



Student number code: 5574630

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Diploma Supplement

Number Register : CE2015B092110000017

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: BERTI
1.2 Given name: EMILIO
1.3 Date of birth: 15/MAR/1990
1.4 Student identification number or code (if available) 5574630

2. Information identifying the qualification

- 2.1 Name of the qualification and title conferred BIOLOGY Qualification and title conferred: DOTTORE MAGISTRALE
2.2 Main fields of study for the qualification: LM-6 - BIOLOGY
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



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4.1 Mode of study: FULL TIME

4.2 Programme requirements:

LM-6 - BIOLOGY

Graduates will:

have acquired a solid and integrated culture of basic biology and its diverse sectors, as well as of applied biology, and an elevated scientific and operational knowledge of the disciplines;
have acquired an in-depth knowledge of the methods and tools used for analysis and the acquisition of data;
possess advanced knowledge of mathematical and computer support tools;
have mastery of scientific research methodology;
be able to speak and write fluently in at least one European Union language, other than Italian, for professional purposes;
be able to work both as an individual or in a group, and be able to take on managerial roles with complete responsibility for projects, structures and personnel.

120 credits are usually earned subdivided into:

B - COMPULSORY SUBJECTS, CHARACTERISTIC OF THE CLASS	51 credits
C - SUPPLEMENTARY COMPULSORY SUBJECTS	24 credits
D - OPTIONAL SUBJECTS	15 credits
E - A FOREIGN LANGUAGE, FINAL EXAMINATION	24 credits
F - VARIOUS EDUCATIONAL ACTIVITIES	6 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
PLANT BIODIVERSITY	22/09/2014	6.00	C	780	28/30	BIO/02	
MOLDELS AND METHODS IN CONSERVATION BIOLOGY	16/06/2014	6.00	C	780	30/30 LODE	BIO/07	
ETHOLOGY AND ANIMAL ECOLOGY	28/01/2014	6.00	B	905	30/30	BIO/05	
ECOPHYSIOLOGY AND CLIMATE CHANGES	04/09/2014	6.00	C	780	30/30 LODE	BIO/05	
INTEGRATIVE PHYSIOLOGY AND BIOPHYSICS	20/06/2014	9.00	B	906	29/30	BIO/09	
CELLULAR AND MOLECULAR TECHNIQUES	21/09/2015	6.00	B	907	27/30	BIO/11	
GENETICS II	03/02/2014	6.00	B	907	28/30	BIO/18	
PHARMACOLOGY	16/01/2014	9.00	B	906	28/30	BIO/14	



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ANTROPOLOGY	10/01/2014	6.00	B	905	30/30 LODE	BIO/08
BIOCHEMISTRY II	08/07/2014	9.00	B	907	27/30	BIO/10
Total of Credits:	69.00	Simple Arithmetic Average:	28.70	Weighted Arithmetic Average based on CFU:	28.61	

SECOND YEAR Courses	Date	CF U	AF	Disciplinary Area	Grades	SSD	Conv/ Disp
MARINE ECOLOGY	10/02/2015	6.00	D	022	30/30	BIO/07	
FINAL EXAMINATION	20/04/2016	24.00	E	831	Test taken	0	
COMPARATIVE PHYSIOLOGY	27/02/2014	6.00	D	022	30/30	BIO/09	
APPLIED PLANT PHYSIOLOGY	13/04/2015	6.00	C	780	27/30	BIO/04	
TRAINING	27/11/2015	6.00	F	785	Test taken	0	
STATISTICS FOR EXPERIMENTAL RESEARCH	08/07/2015	6.00	D	022	28/30	SECS-S/02	
Total of Credits:	54.00	Simple Arithmetic Average:	28.75	Weighted Arithmetic Average based on CFU:	28.75		

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

BIO/02	Systematic Botany
BIO/07	Ecology
BIO/05	Zoology
BIO/09	Physiology
BIO/11	Molecular Biology
BIO/18	Genetics
BIO/14	Pharmacology
BIO/08	Anthropology
BIO/10	Biochemistry
BIO/04	Vegetal Physiology
SECS-S/02	Statistics for Experimental and Technological Research



Disciplinary Areas Classification

780	RELATED OR ADDITIONAL STUDIES
905	DISCIPLINE OF BIODIVERSITY AND ENVIRONMENT AREA
906	DISCIPLINE OF THE BIOMEDICAL INDUSTRY AREA
907	DISCIPLINE OF THE BIOMOLECULAR AREA
022	OPTIONAL ACTIVITIES
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 obtaine this mark in the study course
30 cum laude	16.689
30	26.78
29	7.733
28	17.3
27	13.237
26	8.038
25	3.67
24	2.446
23	1.442
22	0.699
21	0.699
20	0.481
19	0.175
18	0.612

4.5 Overall classification of the qualification

Last Grade: 110/110 cum laude



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Academic year: 2014/2015

Degree Date: 20 April 2016

Title of the thesis: Analysis of movement patterns and aggressive behaviour in two *Lasius* ants (Hymenoptera: Formicidae) by means of mathematical models.

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	62.5
110	8.654
109	4.327
108	6.25
107	4.808
106	2.885
105	1.923
104	1.442
103	0.962
102	2.404
101	0.962
99	0.481
98	0.481
97	0.481
95	0.481
94	0.481
77	0.481



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

Graduates in Biology can perform professional and managerial activities according to the rules established by the law on the regulation of the careers for biologists in all the specific fields of application where, although falling between those for graduates in class 13, is required the contribution of persons with high cultural and professional profile. Istat Code 2.3.1.1 (Biologists, Botanists, Zoologists and similar). The main working areas are: activities of promotion and development of scientific and technological innovation, management and design of technologies; professional and project activities related to the biological areas, in public and private research institutes, in the industrial, health and public administration areas, in particular with respect to the integrated knowledge and the protection of plant and animal organisms, of microorganisms, of biodiversity and environment; to the study and understanding of biological phenomena at molecular and cellular level, at the level of organism and population; to methods in bioinformatics; to the diffusion and scientific disclosure of the knowledge; to the controlled use and the increase of biotic resources; to laboratories for biological and microbiological analysis, to biological control and of quality of products of biological origin; to design, direction and control of production facilities regarding the biological aspects; to the design and management of natural parks, protected areas, bio-parks and aquariums regarding the biological and ecological aspects; to biological and biochemical applications in industry, health area, nutritional area, environmental and of the cultural heritage, to applications of animal models in neuroscience and psico-neuropharmacology.

6. Additional Information

6.1 Additional Information :

Information for the national higher education system

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: 01 July 2016

7.2 Name and Signature SILVIA SARAGONI

7.3 Capacity: Student Services Officer

A handwritten signature in black ink that appears to read "Silvia Saragoni".

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

