Data Processing Systems
FIS/02	Theoretical Physics, Mathematical Models and Methods

#### Disciplinary Areas Classification

114	INFORMATION TECHNOLOGY
780	RELATED OR ADDITIONAL STUDIES
831	FINAL EXAMINATION
785	STAGE



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

Individual subjects are graded on a scale from 1 to 30, with 18 and 30 as minimum and maximum grade respectively. A 'cum laude' can be added to the maximum grade as a special distinction.

Grade	Percentage of students who obtained this mark in the study course
30 cum laude	15.686
30	30.719
29	10.458
28	10.458
27	15.686
26	7.843
25	1.961
24	2.614
23	1.961
21	1.961
20	0.654

#### 4.5 Overall classification of the qualification

**Last Grade:** 110/110 cum laude  
**Academic year:** 2014/2015  
**Degree Date:** 20 April 2016  
**Title of the thesis:** The Indico KT Project: Improving the worldwide impact of Indico

Performance in the final examination is graded on a scale from 1 to 110, with 66 and 110 as minimum and maximum grade respectively. A 'cum laude' can be added to the maximum grade as a special distinction.

Percentage of students who obtained this mark in the study course	
Grade	Percentage
110 cum laude	90
106	10



## 5. Information on the function of the qualification

### 5.1 Access to further study

Research Doctorate programmes - Specialization courses - Degree 2nd level University Master

### 5.2 Professional status

The areas of professional employment for Graduates in Computer Science are those of planning, organization, management and maintenance of complex or innovative computer systems, in companies in the areas of computer systems and networks, in the public administrations and, more generally, in all those organizations that use complex computer systems.

Some current job opportunities, taken from the annual report of the Federcomin are: EDP manager, information systems manager, project and account manager, consultant, programmer analyst and marketing manager of information technology solutions.

Graduates in Computer Science may also enroll in the professional association of information engineers (Section A of Engineers, Information sector) and access to the Ph.D. in Computer Science or Computer Engineering.

## 6. Additional Information

### 6.1 Additional Information :

No further information is indicated.

### 6.2 Further Information Source

See the University website at <http://www.unifi.it> and the site of the Ministry of Education, University and Research at <http://www.miur.it>



## 7. Certification of the supplement

7.1 Date: 11 May 2016

7.2 Name and Signature DANIELA ARDIZZONE

7.3 Capacity: Student Services Officer



7.4 Official stamp or seal

## 8. Information on the national higher education system

### THE ITALIAN UNIVERSITY SYSTEM (D.M. 509/1999 and D.M. 270/2004)

The Italian university system is organised in three cycles, according to the Bologna structure: the main academic degrees are the Laurea (1st cycle), the Laurea Magistrale (2nd cycle) and the Dottorato di Ricerca (3rd cycle). The system also offers other study programmes and related qualifications.

First cycle. This cycle consists exclusively of Corsi di Laurea. These degree programmes provide students with an adequate command of general scientific methods and contents as well as with specific professional skills. The general access requirement is the Italian school leaving qualification awarded after completion of 13 years of schooling and passing the relevant State examination; comparable foreign qualifications may also be accepted. Admission to some degree



courses may be based on specific course requirements. The studies last 3 years. The Laurea is awarded to students who have gained 180 ECTS credits (called Crediti Formativi Universitari – CFU) and satisfied all curricular requirements, including the production of a final written paper or equivalent final project. The Laurea gives access to the Corsi di Laurea Magistrale as well as to other 2nd cycle study programmes.

Second cycle. The main degree programmes in this cycle are the Corsi di Laurea Magistrale. They provide education at an advanced level for the exercise of highly qualified activities in specific areas. Access is by a Laurea degree or a comparable foreign degree; admission is based on specific course requirements determined by single universities. The studies last 2 years. The Laurea Magistrale degree is awarded to students who have gained 120 ECTS/CFU credits and satisfied all curricular requirements, including the production and public defence of an original dissertation. Some programmes (namely, those in dentistry, medicine, veterinary medicine, pharmacy, architecture, construction engineering/architecture, law, primary education) are defined "single cycle programmes" (Corsi a ciclo unico); for these programmes access is by the Italian school leaving qualification (or a comparable foreign qualification); admission is based on entrance exams. The studies last 5 years (6 years and 360 ECTS/CFU credits in the cases of medicine and dentistry). A Laurea Magistrale degree is awarded to students who have gained 300 ECTS/CFU credits and satisfied all curricular requirements, including the production and public defence of an original dissertation.

A Laurea Magistrale degree gives access to Corsi di Dottorato di Ricerca as well as to other 3rd cycle study programmes.

Third cycle. The main degree programmes in this cycle are Corsi di Dottorato di Ricerca (research doctorate programmes); the students/young researchers enrolled in these programmes will acquire methodologies for advanced scientific research, will be trained in new technologies and will work in research laboratories, wherever appropriate. Access is by a Laurea Magistrale degree (or a comparable foreign degree); admission is based on a competitive exam; studies last at least three years and include the completion and public defence of an original research project.

#### Other programmes

- Corsi di Specializzazione. These are 3rd cycle programmes intended to provide students with the knowledge and skills required for the practice of highly qualified professions, mainly in medical, clinical and surgical specialities. Admission is by a Laurea Magistrale degree (or by a comparable foreign degree) and is based on a competitive exam; studies may last from 2 (120 ECTS/CFU credits) to 6 years (360 ECTS/CFU credits) depending on the discipline. The final degree awarded is a Diploma di Specializzazione.

- Corsi di Master Universitario di primo livello. These are 2nd cycle programmes intended to provide students with further specialization or higher continuing education after completion of the first cycle. Access is by a Laurea degree (or a comparable foreign degree); admission may be



subject to additional requirements. Studies last at least 1 year (60 ECTS/CFU credits). The qualification awarded (Master Universitario di primo livello) does not give access to Corsi di Dottorato di Ricerca or to any other 3rd cycle programme, since this type of course does not belong to the general requirements established at national level, but it is offered under the autonomous responsibility of each university.

- Corsi di Master Universitario di secondo livello. These are 3rd cycle programmes intended to provide students with further specialization or higher continuing education studies after completion of the second cycle. Access is by a Laurea Magistrale degree (or a comparable foreign degree); admission may be subject to additional requirements. Studies last at least 1 year (60 ECTS/CFU credits). The qualification awarded (Master Universitario di secondo livello) does not give access to Corsi di Dottorato di Ricerca or to any other 3rd cycle programmes, since this type of course does not belong to the general requirements established at national level, but it is offered under the autonomous responsibility of each university.

Credits: degree courses are structured in credits (Crediti Formativi Universitari - CFU). University credits are based on the workload students need in order to achieve the expected learning outcomes. Each credit corresponds to 25 hours of student workload, including independent study. The average workload of a full time student is conventionally fixed at 60 credits per year. Thus, the CFU fully coincide with ECTS credits

Classes of Degree Courses: all degree programmes of Laurea and Laurea Magistrale sharing general educational objectives are grouped into "classes". In developing the specific learning outcomes of single programmes, Universities have to comply with some national requirements for each class concerning the types (and corresponding amount of credits) of teaching-learning activities to be included. Degrees belonging to the same class have the same legal value.

Academic Titles: Those who receive the Laurea are entitled to be called "Dottore", the holders of a Laurea Magistrale have a right to the title of "Dottore Magistrale", the Dottorato di ricerca confers the title of "Dottore di Ricerca" or "PhD".

Joint Degrees: Italian universities are allowed to establish degree programmes in cooperation with Italian and foreign partner universities, on completion of which joint or double/multiple degrees can be awarded.

Further information:  
Italian Qualifications Framework (Quadro dei Titoli Italiani – QTI)  
<http://www.quadrodeittitoli.it>



## Sistema universitario italiano

### *The Italian University System*

