

13. IT: Italia (Italy)

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13.1. General information



Italian students have access to EIE University courses if they have completed a five year secondary school. Each University has its own courses and subjects. “*Laurea di primo livello*”, “*Laurea specialistica*” and “*Dottorato di Ricerca*” are, respectively, the Italian terms for “Bachelor”, “MSc” and “Doctorate”.

	Secondary School +3 years			Secondary School +5 years		Secondary School +8 years		
age	19	20	21	22	23	24	25	26
Old system	Laurea Degree					Doctorate (Phd)		
Since 1999	Bachelor			MSc		Doctorate (Phd)		

Figure 13.1: Italian Higher Education System in EIE disciplines.

13.1.1 Electrical and Information Engineering in Italy, boundaries of the field of study

The subjects present in Italian universities are:

- Electrical engineering
- Electronic engineering
- Computer sciences engineering
- Telecommunication engineering
- Bio-Medical engineering
- Automation engineering
- Information engineering
- Computer science and automation engineering
- Management engineering
- Computer science and bio-medical engineering

- Computer science and telecommunication engineering
- Physics engineering
- Mathematical engineering
- E-business engineering

13.1.2 Content, degrees and accreditations

In Italy, each University manages each degree course (Bachelor, Master, Doctorate) through the relevant council of professors (one for each course of studies), who define a curriculum, following some basic rules issued by the Italian Minister of University. The curriculum has then to be approved by the relevant Faculty.

13.1.3 Implementation of the Bologna-BMD system in Italy

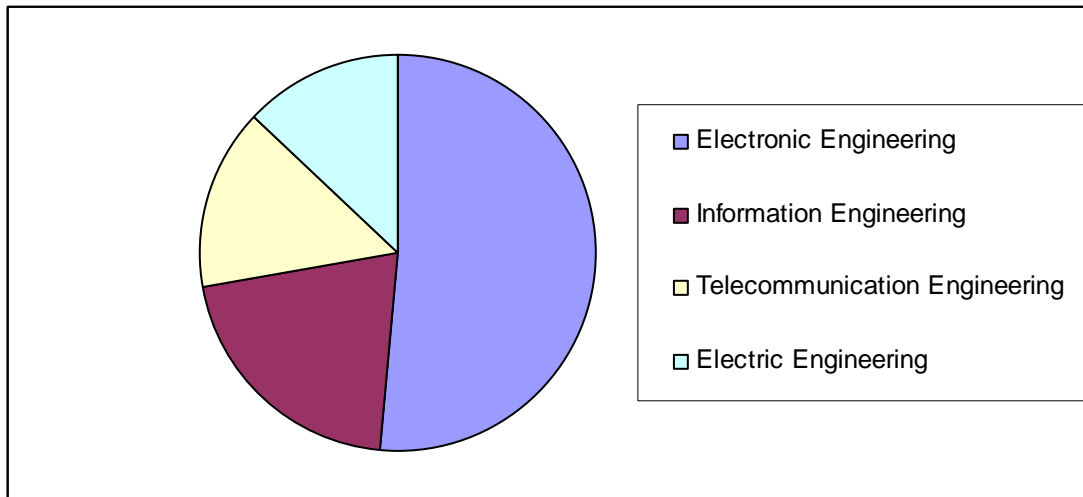
In Italy, the Bologna-BMD organization has been active since 1999, overlapping the old organization (5-8) till 2003 or later (depending on when each University adopted this reform). Of course, students that did prefer not to change the organization of their studies, will be able to graduate also in the future, in the sense that no teaching activities will be provided for them after five years from adoption of the reforms, but they will be allowed to do exams.

13.2. Figures on the weight of EIE in Italy

Detailed statistics on Italian universities are on line available at the Ministry of Education, University and Research web site (<http://www.miutr.it/ustats>).

The following table shows the number of MSc degrees in Italy for the year 2001.

	Absolute value	
Electronic Engineering	1.349	51,45%
Information Engineering	545	20,79%
Telecommunication Engineering	385	14,68%
Electric Engineering	343	13,08%
Total	2.622	100,00%



13.3. Degrees in EIE in Italy

Since 1999 the degrees in EIE are based on the new Bologna-BMD scheme. Bachelor is a title given by Italian universities after the completion of 6 semesters of courses. In order to obtain such a title, students must accumulate a total of 180 credits from courses, thesis and other related activities approved by the University. MSc is a title given by Italian universities, after the completion of another 4 semesters where the students must reach a total of 300 credits (180 from the first three years and 120 in the last two years).

The reference for the following courses and institution can be found in: <http://www.miur.it/>.

A Automation engineering

B Bio-Medical engineering

C Computer science and automation engineering

D Computer science and bio-medical engineering

E Computer science and telecommunication engineering

F Computer sciences engineering

G E-business engineering

H Electrical engineering

I Electronic engineering

J Information engineering

K Management engineering

L Mathematical engineering

M Physics engineering

N Telecommunication engineering

O Computer science and electronic

P Management and information engineering

13.3.1 Bachelor level

Bachelor in Automation engineering
Bachelor in Bio-Medical engineering
Bachelor in Computer science and automation engineering
Bachelor in Computer science and bio-medical engineering
Bachelor in Computer science and telecommunication engineering
Bachelor in Computer sciences engineering
Bachelor in E-business engineering
Bachelor in Electrical engineering
Bachelor in Electronic engineering
Bachelor in Information engineering
Bachelor in Management engineering
Bachelor in Mathematical engineering
Bachelor in Physics engineering
Bachelor in Telecommunication engineering
Bachelor in Computer science and electronic
Bachelor in Management and information engineering

13.3.2 Master level

Master in Automation engineering
Master in Bio-Medical engineering
Master in Computer science and automation engineering
Master in Computer science and bio-medical engineering
Master in Computer science and telecommunication engineering
Master in Computer sciences engineering
Master in E-business engineering
Master in Electrical engineering
Master in Electronic engineering
Master in Information engineering
Master in Management engineering
Master in Mathematical engineering
Master in Physics engineering
Master in Telecommunication engineering
Master in Computer science and electronic
Master in Management and information engineering

13.4. References

The information given in this monograph is based on the following documents and web links:

<http://www.miur.it>, Ministry of Education, University and Research

<http://www.miur.it/ustat/>, Ministry of Education, University and Research

http://almalaurea.cineca.it/universita/profilo/profilo2001/dati/laureatiper_cdl.html



13.5. Doctoral Studies in Italy

13.5.1. Supervision

Scientific Board or Supervisor

The Scientific board is composed by 16 members elected by the Faculty/Department. The student has the same personal supervisor during its thesis work on an active research area in the department.

Subject Assignment

Subject assigned at the beginning of the doctoral studies, by agreement between student and supervisor.

Who can be a Supervisor

1. Any professor/lecturer in the department.
2. No internal or external researchers can supervise doctoral studies.

Tasks of Scientific Board/Supervisor

- | | | |
|----|------------------------------------|-----|
| 1. | General management | YES |
| 2. | Deciding/advising layout of course | YES |
| 3. | Assigning a thesis subject | YES |

Duration

Three years.

13.5.2. Development

Courseware?

No.

Course Work

1. The students don't have to take course work during their doctoral degree preparation. The course work can be assessed by examinations.
2. Extension: no information available.
3. Credit system: no information available.
4. There could be some monitoring of the performance of the doctoral student.

Contribution to Teaching

Supervision of undergraduate laboratory work.

Presentation of Work

1. In the department.
2. At national conferences.
3. At international conferences.

13.5.3. Thesis

Submission of Doctoral Written Thesis

1. Language: Italian. Alternative language: English.
2. No credits allocated to the doctoral thesis.
3. The doctoral thesis is a previously unpublished substantial written report.

Oral Presentation of Thesis Work

1. Language normally used: Italian. Alternative language: English.
2. Oral presentation for an open audience with oral examination at open doors.
3. Duration: typical duration of 1.5 hours with no upper time limit

13.5.4. Examination

Thesis Examination Board

1. Composition: two internal examiners and one external examiner (three members).
2. Selection by the scientific committee of the institution or by the rector or equivalent.

Evaluation

1. Result based on the reading of the thesis and the oral presentation of the thesis work, with a grading system.
2. If the student fails, he/she may resubmit a revised thesis within a time limit. The time limit is not explicitly defined.

13.6. Questionnaires

Italy

3 – ACTIVITIES DURING DOCTORAL STUDIES

3.1- SUPERVISION OF DOCTORAL STUDIES

3.1.1	Are the doctoral studies supervised by a Scientific Board/supervisor? If no, please proceed to 3.1.5.	YES
3.1.2	How many members are in the Scientific Board?	16
3.1.3	How are the members of the Scientific Board chosen?	
3.1.3.1	Elected by the Faculty, Department?	YES
3.1.3.2	Chosen by the student?	NO
3.1.3.3	Chosen in another way? Please specify:	NO
3.1.4	Which are the main tasks of the Scientific Board/ Supervisor?	
3.1.4.1	General management of the doctoral studies.	YES
3.1.4.2	Deciding the layout of the course, advising the students on their coursework.	YES
3.1.4.4	Assigning the thesis subject.	YES
3.1.4.5	Other. Please specify:	
3.1.5	Does the student need a personal supervisor during her/his studies?	YES
3.1.5.1	Does the same person supervise her/his thesis work?	YES
3.1.6	Must the subject of the doctoral thesis be an active research area in the department?	YES

3.1- SUPERVISION OF DOCTORAL STUDIES

3.1.7 The doctoral thesis subject is normally assigned:

- 3.1.7.1 At the beginning of the doctoral studies? YES
- 3.1.7.2 After a specified period of coursework? NO
- 3.1.7.3 Other. Please specify: NO

3.1.8 The thesis supervisor of a doctoral student can be:

- 3.1.8.1 Any professor or lecturer in the department? YES
- 3.1.8.2 Any researcher in the department? NO
- 3.1.8.2.1 In this case, is there a need for a second supervisor who is a professor or lecturer in the department?
- 3.1.8.3 Any researcher in another institution? NO
- 3.1.8.3.1 In the latter case, is there a need for an internal supervisor? NO
- 3.1.8.4 Other methods. Please specify: NO

3.1.9 The thesis subject is assigned by:

- 3.1.9.1 Agreement between the student and the proposed supervisor? YES
- 3.1.9.2 Other methods. Please specify: NO

3.2- COURSE WORK

3.2.1 Do the students have to take coursework during their doctoral degree preparation? If no, please proceed to 3.3. NO

3.2.2 **Extension and assessment.**

3.2.2.1 What is the number of contact hours spent in coursework in each year?

	Year 1	Year 2	Year 3	Year 4
	hrs	hrs	hrs	hrs

3.2- COURSE WORK

3.2.2.2 In which form is this coursework offered?

- As specialist graduate course units.
- As course units taken from the undergraduate programme.
- Other. Please specify.

3.2.2.3 Is the coursework assessed by examinations?
If not, please give details: Y/N

3.2.3 Credit system

3.2.3.1 Is the coursework in your institution described by a credit system? Y/N

3.2.3.2 Is it the ECTS system? Y/N
If not, what is the relationship with ECTS?

3.2.3.3 How many credits are allocated to coursework? **credits**

3.2.4 Monitoring

3.2.4.1 Do you monitor the performance of the doctoral student taking coursework? Y/N

3.2.4.2 What regulations apply in case of failure in one or more course units?

- Retake the exam.
- Take a different course unit.

3.3- PRESENTATION OF WORK RESULTS:

3.3.1 In the department. YES

3.3.2 At national conferences. YES

3.3.3 At international conferences. YES

3.4- CONTRIBUTION TO TEACHING:

3.4.1 Supervision of undergraduate laboratory. YES

3.4.2 Teaching undergraduate courses. NO

4 - AWARDING OF DOCTORAL DEGREE

4.1- SUBMISSION OF DOCTORAL THESIS

4.1.1	Which language is normally used for the thesis?	ITALIAN
4.1.2	Are alternative languages used for the thesis? Please Specify: English.	YES
4.1.3	Which language is normally used for the oral presentation and/or examination?	ITALIAN
4.1.4	Are alternative languages used in the oral presentation and examination? Please Specify: English.	YES
4.1.5	Are credits allocated to the doctoral thesis?	NO
4.1.6	The doctoral thesis is:	
4.1.6.1	A previously unpublished substantial written report.	YES
4.1.6.2	A collection of individual or co-authored scientific papers with an introduction and/or commentary.	NO
4.1.6.3	Other. Please specify:	

4.2- THESIS EXAMINATION AND DEGREE AWARDING

4.2.1	Is there an oral presentation of the thesis work for an open audience as part of the evaluation procedure?	YES
4.2.2	Composition of the thesis examination board. Please, give the typical number of:	
4.2.2.1	Internal examiners.	2
4.2.2.2	External examiners.	1
4.2.2.3	TOTAL.	3

4.2- THESIS EXAMINATION AND DEGREE AWARDING

4.2.3 How is the examination board chosen?

- | | | |
|---------|---|-----|
| 4.2.3.1 | By the supervisor. | NO |
| 4.2.3.2 | By the scientific committee of the institution. | YES |
| 4.2.3.3 | By the rector or equivalent. | YES |
| 4.2.3.4 | By the national ministry. | NO |
| 4.2.3.5 | Other. Please specify: | NO |

4.2.4 Do the examiners base their evaluation mark on:

- | | | |
|---------|---|------------|
| 4.2.4.1 | Reading the thesis. | YES |
| 4.2.4.2 | The oral presentation of the thesis work. | YES |
| 4.2.4.3 | Both. | |
| 4.2.4.4 | What is the typical duration of the oral part of the thesis examination, if applicable? | 1.50 hours |
| 4.2.4.5 | Is there an upper limit to the duration of the thesis examination? | NO |

4.2.5 Is the oral part of the examination taken behind closed doors? NO

4.2.6 What happens if the student fails?

- | | | |
|---------|---|------------------|
| 4.2.6.1 | May not resubmit for doctorate. | NO |
| 4.2.6.2 | May resubmit revised thesis. | YES |
| 4.2.6.3 | May do further work as specified by examination board. | NO |
| 4.2.6.4 | If the thesis is to be re-submitted is there a time limit for this to occur?
Please specify: | YES ¹ |
| | ¹ Not explicitly defined. | |

4.2.7 Is there a grading system for the doctoral degree based on the quality of the work? YES

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University	http addresses
Università degli Studi di ANCONA	http://www.unian.it/
Politecnico di BARI	http://www.poliba.it/
Università degli Studi di BERGAMO	http://www.unibg.it
Università degli Studi di BOLOGNA	http://www.unibo.it
Università degli Studi di BRESCIA	http://www.unibr.it
Università degli Studi di CAGLIARI	http://www.unica.it
Università degli Studi della CALABRIA	http://www.unical.it
Università degli Studi di CASSINO	http://www.unicas.it
Università degli Studi di CATANIA	http://www.unict.it
Università degli Studi "MAGNA GRAECIA" di CATANZARO	http://www.unicz.it
Università degli Studi di FERRARA	http://www.unife.it
Università degli Studi di FIRENZE	http://www.unifi.it
Università degli Studi di GENOVA	http://www.unige.it
Università degli Studi de L'AQUILA	http://www.univaq.it
Università degli Studi di LECCE	http://ww.unile.it
Università degli Studi di MESSINA	http://www.unime.it
Politecnico di MILANO	http://www.polimi.it
Università degli Studi di MODENA e REGGIO EMILIA	http://www.polimi.it
Università degli Studi di NAPOLI "Federico II"	http://www.unimo.it
Seconda Università degli Studi di NAPOLI	http://www.unina.it
Università degli Studi di NAPOLI "Parthenope"	http://www.uninav.it
Università degli Studi di PADOVA	http://www.unipd.it
Università degli Studi di PALERMO	http://www.unipa.it
Università degli Studi di PARMA	http://www.unipr.it
Università degli Studi di PAVIA	http://www.unipv.it
Università degli Studi di PERUGIA	http://www.unipg.it
Università di PISA	http://www.unipi.it
Università degli Studi MEDITERRANEA di REGGIO CALABRIA	http://www.unirc.it
Università degli Studi di ROMA "La Sapienza"	http://www.uniroma1.it
Università degli Studi di ROMA "Tor Vergata"	http://www.uniroma2.it
Università degli Studi ROMA TRE	http://www.uniroma3.it
Università degli Studi di SALERNO	http://www.unisa.it
Università del SANNIO di BENEVENTO	http://www.unisannio.it
Università degli Studi di SIENA	http://www.unisi.it

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Politecnico di TORINO	http://www.polito.it
Università degli Studi di TRENTO	http://www.unitr.it
Università degli Studi di TRIESTE	http://www.univ.trieste.it/
Università degli Studi di UDINE	http://www.uniud.it