2013

REPORT

ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

School of Engineering and Architecture
Laurea (First cycle degree/ Bachelor - 180 ECTS) in Computer Engineering a.y. 2013/2014
Programme Director Prof. Anna Ciampolini

INDICE

WHAT IS THE STUDY PROGRAMME REPORT?

What is the Study Programme Report?
The Study Programme Report provides updated information which is important for the purposes of Quality Assurance and is published annually by the University of Bologna.
The main aspects of the teaching programme are described in detail, with a view to assuring the principle of transparency and promoting self-assessment and continuous improvement processes.
The document provides a concrete overview of the features and results of the Study Programme for students, families, employers and so on.
For example, regarding the current issue of employment, it describes the learning outcomes and career opportunities; it also includes statistics on the percentage of employed graduates (D.4. Employment situation).
The document is organised into five sections and a glossary:

A. Presentation and prospects
Key information on the Study Programme, including the expected learning outcomes, career opportunities and further studies.

B. Teaching and Learning
The updated course structure diagram with the full titles and listings of the course units and the latest published lecture timetable.

C. Resources and services
The list of teaching staff and their relative curricula, the offices (secretariats), services (work placements) and infrastructures (libraries, laboratories) available to students.

D. The Study Programme in Figures
Key data shows how many students are enrolled, how many have been assigned additional learning requirements, how many drop out after the first year, how many graduate in line with the programme schedule, the opinions of attending and graduating students on the teaching programmes and information concerning graduate employment.

E. Find out more: the quality of your Study Programme
How the quality system applied to your Study Programme works. The quality system of your Study Programme is a set of processes and responsibilities adopted to guarantee the quality of all Study Programmes at the University of Bologna.

NOTES:

- Reports are available for all Study Programmes for which it is possible to enrol in the first year in academic year 2012/2013: the information and data provided is as updated as possible.

- Sections A, B and C provide data for the academic year 2012/2013.

- Section D presents data regarding the Study Programmes in the last three academic years.

- The information and data were taken from the University databases and the reports published by the Statistical Observatory of the University of Bologna and AlmaLaurea, and are updated to **15 June 2012.**

A. PRESENTATION AND PROSPECTS

This section presents the key information concerning the Study Programme, including the expected learning outcomes, career opportunities and further studies, updated to the academic year 2013/2014.

A.1. PRESENTATION

This paragraph provides information on the specific learning outcomes of the Study Programme and the curriculum.

The achievement of the learning outcomes indicated in the decree regarding degree classes is accomplished through a degree programme that aims to form graduates with a sound methodological background, integrated and completed by specific working skills that are developed above all during laboratory work. Graduates will be able to build and manage systems, processes and services related to the specific field computer engineering, as well as in any other context in which computer technologies play an important role. To this end, undergraduates are guided through the process of the learning of problems, reference models and the methods that characterise the design of modern processing systems, as well as the standards that derive from them, and the most advanced technologies available for their concrete application. Particular attention is paid to the overall understanding of the fundamental principles, the illustrations given of methodological approaches, the presentation of the environments and tools that together, systemically, are at the basis of the design of software, operating systems, information systems and computer networks, web infrastructures and computational architectures. The specific skills are integrated and completed by a sound background in physics and mathematics, and advanced interdisciplinary skills in other core curriculum subject areas as provided for in the decree on the degree classes of Information Engineering, such as Electronic Engineering and Telecommunications Engineering, contemporary business training and adequate knowledge of a foreign language.

A.2. ADMISSION REQUIREMENTS

This paragraph provides information on the knowledge required for admission to the Study Programme.

This information is not available in English at this time.

A.3. LEARNING OUTCOMES

This paragraph provides information on the knowledge and skills students will have acquired by the end of the Programme.

KNOWLEDGE AND UNDERSTANDING ABILITY:
Graduates:
1 - will have knowledge of the fundamental methodologies that characterise both basic mathematics and physics and the curriculum subject areas of information engineering, and will be able to understand their importance in resolving engineering problems that may be interdisciplinary;
2 - will have knowledge of the reference models, methods and tools that aid in the design in modern information processing systems, and will be able to understand the implications of their use in new situations in which information technologies play an important role
3 - will have knowledge of the fundamental themes related to the subject areas of Electronics, Automation and Telecommunications, and will be able to evaluate cost/benefit ratios of introducing new components, apparatus and systems into computer applications;
4 – will be able to understand the salient aspects of business organisation as regards its application to problems of economic optimum and when considering alternative solutions to problems.
The abilities listed above are developed especially:
· for point 1, in all the course units of the core curriculum subject areas
· for point 2, in the course units of the core curriculum subject areas ING-INF/05
· for point 3, in the course units of the core curriculum subject areas ING-INF/04, ING-INF/01, ING-INF/02 and the integrated course units of the subject area ING-IND/31.
· for point 4, in the integrated course units of the subject area ING-IND/35.
ABILITY TO APPLY KNOWLEDGE AND TO UNDERSTAND:
Graduates:
1. will have knowledge the principles, methodologies and tools that aid in the design of digital systems for information processing will be able to apply this knowledge to the development of integrated solutions in different situations;
2. will have knowledge of the organisation of modern electronic computers as regards their functioning, structure and technology and will be able to apply this knowledge to the design of both general-purpose computational architectures and embedded systems that respond to specific application requirements;
3. will have knowledge of modern methodologies for the design of software, programming languages and computation paradigms for the solution of problems in different application scenarios;

4. will have knowledge of the operating systems and principals of concurrent programming and will be able to use this knowledge to develop structured applications in co-operating processes;

5. will have knowledge of the organisational and planning aspects of information systems and will be able to apply this knowledge to the building and management of databases in different application scenarios;

6. will have knowledge of the architectural aspects of computer networks and the computational infrastructures connected to them, and will be able to apply this knowledge to the development of distributed systems and services:

7. will have knowledge of WEB systems as regards architectures and technology, and will be able to apply this knowledge to the design of the computational infrastructures of Internet computing.

The learning outcomes listed above are developed especially:

· for points 1 and 2, in the courses of the core curriculum subject areas ING-INF/05 that deal with models and methodologies in the design hardware systems;

· for point 3, in the courses of the core curriculum subject areas of computer science and those of ING-INF/05 that focus on software engineering and programming;

· for point 4, in the courses of the core curriculum subject area ING-INF/05 that concentrate on the principles for the organisation and functioning of modern operating systems;

· for point 5, in the courses of the core curriculum subject area ING-INF/05 that focus on models and for the organisation, management and design of databases;

· for point 6, in the courses of the core curriculum subject area ING-INF/05 dedicated to distributed systems and computer networks;

· for point 7, in the courses of the core curriculum subject area ING-INF/05 that are characterised by choices that focus on models and tools for the design and development of systems and applications based on the Web.

JUDGEMENT SKILLS:

Graduates:

1. will be able to identify, formulate and resolve problems related to the design, management, and adjustment of computer systems and applications;

2. will be able to carry out testing, conduct experiments and evaluate performance of hardware/software infrastructures of computer systems and establish the level of conformity with the project requirements and interpret the results obtained;

3. will be able to identify the salient points of technical reports presented or drafted by others and pick out the important and innovative aspects;

4. will be able to understand articles published in technical and scientific journals and form personal opinions on importance and implications;

5. will be able to find and consult, also via WEB, the main bibliographical sources, proposals for standardisations at a national and international level on the certification of products and systems of industrial interest.

The learning outcomes listed above are developed especially:

· for points 1 and 2, in all the course units of the core curriculum subject area ING-INF/05 that provide for project and laboratory work;

· for point 3, in the course units of the core curriculum and elective subject areas that require the presentation of e-Learning teaching materials seminars and, as regards further course units, the internship in a firm;

· for points 4 and 5, work related to the preparation of the final paper.

COMMUNICATION SKILLS:

Graduates:

1. will be able to communicate data, information, problems and solutions effectively, both orally and in writing, not only in Italian but also in English (level B1) efficiently and effectively;

2. will be able to draft technical reports on work completed and present a summary of the salient points in meetings with colleagues;

3. will be able to work well with a management team for the design, testing and verification of performance of computer systems, processes and applications.

The learning outcomes listed above are developed especially:

· for point 1, course units related to foreign language learning ;

· for point 2, work for the preparation of the final paper and all the course units that require the presentation of a report prepared by students for assessment;

· for point 3, in all the course units of the core curriculum subject area ING-INF/05 that involve group and project work and as regards further course units, internships.

LEARNING SKILLS:

Graduates:

1. will be able to keep up to date on methods, techniques and tools oriented to the analysis of requirements, modelling and design, testing and adjustments and optimization of computer systems and applications;

2. will be able to follow developments in computer technologies and identify new requirements for information and training;

3. will be able to undertake further studies in the areas of Information Engineering with considerable independence

The learning outcomes listed above are developed especially:

· for points 1 and 2, in all the course units of the core curriculum subject area ING-INF/05;

· for point 3, in all the course units of the degree programme.

A.4. CAREER OPPORTUNITIES

This paragraph provides information on the occupational profile, functions and fields of employment available to graduates of this Programme.

JUNIOR COMPUTER ENGINEER

Main functions:

- Responsible for the design and building of software applications.

Carrying out research, developing methods for resolving problems of medium complexity, promoting the use of modern languages and modelling tools oriented towards the development of applications, perfecting operating techniques and working on the consequences arising from application in practice, creating, testing and maintaining databases and distributed information systems in conformity with the specific predetermined functions and project guide-lines. The professional positions of such graduates are typically:

- Systems analyst;

- Analyst of computer procedures;

- Analyst and programmer of information systems;

- Designer of WEB infrastructures;

- Software developer;

- Technical expert in multi-media systems.

- Responsible for the design of hardware for computational infrastructures.

Applying the relevant skills to the organisation of modern electronic computers as regards functioning, structure and technology for the design of both general-purpose computational platforms and embedded systems that respond to specific application requirements. The professional positions of such graduates are typically:

- Architectures and networks designer;

- Specialist in communication interfaces and protocols;

- Designer of embedded systems;

- Specialist in programmable electronic components and systems with a high level of integration

- Responsible for the administration of computer systems and networks.

Taking part in all the stages connected to the building and management of complex infrastructures for programming and communication, such as the planning of the resources necessary, the installation, setting up and maintenance of apparatus, the personalisation of WEB applications, the introduction of adequate safety precautions and monitoring of performance, as well as availability and quality of services. The professional positions of such graduates are typically:

- Systems Administrator;

- Network Administrator;

- Specialist in computer safety of networks;

- Web designer;

- Web master.

Career opportunities:

The degree programme aims to offer an academic programme that is coherent with the professional role as identified in the category of paragraph 2.1.1.4 "Highly specialised intellectual and scientific professions – computer and telematic specialists" of ISTAT - Italian Central Statistics Office. The combination of course units in the degree programme provides graduates with the specific skills that enable them to find employment easily in very different working environments, operating as a systems experts and/or designer for hardware and software in any context of application where computer technologies are important. The specific technical skills of the sector can easily combine with other skills (managerial, economic, legal, etc.), to create professionals qualified to work in the new roles that are ever more in demand.

Graduates may work in any area of the current modern technological society, particularly in manufacturing or service firms, companies operating in the area of industrial automation, process industries, public administration, schools and training centres, or freelance and use skills to enhance the process of innovation and development that is occurring in all organisations that have to update by introducing advanced information technologies. Specifically, graduate qualifications are most suited to the following main career opportunities:

- companies that produce and/or use components and computer systems ;

- firms and centres offering services in the sector of information systems ;

- firms that supply structures and services for computer systems and networks;

- firms that supply services related to Internet computing and Web infrastructures;

- software engineering firms;

- firms operating in the sector of industrial automation and robotics;
- process industries in the mechanical, electrical, electromagnetic, energy and chemical sectors;
- industrial laboratories for research and development;
- technical offices in public administration that use computer infrastructures for the management both of internal services and services dedicated to users;
- schools and training centres;
- research institutes.

As regards the type of firms active in the Emilia-Romagna region, it should be noted that the job opportunities of considerable interest to graduates in Computer engineering are to be found in the area of industrial automation, and particularly in the sector of firms that build automatic machines for packaging (which have earned the area the name of "Packaging Valley" at an international level). The opportunities in computer consultancy and software engineering firms are equally interesting, as are opportunities in local government, service industries, public and private data processing organisations and process industries working in the areas of electromechanical, energy, chemical and civil sectors.

The degree programme project has been submitted to selected external stakeholders in order to receive their opinions and feedbacks on the learning outcomes and the professional profiles.

A.5. OPINION OF SOCIAL PARTNERS AND POTENTIAL EMPLOYERS

This paragraph describes the outcome of the consultation with the representative employment and trade organisations.

This information is not available in English at this time.

A.6. FURTHER STUDIES

It gives access to second cycle studies (Master's degrees) and to professional master's programmes.

B. TEACHING AND LEARNING

This section describes the updated course structure diagram (for academic year 2013/2014), with the full titles and listings of the course units and the latest published lecture timetable.

B.1. COURSE STRUCTURE DIAGRAM

The link takes you to the Study Programme course structure diagrams. You can also access to each course unit content.

- Study plan: all course units in the programme

B.2. CALENDAR AND LECTURE TIMETABLE

The links take you to the teaching calendar (exam session and final examination session) and the lecture timetable (in Italian).

- Lecture timetable
- Exam sessions
- Final examination sessions

C. RESOURCES AND SERVICES

This section provides a list of teaching staff and their relative curricula and and description of the services available to students for the academic year 2013/2014.

C.1. TEACHERS

The paragraph lists the lecturers who teach in the Study Programme: from here you can access the personal web pages of each one.
Information updated to 28 May 2013 (in Italian).

Permanent teaching staff:

Bartolini, Ilaria	Ciampolini, Anna	Galli, Domenico	Ravaglia, Carlo
Bellavia, Giuseppe	Corradi, Antonio	Lanzoni, Massimo	Rinaldi, Paola
Bellavista, Paolo	Denti, Enrico	Margiotta, Annarita	Sioli, Maximiliano
Brini, Francesca	Diversi, Roberto	Mattoccia, Stefano	Tinarelli, Roberto
Caini, Carlo	Faldella, Eugenio	Mello, Paola	
Chesani, Federico	Fraboni, Beatrice	Neretti, Gabriele	
Ciaccia, Paolo	Frosini, Patrizio	Prandini, Marco	

Contract teaching staff:

Masia, Gianluca
Zannoni, Gabriele

C.2. STUDENT SERVICES: OFFICES

C.2.1. FUTURE STUDENTS

The link take you to the webpage which provides specific information about the offices and the services for the future students (in Italian).

- Future students

C.2.2. ENROLLED STUDENTS

The link take you to the webpage with the information on the offices and the services for the enrolled students (in Italian).

- Enrolled students

C.2.3. INTERNATIONAL STUDENTS

The link take you to the webpage with the information on the offices and the services for the international students (in Italian).

- International students

C.2.4. GRADUATES

The link take you to the webpage with the information on the offices and the services for the graduates (in Italian).

- Graduates

D. THE STUDY PROGRAMME IN FIGURES

Information on students' starting their university careers, how many students are in line with the regular programme, opinions of students and graduates on the teaching programmes and information concerning graduate employment.

This section provides the data of the last academic years for the Study Programme (SP) and a comparison with similar Study Programmes. The University of Bologna has divided its Study Programmes into four groups:

*   *BIOMEDICAL group: Study Programmes of the Schools of Pharmacy, Biotechnology and Sport Science; Medicine; Agriculture and Veterinary Medicine*

*   *SCIENTIFIC-TECHNOLOGICAL group: Study Programmes of the Schools of Engineering and Architecture; Sciences*

*   *SOCIAL SCIENCES group: Study Programmes of the Schools of Economics, Management, and Statistics; Law, Political Sciences*

*   *HUMANITIES group: Study Programmes of the Schools of Arts, Humanities, and Cultural Heritage; Foreign Languages and Literatures, Interpreting and Translation; Psychology and Education*

The section presents the results of the Study Programme for the last three academic years.

Main data shows how many students enrolled, the number of students assigned OFA, how many drop out after the first year, how many graduate in line with the programme schedule, the opinions of attending and graduating students on the teaching programmes and information concerning graduate employment.

The information and data presented in this section, updated to 28 May 2013, were taken from University databases and AlmaLaurea.

Study Programmes may be subject to degree programme system modifications from one academic year to the next, and the data provided in this section may refer to a programme with a slightly different system to the one currently running (such as programme title, course structure diagram and list of lecturers). However, indicatively the data presents the general trend of the Study Programme over the past three years.

Most of the Study Programmes running at the University of Bologna have been reformed in compliance with DM 270/04, most of them from the academic year 2008/2009. In the reports provided for these Programmes, paragraph D.5. refers to the Study Programmes as they were presented prior to the reform.

D.1. STUDENTS STARTING THEIR UNIVERSITY CAREERS

Characteristics of incoming students at the beginning of their university careers. Tables and graphs provide information on the number of registered students, focusing on the characteristics of the students, results of any entrance tests and the students assigned any additional learning requirements.

D.1.1. ENROLMENTS AND REGISTRATIONS

The **graph** shows the number of students enrolled in the 1st year compared with the average of similar Study Programmes (which belong to the same group).

In addition, the **table** shows the total number of registered students and the total number of enrolled students.

Data of the Study Programme is compared with the average of the Study Programmes of average of similar Study Programmes (which belong to the same group) for the indicated academic years.

First year enrolments

Legend: Study Programme — Average of similar Study Programmes

Values:
- a.y. 2010/2011: Study Programme 147, Average of similar Study Programmes 105,3
- a.y. 2011/2012: Study Programme 164, Average of similar Study Programmes 129,9
- a.y. 2012/2013: Study Programme 175, Average of similar Study Programmes 125,7
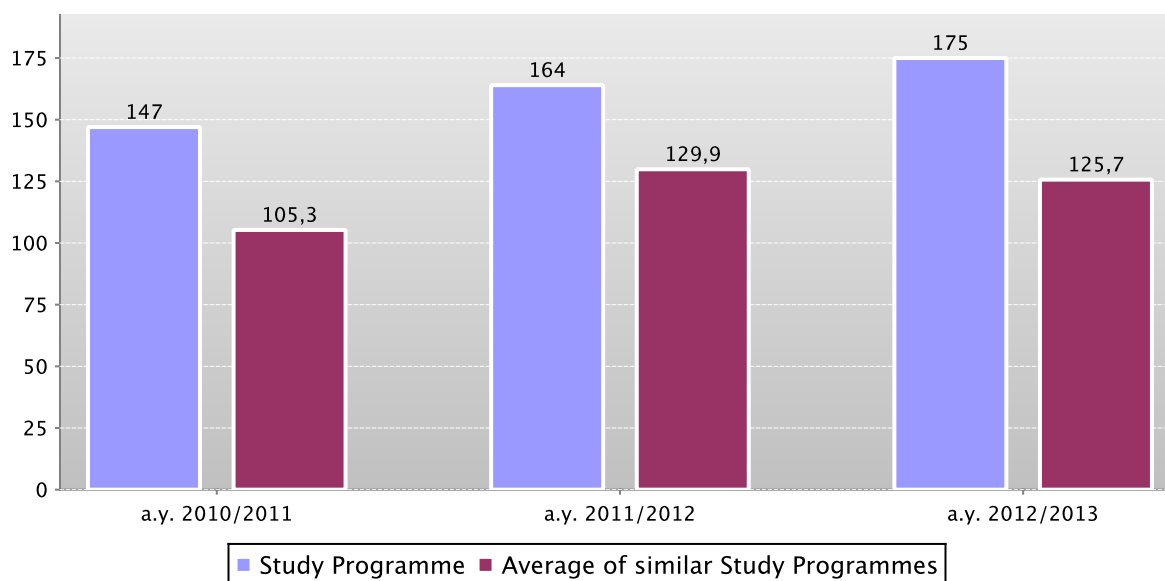
	a.y. 2010/2011			a.y. 2011/2012			a.y. 2012/2013		
	Registered students	N. first year enrolments	Total N. enrolled students	Registered students	N. first year enrolments	Total N. enrolled students	Registered students	N. first year enrolments	Total N. enrolled students
Study Programme	140	147	341	149	164	435	158	175	506
Average of similar Study Programmes	97,8	105,3	152,7	118,6	129,9	161,1	113	125,7	160,1

D.1.2. ADDITIONAL DATA ON STUDENTS' STARTING THEIR UNIVERSITY CAREERS

D.1.2.1. CANDIDATES REGISTERED FOR THE ENTRANCE EXAM

In academic year 2012/2013 access to this Study Programme was not restricted.

D.1.2.2. INCOMING STUDENTS

Geographic origin, type of high school certificate, age and gender of students.
Data shows a homogeneus group of students (cohort) which started together their academic career. Students which have passed to an other Study Programme, transferred from an other university, or registered to a 2nd degree are not included.
The **tables** show the number, geographic origin, gender, age, type and grade of high school certificate of students enrolling in the degree programme.
Data of the Study Programme is compared with the average of the Study Programmes of average of similar Study Programmes (which belong to the same group) for the indicated academic years.

			Geographic origin					Gender		Average age of registered students		
		Registered students	Students coming from the province of the Study Programme site	Students coming from other provinces where Unibo has a site	Students coming from other provinces of Emilia Romagna region	Students coming from other Italian regions	Students coming from abroad	M	F	19 or less	20 - 24	25 or more
Students 2010/2011	Study Programme	140	35,0%	15,0%	9,3%	39,3%	1,4%	87,9%	12,1%	77,1%	20,0%	2,9%
	Average of similar Study Programmes	97,8	34,6%	20,3%	7,6%	35,2%	2,3%	69,7%	30,3%	81,6%	16,1%	2,2%
Students 2011/2012	Study Programme	149	34,2%	12,1%	8,7%	39,6%	5,4%	83,9%	16,1%	85,2%	14,8%	
	Average of similar Study Programmes	118,6	33,4%	19,0%	7,8%	37,7%	2,2%	65,1%	34,9%	79,5%	18,1%	2,4%
Students 2012/2013	Study Programme	158	40,5%	7,0%	12,7%	36,1%	3,8%	89,9%	10,1%	79,7%	16,5%	3,8%
	Average of similar Study Programmes	113	30,9%	20,0%	7,9%	38,8%	2,4%	65,6%	34,4%	80,5%	17,3%	2,2%

		High school certificate					Grade of High school			
		Vocational schools	Technical Colleges	High school specializing in education and in psycho-pedagogical science	High schools specializing in classical studies, modern languages, science education	Other Italian or foreign high schools	Grade ranging from 60 to 69	Grade ranging from 70 to 79	Grade ranging from 80 to 89	Grade ranging from 90 to 100
Students 2010/2011	Study Programme	0,7%	33,6%		58,6%	7,1%	24,3%	22,1%	22,1%	29,3%
	Average of similar Study Programmes	2,9%	29,3%	0,9%	60,8%	6,0%	19,6%	27,7%	25,0%	26,4%
Students 2011/2012	Study Programme	0,7%	29,5%	0,7%	60,4%	8,7%	16,1%	24,8%	27,5%	27,5%
	Average of similar Study Programmes	2,7%	27,9%	2,0%	61,1%	6,3%	19,6%	26,4%	24,2%	27,2%
Students 2012/2013	Study Programme	3,2%	35,4%	0,6%	52,5%	8,2%	19,6%	17,7%	27,8%	26,6%
	Average of similar Study Programmes	2,5%	27,3%	2,0%	62,3%	5,9%	17,5%	26,6%	26,5%	24,9%

D.1.2.3. ADDITIONAL LEARNING REQUIREMENTS

Students on the programme assigned additional learning requirements (OFA). OFA are learning requirements assigned to enrolled students who have not demonstrated the full possession of the entrance requirements. The assessment methods of students' initial preparation and the fulfilment of the OFA are described in the Study Programme Regulations, and may change each year. Students not completing the additional learning requirements are obliged to re-enrol in year 1 as repeating students.

The **table** shows the number of registered students, the number of students assigned OFA, the number who fulfilled them, the percentage of students assigned the OFA compared to the number of enrolled students and the percentage fulfilling the OFA compared to those assigned them.

	Registered students (a)	Students assigned OFA (b)	Students who fulfilled OFA (c)	% of students assigned OFA compared to the number of enrolled students (b/a)	% of students fulfilling the OFA compared to number of students assigned (c/b)
Students 2010/2011	140	64	53	45,7%	82,8%
Students 2011/2012	149	70	57	47,0%	81,4%
Students 2012/2013	158	65			

*Note: At the time of publication of this report the number of students fulfilling the OFA can be measured for a.y. 2009/2010 and a.y. 2010/2011 only.

D.2. REGULARITY OF STUDIES

Insight into the regularity with which the students pass their exams.
Graphs and tables provide information on the number of students who leave the programme after the first year and the number of regular graduates, focusing on the number of credits obtained at the end of the first year, on the exams passed and average grade achieved for each course unit.

## D.2.1. STUDENTS LEAVING THE PROGRAMME BETWEEN YEARS 1 AND 2

Here the number of students leaving the Study Programme is shown.

The **graph** shows the percentage of students who leave the programme after the first year compared to the average of similar Study Programmes (belonging to the same group).

The **table** shows the registered students, the percentage of students leaving the programme who pass to a different Study Programme in the same university, transfer to another university or withdraw from studies, as well as the enrolled repeating students and those enrolled in the second year.

The Study Programme data is compared with the average of similar Study Programmes of (which belong to the same group), for students registered in the indicated academic years.

Percentage of withdrawals between years 1 and 2
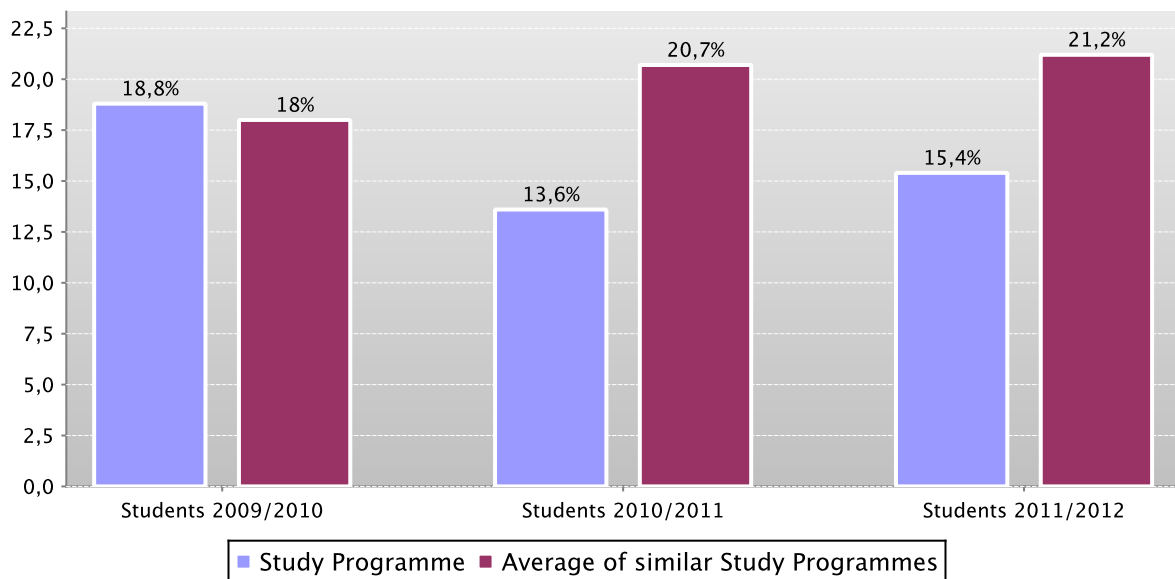
|		Registered students	% withdrawals	% passages and transfers	% repeating students	Students enrolled in the second year
Students 2009/2010	Study Programme	96	18,8%	9,4%	3,1%	66
	Average of similar Study Programmes	86,5	18,0%	10,4%	2,3%	59,9
Students 2010/2011	Study Programme	140	13,6%	15,0%	5,0%	93
	Average of similar Study Programmes	97,8	20,7%	12,9%	2,8%	62,2
Students 2011/2012	Study Programme	149	15,4%	10,7%	2,0%	107
	Average of similar Study Programmes	118,6	21,2%	13,9%	2,0%	74,7

D.2.2. REGULAR GRADUATES

Here you will find information on regular graduates, on how many students, at the end of the regular programme duration, left the programme and how many are still enrolled but not aligned to the exam schedule.

The **graph** and the **table** show the situation concerning registered students for the indicated academic year, at the end of the regular duration of the Study Programme, highlighting the percentage of regular graduates, the number of students still enrolled (not aligned to the exam schedule and repeating students), students who have left the programme (including passages, transfers and withdrawals).

The Study Programme data is compared with the average of similar Study Programmes (which belong to the same group) for students registered in the indicated academic years.

Situation of students 2009/2010 at the end of regular duration of the study programme
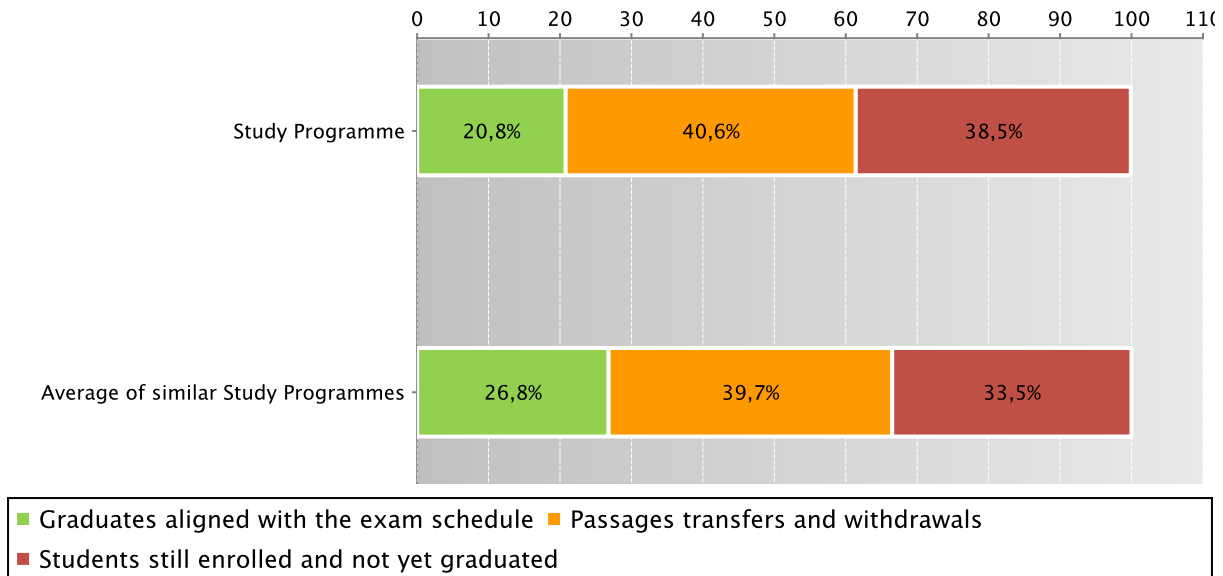
	Registered students	Regular graduates		Passages transfers and withdrawals		Students still enrolled and not yet graduated	
		N.	%	N.	%	N.	%
Students 2008/2009 Study Programme	99	17	17,2%	47	47,5%	35	35,4%
Average of similar Study Programmes	77,1	19,8	25,7%	30,5	39,6%	26,8	34,8%
Students 2009/2010 Study Programme	96	20	20,8%	39	40,6%	37	38,5%
Average of similar Study Programmes	86,5	23,2	26,8%	34,4	39,7%	29	33,5%

See data of previous academic years – Study Programme D.M. 509/99 Computer Engineering (code 0051) paragraph D.5.2.2.

D.2.3. ADDITIONAL DATA ON REGULARITY OF STUDIES

D.2.3.1. CREDITS OBTAINED BY STUDENTS IN THE 1ST YEAR

This offers an insight into how regularly students pass their exams.

The **graph** shows the distribution of the students according to the number of credits obtained at the end of the first year.

In addition, the **table** shows the number of students registered at the second year and average credits obtained during the first year.

The Study Programme data is compared with the average of similar Study Programmes (which belong to the same group) for the indicated academic years.

Distribution of the students in 2011/2012 according to the number of credits obtained at the end of the first year*
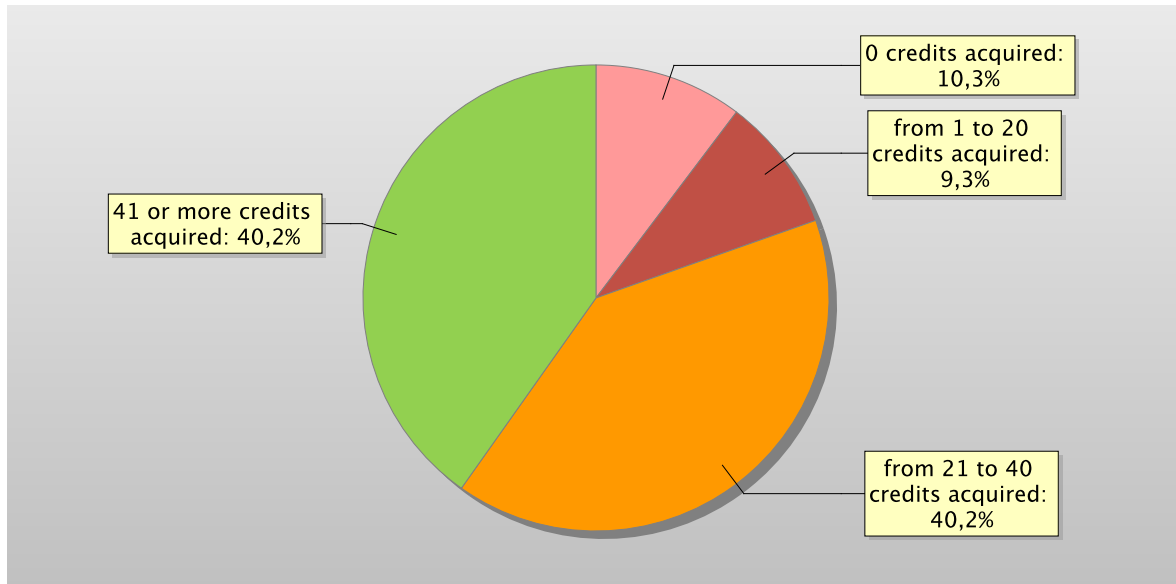
		Students enrolled in the 2nd year	% students with *				Average credits per student
			0 credits acquired	from 1 to 20 credits acquired	from 21 to 40 credits acquired	41 or more credits acquired	
Students 2009/2010	Study Programme	66	6,1%	16,7%	45,5%	31,8%	30,9
	Average of similar Study Programmes	59,9	4,3%	17,5%	40,5%	37,7%	33,3
Students 2010/2011	Study Programme	93	8,6%	14,0%	48,4%	29,0%	30
	Average of similar Study Programmes	62,2	5,1%	16,9%	40,1%	37,9%	33,1
Students 2011/2012	Study Programme	107	10,3%	9,3%	40,2%	40,2%	33,2
	Average of similar Study Programmes	74,7	5,1%	16,3%	39,0%	39,7%	33,7

*Note: by convention, credits are considered to be obtained by students by 31st October of the year following the year of enrolment.

D.2.3.2. EXAMS PASSED AND AVERAGE GRADE

The **table** shows number of exams passed and average grade achieved for each course unit in the calendar year 2011. Marks for the exams passed are expressed out of thirty.

The data refers to the course unit code and therefore includes the various branches of the programme divided into channels or sub-groups, divided by letter.

It considers all subjects for which a grade is assigned, and therefore excludes all those to which a pass/fail score is allocated.

Data of the Study Programme D.M. 270/04 Ingegneria informatica (code 0926)

	N. of exams passed	Average grade *
27991 ANALISI MATEMATICA T-1	113	24,1
27993 ANALISI MATEMATICA T-2	89	25,7
27996 FISICA GENERALE T-1	94	23,5
28000 FISICA GENERALE T-2	58	23,2
28004 FONDAMENTI DI INFORMATICA T-1	125	25,4
28006 FONDAMENTI DI INFORMATICA T-2	109	25,7
28008 GEOMETRIA E ALGEBRA T-1	4	
28011 RETI LOGICHE T	21	23,6
28012 CALCOLATORI ELETTRONICI T	47	24,3
28014 FONDAMENTI DI TELECOMUNICAZIONI T	57	26,2
28015 CONTROLLI AUTOMATICI T	31	26,5
28016 ELETTRONICA T	44	25,6
28020 SISTEMI OPERATIVI T	62	25,3
28021 INGEGNERIA DEL SOFTWARE T	40	24,5
28024 RETI DI CALCOLATORI T	44	25,2
28027 SISTEMI INFORMATIVI T	83	22,9
28029 ELETTROTECNICA T	60	25,7
28030 ECONOMIA E ORGANIZZAZIONE AZIENDALE T	86	24,4
28032 MATEMATICA APPLICATA T	89	24,1
28659 TECNOLOGIE WEB T	36	26,7
29228 GEOMETRIA E ALGEBRA T	82	23
32099 DIRITTO DELL'INFORMATICA T	31	29,3
34878 RICERCA OPERATIVA M	5	
35224 FONDAMENTI DI INTELLIGENZA ARTIFICIALE M	3	
35225 SISTEMI OPERATIVI M	1	
35239 RETI DI CALCOLATORI M	3	
35243 TECNOLOGIE DELLE BASI DI DATI M	3	
38378 AFFIDABILITÀ E CONTROLLO DELLA QUALITÀ T	31	25,1

* Note: no average grade is given if the number of exams passed is less than or equal to 5.

D.3. OPINIONS OF GRADUATES AND ATTENDING STUDENTS

Opinions of graduates on the Study Programme.
Tables and graphs provide information on the number of graduates who expressed positive opinions on the Study Programme, focusing on opinions expressed by attending students on course units.

D.3.1. OPINION OF GRADUATES

The **graph** shows the percentage of graduates (AlmaLaurea survey) who responded positively to the question: "**Are you generally satisfied with the Study Programme"**.
In addition, the **table** shows the percentage of students who answered "Yes, to the same programme at the university" to the question "Would you register again to the university?".
The Study Programme data is compared with the average of similar Study Programmes (which belong to the same group), and the average of Study Programmes of the same class of other Italian universities for the graduates of the indicated years.

Graduates in 2012 who responded positively to the question: "Are you generally satisfied with this Study Programme?"

Data of the Study Programme D.M. 270/04 Ingegneria informatica (code 0926)
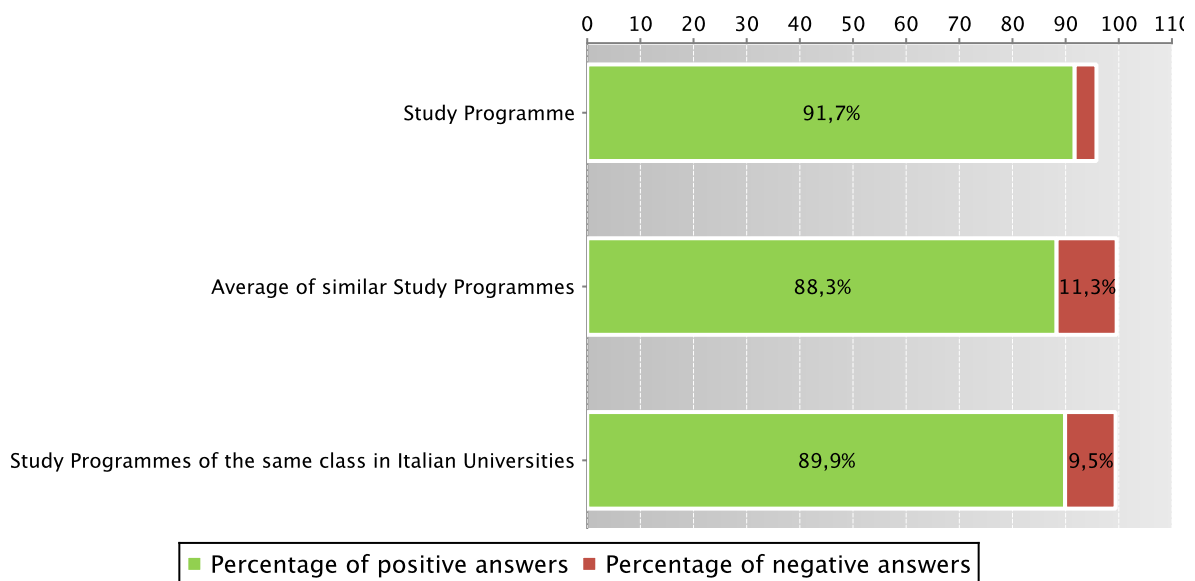
Data of the Study Programme D.M. 270/04 Ingegneria informatica (code 0926)

		N. graduates	Completed Questionnaires	% of positive answers to the question: "Are you generally satisfied with this Study Programme?"	% of answers "yes to the same Programme in the same University" to the question "Would you register again to the University"
2011	Study Programme	17	16	100,0%	100,0%
	Average of similar Study Programmes	23,7	22,8	88,9%	73,5%
	Study Programmes of the same class in Italian Universities	529	501	90,8%	83,2%
2012	Study Programme	24	24	91,7%	87,5%
	Average of similar Study Programmes	24,4	23,9	88,3%	72,3%
	Study Programmes of the same class in Italian Universities	1539	1469	89,9%	77,8%

Symbols:

(*) The opinions of the Study Programmes with less than 5 graduates are not shown.

Further information on Graduates' Profile Report.

See data of previous academic years – Study Programme D.M. 509/99 Computer Engineering (code 0051) paragraph D.5.3.1.

D.3.2 ADDITIONAL DATA ON OPINIONS OF STUDENTS

D.3.2.1. OPINION OF ATTENDING STUDENTS

The **graph** shows the percentage of attending students who responded positively to the question in the questionnaire: "Are you generally satisfied with this course unit?" in academic year 2011/2012.

The **table** also shows the number of completed questionnaires.

The Study Programme data is compared with the average of similar Study Programmes (which belong to the same group), for the indicated academic years.

The data concerning the students' opinion refers to the opinions of those attending lessons, whether they are enrolled in the current programme or a Study Programme running under pre-reform regulations (under D.M. 509).

For the University of Bologna the survey and subsequently analysis of the opinions of students attending the course is cared by Academic Affairs Division - Quality Assurance Department and Control and Finance Division - Support Planning and Evaluation Department. The overall results and the methods of collection and analysis are described in the document published online on the Statistical Observatory of the University of Bologna (see the note in the glossary).

Students who responded positively to the question: "Are you generally satisfied with this course unit?" in academic year 2011/2012

Data of the Study Programme D.M. 270/04 Ingegneria informatica (code 0926) and of the Study Programme D.M. 509/99 Ingegneria informatica (code 0051)
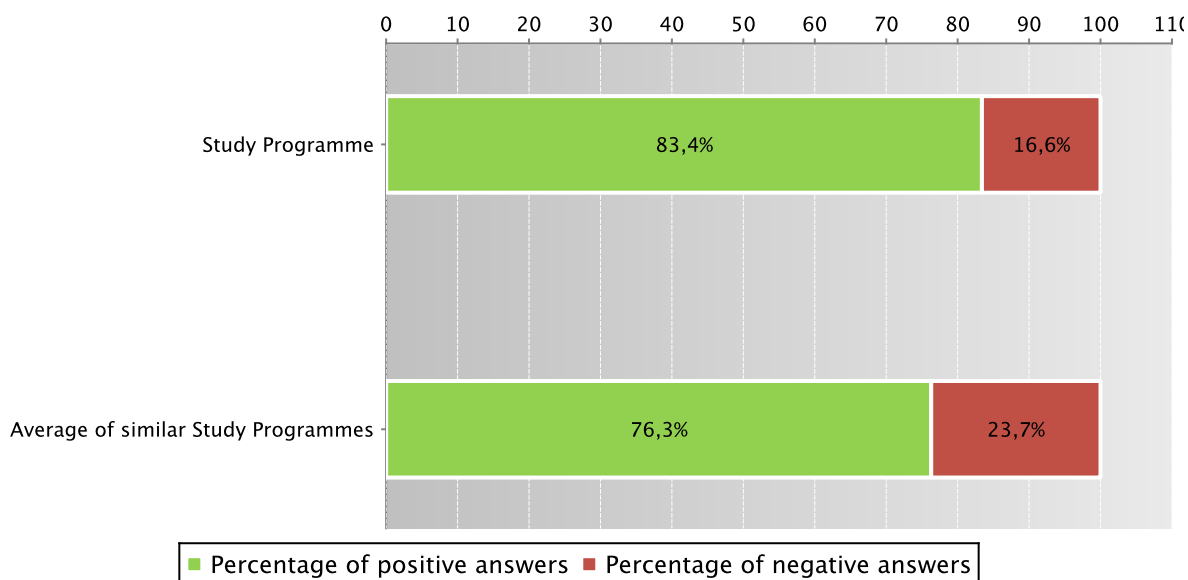
Data of the Study Programme D.M. 270/04 Ingegneria informatica (code 0926) and of the Study Programme D.M. 509/99 Ingegneria informatica (code 0051)

		Number of completed questionnaires	% of positive answers concerning the general satisfaction with the course unit – Question 19
a.y. 2009/2010	Study Programme	1004	81,7%
	Average of similar Study Programmes	1006,2	75,2%
a.y. 2010/2011	Study Programme	1037	79,9%
	Average of similar Study Programmes	1038	75,4%
a.y. 2011/2012	Study Programme	1121	83,4%
	Average of similar Study Programmes	1243	76,3%

Symbols:

(*) When there is a small number of questionnaires, the percentage of positive opinions on overall satisfaction is not presented.

Further information on Rapporto Opinione degli studenti frequentanti sulle attività didattiche (the content is in Italian).

D.4. ENTRY INTO THE WORLD OF WORK
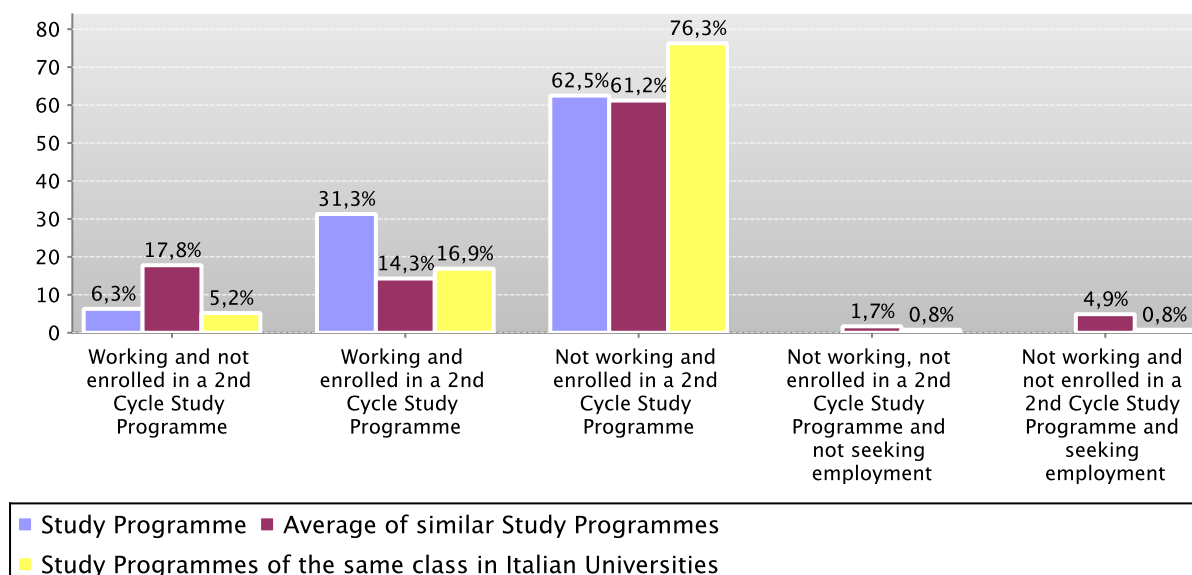
Employment situation of graduates of the Study Programme.
Tables and graphs provide information on the employment situation of graduates one year after graduating.

D.4.1. EMPLOYMENT SITUATION

Employment situation of graduates in 2011 one year after graduating

■ Study Programme ■ Average of similar Study Programmes
■ Study Programmes of the same class in Italian Universities

Graduation Year 2011		N. graduates interviewed	Employment and education situation (1)					Not working, not seeking employment, but following a university programme/traineeship (2)	Degree's appropriateness for the job (referred to the graduates who just work) (3)	
			Working and not enrolled in a 2nd Cycle Study Programme	Working and enrolled in a 2nd Cycle Study Programme	Not working and enrolled in a 2nd Cycle Study Programme	Not working, not enrolled in a 2nd Cycle Study Programme and not seeking employment	Not working and not enrolled in a 2nd Cycle Study Programme and seeking employment		Effective / very effective	Quite effective
	Study Programme	16	6,3%	31,3%	62,5%			56,3%	33,3%	16,7%
	Average of similar Study Programmes	21,7	17,8%	14,3%	61,2%	1,7%	4,9%	55,2%	33,5%	26,0%
	Study Programmes of the same class in Italian Universities	480	5,2%	16,9%	76,3%	0,8%	0,8%	70,2%	29,1%	22,3%

See data of previous academic years – Study Programme D.M. 509/99 Computer Engineering (code 0051) paragraph D.5.4.1.

D.5. INFORMATION ON PRE-REFORM PROGRAMMES (DM 509/99)

D.5.1. STUDENTS STARTING THEIR UNIVERSITY CAREERS

Characteristics of incoming students at the beginning of their university careers. Tables and graphs provide information on the number of registered students, focusing on the characteristics of the students, results of any entrance tests and students assigned additional learning requirements.

D.5.1.1. ENROLMENTS AND REGISTRATIONS

Data of enrolments and registrations of the last three academic years are shown in paragraph D.1.1.

D.5.1.2. ADDITIONAL DATA ON STUDENTS' STARTING THEIR UNIVERSITY CAREERS

D.5.1.2.1. CANDIDATES REGISTERED FOR THE ENTRANCE EXAM

Data of candidates registered for the entrance exam are shown in paragraph D.1.2.1.

D.5.1.2.2. INCOMING STUDENTS

Data of incoming students of the last three academic years are shown in paragraph D.1.2.2.

D.5.2. REGULARITY OF STUDIES

Insight into the regularity with which the students pass their exams.
Graphs and tables provide information on the number of students who leave the programme after the first year and the number of regular graduates, focusing on the number of credits obtained at the end of the first year, the number of exams passed and the average grade achieved for each course unit.

D.5.2.1. STUDENTS LEAVING THE PROGRAMME BETWEEN YEARS 1 AND 2

Data of students leaving the Study Programme of the last three academic years are shown in paragraph D.2.1.
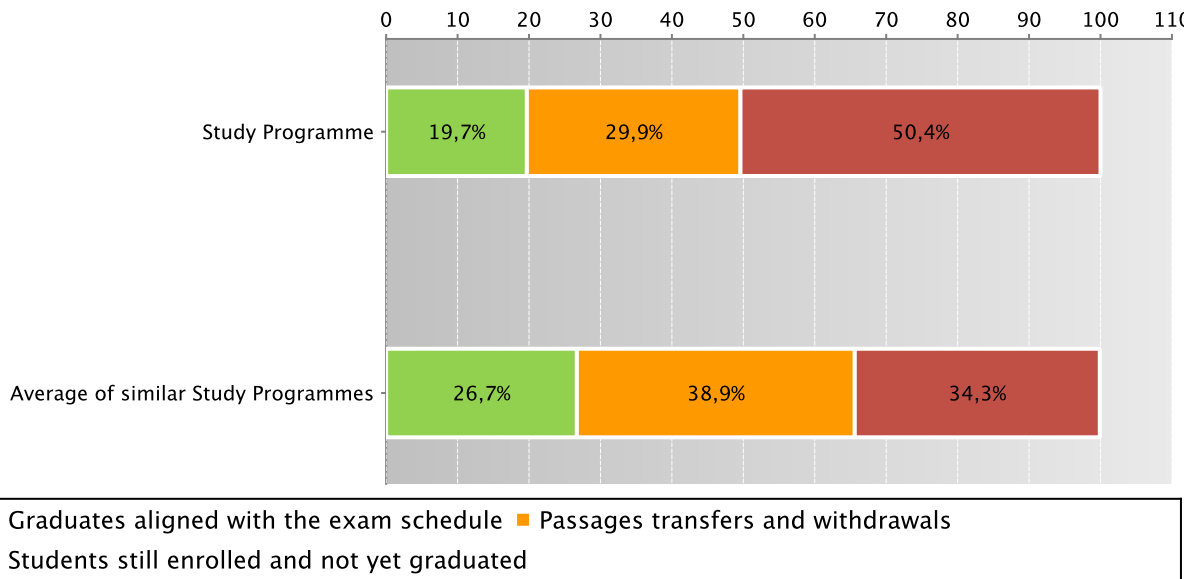
D.5.2.2. REGULAR GRADUATES

Here you will find information on regular graduates, on how many students, at the end of the regular programme duration, left the programme and how many are still enrolled but not aligned to the exam schedule.

The **graph** and the **table** show the situation concerning registered students for the indicated academic year, at the end of the regular duration of the Study Programme, highlighting the percentage of regular graduates, the number of students still enrolled (not aligned to the exam schedule and repeating students), students who have left the programme (including passages, transfers and withdrawals).

The Study Programme data is compared with the average of similar Study Programmes (which belong to the same group) for students registered in the indicated academic years.

Situation of students 2007/2008 at the end of regular duration of the study programme

Data of the Study Programme D.M. 509/99 Computer Engineering (code 0051)

Legend:
- ■ Graduates aligned with the exam schedule ■ Passages transfers and withdrawals
- ■ Students still enrolled and not yet graduated

Data of the Study Programme D.M. 509/99 Computer Engineering (code 0051)

		Registered students	Regular graduates		Passages transfers and withdrawals		Students still enrolled and not yet graduated	
			N.	%	N.	%	N.	%
Students 2007/2008	Study Programme	117	23	19,7%	35	29,9%	59	50,4%
	Average of similar Study Programmes	72,8	19,5	26,7%	28,4	38,9%	25	34,3%

Go back to D.2.2. Regular graduates

D.5.2.3. ADDITIONAL DATA ON REGULARITY OF STUDIES

D.5.2.3.1. CREDITS OBTAINED BY STUDENTS IN THE 1ST YEAR

Data of credits obtained by students in the 1st year of the last three academic years are shown in paragraph D.2.3.1.

D.5.2.3.2. EXAMS PASSED AND AVERAGE GRADE

Data of exams passed and average grade are shown in paragraph D.2.3.2.

D.5.3. OPINIONS OF ATTENDING STUDENTS AND GRADUATES

Opinions of graduates on the Study Programme.
Tables and graphs provide information on the number of graduates who expressed positive opinions on the Study Programme, focusing on opinions expressed by attending students on course units.

D.5.3.1. OPINION OF GRADUATES

The **graph** shows the percentage of graduates (AlmaLaurea survey) who responded positively to the question: "**Are you generally satisfied with the Study Programme**".

In addition, the **table** shows the percentage of students who answered "Yes, to the same programme at the university" to the question "Would you register again to the university?".

The Study Programme data is compared with the average of similar Study Programmes (which belong to the same group), for the indicated years.

Graduates in 2010 who responded positively to the question: "Are you generally satisfied with this Study Programme?"

Data of the Study Programme D.M. 509/99 Ingegneria informatica (code 0051)
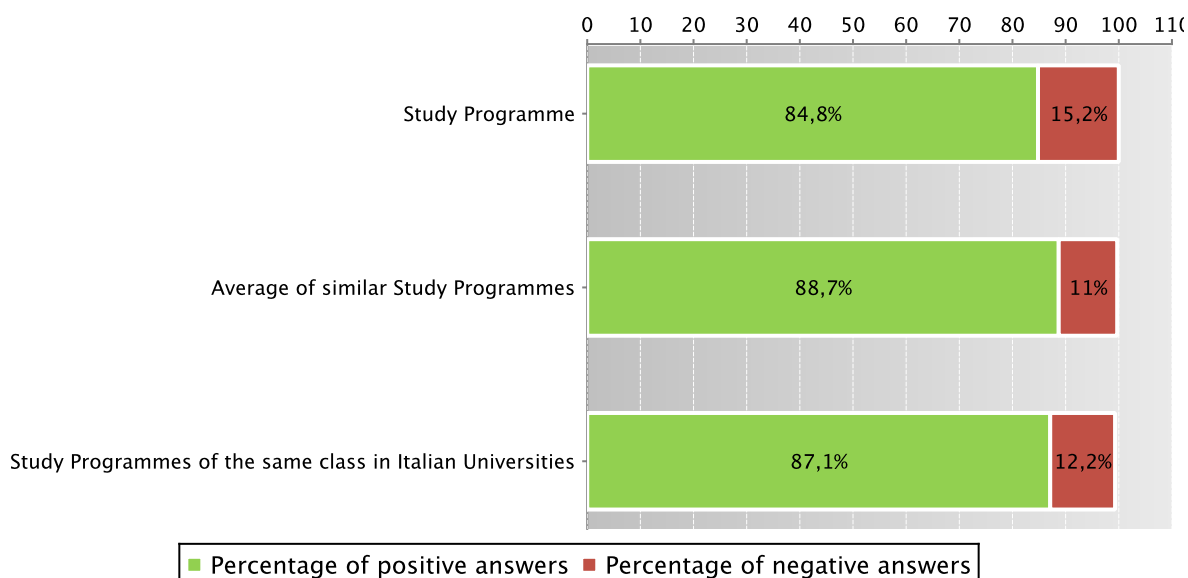
Data of the Study Programme D.M. 509/99 Ingegneria informatica (code 0051)

		N. graduates	Completed Questionnaires	% of positive answers to the question: "Are you generally satisfied with this Study Programme?"	% of answers "yes to the same Programme in the same University" to the question "Would you register again to the University"
2010	Study Programme	67	66	84,8%	68,2%
	Average of similar Study Programmes	44,6	43,4	88,7%	72,5%
	Study Programmes of the same class in Italian Universities	4058	3910	87,1%	69,6%

Symbols:

(*) The opinions of the Study Programmes with less than 5 graduates are not shown.

Further information on Graduates' Profile Report.

Go back to D.3.1. Opinion of graduates

D.5.3.2 ADDITIONAL DATA ON OPINIONS OF STUDENTS

D.5.3.2.1. OPINION OF ATTENDING STUDENTS

Data of opinion of attending students of the last three academic years are shown in paragraph D.3.2.1.

D.5.4. ENTRY INTO THE WORLD OF WORK

Employment situation of graduates of the Study Programme.
Tables and graphs provide information on the employment situation of graduates one year after graduating.

D.5.4.1. EMPLOYMENT SITUATION

The paragraph shows the employment situation of graduates one year after graduating.

The data is taken from the AlmaLaurea reports on the employment situation of graduates.
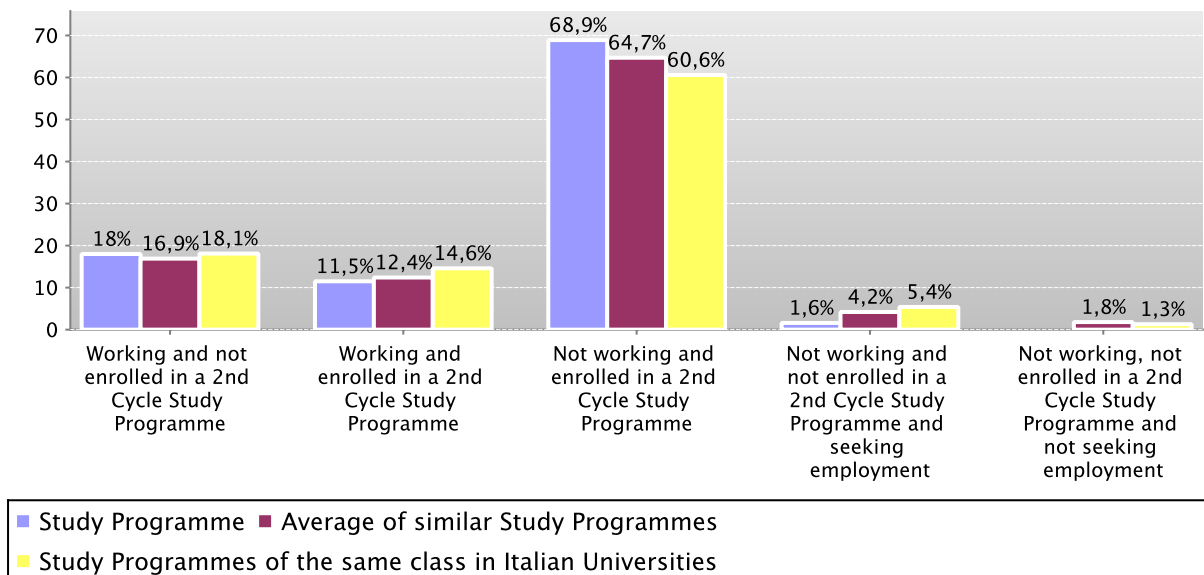
The **graph** shows who is working, who is not working but has enrolled in a Second Cycle study programme, who is not working and is not seeking employment, who is not working but is seeking employment.

In addition, the **table** shows the number of graduates interviewed, the number involved in internships and traineeships and the appropriateness of their degree to the job.

The Study Programme data is compared with the average of similar Study Programmes (which belong to the same group) and the average of Study Programmes of the same faculty of other Italian universities for the graduates of the indicated years.

Employment situation of graduates in 2010 one year after graduating

Data of the Study Programme D.M. 509/99 Computer Engineering (code 0051)

Legend:
- Study Programme
- Average of similar Study Programmes
- Study Programmes of the same class in Italian Universities

Data of the Study Programme D.M. 509/99 Computer Engineering (code 0051)

| | | N. graduates interviewed | Employment and education situation (1) | | | | | Not working, not seeking employment, but following a university programme/traineeship (2) | Degree's appropriateness for the job (referred to the graduates who just work) (3) | |
			Working and not enrolled in a 2nd Cycle Study Programme	Working and enrolled in a 2nd Cycle Study Programme	Not working and enrolled in a 2nd Cycle Study Programme	Not working, not enrolled in a 2nd Cycle Study Programme and not seeking employment	Not working and not enrolled in a 2nd Cycle Study Programme and seeking employment		Effective / very effective	Quite effective
Graduation Year 2009	Study Programme	80	20,0%	22,5%	55,0%		2,5%	53,8%	52,9%	23,5%
	Average of similar Study Programmes	43,1	19,0%	11,8%	62,8%	1,9%	4,5%	58,0%	34,5%	32,8%
	Study Programmes of the same class in Italian Universities	3938	15,8%	14,7%	62,7%	1,5%	5,3%	51,2%	30,3%	37,1%
Graduation Year 2010	Study Programme	61	18,0%	11,5%	68,9%		1,6%	62,3%	38,9%	22,2%
	Average of similar Study Programmes	40,6	16,9%	12,4%	64,7%	1,8%	4,2%	59,0%	30,8%	34,6%
	Study Programmes of the same class in Italian Universities	3738	18,1%	14,6%	60,6%	1,3%	5,4%	50,2%	31,7%	39,7%

Symbols:

(*) The opinions of the Study Programmes with less than 5 graduates are not shown.

Notes on the AlmaLaurea report on the employment situation of graduates

(1) "Employment and education situation": the number of employed graduates is the sum of those working and those working who are also enrolled in a 2nd cycle degree programme. The number of those enrolled in a 2nd cycle degree programme is the sum of those who are working and studying and those who are only studying.

(2) "Number of those who do not work, who are not seeking employment but who are following a university programme/traineeship"**:** the definition includes those who are enrolled in traineeships, PhD degrees, specialisation schools, Italian "master universitari"(first and second level). The presentation of this data complies with article 2 of D.M. 544 of 31st October 2007, as later provided for in Management Decree no. 61 of 10th June 2008 (transparency requirements).

(3) The evaluation of the appropriateness of the degree is obtained by a combination of the requirement of the relative qualification for the job held and the level of usage of the skills learned at university.

Further information on Graduates' Employment report.

E. FIND OUT MORE: THE QUALITY OF YOUR STUDY PROGRAMME

The University of Bologna has identified its objectives as the *personal, cultural and professional growth of students and the improvement of the quality of learning, also in relation to the needs of society* (Strategic Plan 2010-2013).

Students, employers and society as a whole, have the right to effective learning for individual and intellectual growth, to develop critical sense and to prepare for the world of work.

In the Statute and the Strategic Plan 2010-2013 the University of Bologna acknowledges its responsibility in guaranteeing the quality of its study programmes, and for this purpose adopts an "internal quality assurance system".

The Internal Quality Assurance system

The internal quality assurance system is a set of processes and responsibilities adopted to guarantee the quality of Study Programmes at the University of Bologna.

The guarantee of the quality of a Study Programme is the correspondence of the results achieved with the set objectives, in the following phases:

- Plan: defining the objectives
- Do: implementing the planned actions
- Check: checking that the objectives have been achieved
- Act: planning improvement action
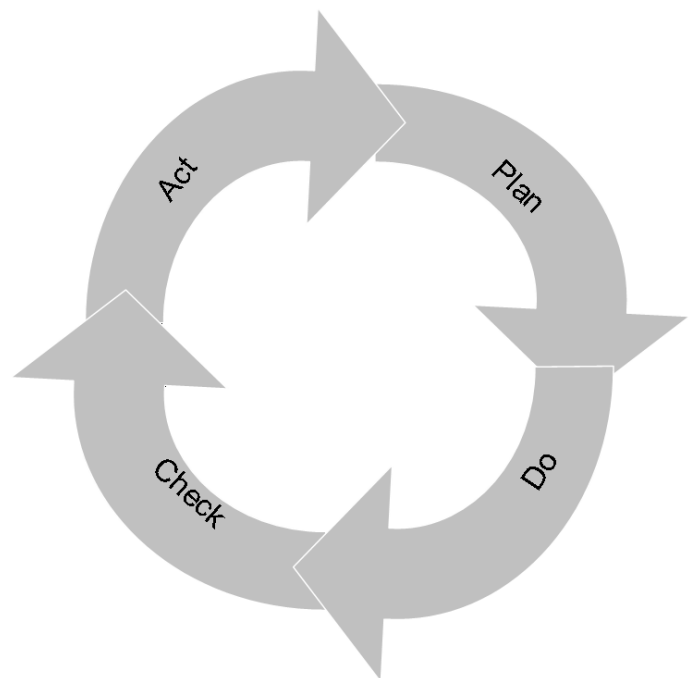
This path responds to the expectations of students, guides teaching behaviour and provides indicators for the assessment of results. Self-assessment is based on the analysis of significant data (for example, the number of students graduating in line with the exam schedule, students' opinions and the employment rates of graduates) and highlights strengths and weaknesses in order to reflect on the achieved results, critically consider one's own working methods and take steps for the continual improvement of the Programme. This path involves all educational stakeholders, including students, in order to make use of the contributions of everyone with first-hand knowledge of the Study Programme. Improvement is therefore a day to day development, concerning all aspects of teaching: from the lesson timetable to the publication of on-line programmes, from classroom management to exam methods, and the actual design of the Programme.

This is what happens in each phase:

- **Planning**: the Study Programme is the result of a proposal from the teaching structures and approved by the Academic Bodies.
- **Management**: Schools, Departments and Study Programmes manage the activities required to ensure teaching. The activities are organised as follows**:**

What we do	Professors	Study Programme	Schools	Departments	General Administration
Teaching calendar, lessons programme and exam schedules			x		
Management of financial resources			x	x	
Classroom teaching	x				
Management of classrooms and laboratories			x	x	
Libraries and study rooms			x	x	
Approval of individual study plans		x			
Communication and information		x	x		Academic Affairs Division
Guidance service		x	x		Academic Affairs Division
Internships		x	x		Academic Affairs Division
Administrative services: Student Administration Office					Academic Affairs Division
Administration services: Degree programme office			x		Academic Affairs Division
Study grants and loans ad honorem					Academic Affairs Division
Student mobility: university subsidies and programmes					International Relations Division
Mobility: study grants for dissertations abroad			x		
Mobility: authorisations and recognitions		x			
Other students support services		x	x		x

- **Internal assessment:** every Study Programme periodically assesses its own results, evaluating, for example, the number of enrolled students, the number of withdrawing students, student opinions etc.; in this way, the strengths and weaknesses, as well as any implemented improvement actions, are highlighted. This phase is organised as follows:

What we do	Who does what
Definition, gathering and publication of evaluation data According to the general guidelines of the University and national and international standards, are defined the tools through which should be evaluated the results (indicators). The survey data to be evaluate are published every year on the Report of the Study Program.	Academic Bodies
Self-Assessment The Schools and Study Programmes assess the effectiveness of the previously adopted solutions, analyse the progress of their learning activities and draw up proposals for improvement.	Schools and Study Programmes
Internal audit The results of the self-assessment process are reviewed in the following phases: • Analysis: the University Quality Manager analyses the review documents, considering the ability to identify problems, propose solutions and the overall development of the internal quality assurance system. • Review: The observations on the results obtained and the good practices adopted are examined together with the persons in charge of the Schools and Study Programmes in meetings organised by scientific-disciplinary field. The persons in charge receive the observations and inputs on the areas for development and the actions to be adopted in future to improve results. • Sharing: the conclusions of the review activities are submitted to the Academic Bodies and the University Evaluation Board.	Quality Manager Vice Rector for Teaching and Education Academic Bodies

• **Improvement**: on the basis of the results of the internal audit, the Schools and Study Programmes plan improvement activities, to ensure that the Study Programmes increasingly respond to the needs of society. The cycle then starts over again, with the definition of actions to be implemented, the results of which are in turn verified, in a continuous path that guarantees the quality of education.

F. GLOSSARY TERMS

Additional Learning Requirements

Students enrolling in the first year of a first cycle or single cycle degree and who, following the results of the entrance exams established for each study programme, do not possess the knowledge required for access to the programme, are assigned additional learning requirements (OFA).

The OFA are fulfilled by passing an assessment test defined by the programme.

The non-fulfilment of the requirements by the date set by the Academic Bodies and published on the University Portal will lead to the re-enrolment in the first year of the programme.

AlmaLaurea

AlmaLaurea is an innovative in-line database service of graduates' curriculum vitae (1,620,000 CVs, from 53 Italian universities as of 05/07/2012), which offers a link between graduates, universities and businesses.

Created in 1994 on the initiative of the Statistical Observatory of the University of Bologna, managed by a consortium of Italian universities with the support of the Ministry of Education, University and Research, the purpose AlmaLaurea is to act as a point of contact between businesses and graduates, a reference within universities for anyone (students, businesses, etc...) working in the field of university studies, employment and the condition of young people at different levels.

Average of similar study programmes (belonging to the same group)

Average of the Study Programmes (which belong to the subject group)

Calculated average which refers to all study programmes of the same cycle which belong to the subject group.

There are four groups, composed as follows:

- BIOMEDICAL group: Study Programmes of the Schools of Pharmacy, Biotechnology and Sport Science; Medicine; Agriculture and Veterinary Medicine

- SCIENTIFIC-TECHNOLOGICAL group: Study Programmes of the Schools of Engineering and Architecture; Sciences

- SOCIAL SCIENCES group: Study Programmes of the Schools of Economics, Management, and Statistics; Law, Political Sciences

- HUMANITIES group: Study Programmes of the Schools of Arts, Humanities, and Cultural Heritage; Foreign Languages and Literatures, Interpreting and Translation; Psychology and Education

CFU University Learning Credits

University Learning Credits (CFU) were introduced under Italian Ministerial Decree no. 509/99 to comply with European legislation, and are a measurement of the volume of learning, including individual study, required of students; generally 1 CFU corresponds to 25 hours of a student's "overall learning effort".

Class

Degree classes group together study programmes of the same level and with the same key learning outcomes and available learning activities for a given number of credits and in sectors which are identified as indispensable. The features of the classes are set nationally, by Ministerial Decree, and are therefore common to all universities.

Cohort

Cohort refers to a group of students enrolled in the same academic year.

Enrolment status

In terms of enrolment, students may be:

- **Regularly enrolled**: students enrolled for as many or fewer years than the legal duration of the study programme, who do not fall into any of the following categories;

- **Not aligned with the exam schedule**: students who, without having graduated, have enrolled in all the years of the study programme and which, for programmes with compulsory attendance, have obtained all attendance certificates;

- **Repeating**: students re-enrolling in the same year of a programme again. Starting from academic year 2009-2010, students who have not fulfilled the assigned additional learning requirements within the deadline have to enrol in the 1st year as repeating students.

Entrance exam

Enrolment in a study programme may be free access or restricted access.

For all programmes with restricted access, candidates are required to sit an entrance exam and there are a limited number of places available. The entrance exam is a test which is used to draw up a graded list of candidates; students may enrol in the programme according to their place in the list. The methods of managing the call for applications and the list of candidates, including the methods for filling any unclaimed places, may vary from year to year. The test may be specific to a Degree Programme or may be part of a single exam covering several programmes from the same university or from other universities (during the registration the students should indicate their first choice).

The following definitions apply:

Available places = the number of places laid down in the call for applications to the Study Programme, or determined by subsequent legal provisions; these exclude any additional places reserved according to special provisions of the programme (e.g. for international study programmes, they do not include places for foreign students selected from other universities; for all programmes with restricted access regulated nationally, these do not include the places reserved for transferring students).

Number of candidates for the exam = number of students registered for the exam indicating the study programme as their first choice;

Number of participants in the exam = number of students participating in the exam indicating the study programme as their first choice;

Number of participants in the exam for every available place = number of students participating in the exam who indicated the study programme as their first choice as a ratio of the number of places available on the programme.

First year enrolments

This includes all students enrolled in the first year, including those joining the study programme in its first year through transferrals, as well as those enrolled in the first year but not for the first time (e.g. repeating students).

New Careers

Students who start a new university career (excluding transfers) from year one in a second cycle programme.

Passages and transfers

Passage: when a student applies to move to a different study programme from the one enrolled in the previous year, within the same university.

Transfer: when a student transfers from a study programme in one university to any programme in another university.

Registered students

Students who begin a career in the Italian University System for the first time and who enrol in the first year (i.e. for whom no previous university careers are recorded) of a First Cycle (L509, L) or Single Cycle programme (LSCU, LMCU)

Statistical Observatory of the University of Bologna

The Statistical Observatory was founded in 1997 in order to "provide the university governing bodies with a reliable and timely documentary and monitoring database aiming to promote decision-making processes and planning, particularly of learning activities and other services targeting the student population" (art.1 of the Founding and Operational Regulation). Following the disabling of the Statistical Observatory, as resolved by the Board of Governors on 14 December 2010, from the second semester of academic year 2010-11 the survey and subsequently analysis of the attending students opinion is cared for the University of Bologna by Academic Affairs Division - Quality Assurance Department and Control and Finance Division - Support Planning and Evaluation Department. The overall results and the methods of collection and analysis are described in the document published online on the Statistical Observatory of the University of Bologna.

University DataWarehouse

In information service for the managers of the University of Bologna organisational departments which gathers, integrates and reorganises data from various sources and makes it available for analysis and evaluation for the purposes of planning and decision-making.

Withdrawal

Suspension of studies by students who do not register in the next academic year, or who drop out from the degree programme.