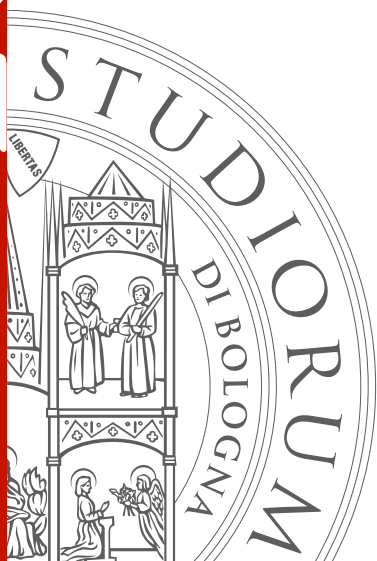


2013



ALMA MATER STUDIORUM  
UNIVERSITÀ DI BOLOGNA



School of Pharmacy, Biotechnology and Sport Science  
LAUREA (FIRST CYCLE DEGREE/  
BACHELOR - 180 ECTS) IN  
BIOTECHNOLOGY A.Y. 2013/2014  
Programme Director Prof. Giovanni Capranico

REPORT

Study Programme Report  
Biotechnology  
Programme ex D.M. 270/04 - Code 8005 - Class L-2  
School of Pharmacy, Biotechnology and Sport Science  
Programme Director Prof. Giovanni Capranico

Created in collaboration with Teaching and Learning Administrative Area (AFORM – Area della Formazione) – Quality Assurance Unit

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# 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 interfaculty 1st cycle degree programme in Biotechnology has been instituted at the Faculty of Mathematical, Physical and Natural Sciences, in collaboration with The Faculties of Agriculture, Pharmacy, Medicine and Veterinary Medicine. The students elaborate upon their studies in areas which are functional to a number of career opportunities. The interfaculty organisation permits the course to cover the different areas of biotechnology application in the course units.

The main aim of the 1st cycle degree programme in Biotechnology is to form a professional who is qualified to critically perform experimental procedures in which recombinant DNA, genomic, biochemical, microbiological, bio-molecular and cellular and bio-computational methods provided for by Italian and EU legislation are applied. Admission to the course is restricted to a limited number of students selected by means of an entrance test, which enables successful candidates to make use of laboratories with equipment for each student and thus to perform experimental procedures individually. The degree programme laboratories have been designed to guarantee this opportunity, which is of fundamental importance to offer the highest standard of education, as required by potential employers and in conformity with the aims of the Quality Assurance project. Practical laboratory activities are a fundamental part of the programme, as is the period of compulsory curricular internship. The internship may be completed either within or outside the University, as long as the latter have agreements with the University and are in accordance with the rules established by the University. The compulsory internship is an important part of the programme as it enables students to elaborate upon specific techniques that will be useful in a future profession, in a responsible and independent way, in a context that differs considerably from the laboratory activities. At the end of the three-year programme, graduates in Biotechnology acquire the knowledge and technical skills to work in firms and organizations operating in the area of biotechnology. Graduates also develop the learning skills necessary to embark upon specialist studies.

### A.2. ADMISSION REQUIREMENTS

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

Applicants to the degree programme must have a five-year secondary school diploma or equivalent suitable qualification obtained abroad, or a four-year secondary school diploma including a supplementary fifth year certificate. If not achieved through the additional fifth year, the learning outcomes will be made up within the Degree Course in order to reach the abilities required.

The following knowledge and skills are also required: good general knowledge, logical reasoning and verbal comprehensions skills, basic knowledge of Mathematics, Biology, Chemistry and Physics.

Access to the Degree Course is restricted according to resources available. The number of students admitted and the selection criteria will be published yearly in the related call for applications. Skills and competences required for the access are verified through an entry test. The minimum score required for admission will be specified in the call.

If a student does not obtain the minimum score required but is within the restricted access number, he or she will be assigned an additional educational obligation (OFA) which must be met within the first year of the Degree Course or alternatively within the terms established by the University.

Students who do not meet the obligation within the terms established will be enrolled in the following academic year but will be asked to meet the obligation again. When the student passes his/her first exam obtaining a regular grade out of thirty, the educational obligation is considered met.

Students with a University Degree or Diploma who enrol in a Degree Course with restricted access who come from another Degree Course or other Italian Universities will have to pass an entry test according to the terms described above.

### 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 acquire:

- basic knowledge in chemistry, mathematics, physics and statistics, cell biology, structure and function of organs and systems of organisms, evolution and general genetics;
- in-depth knowledge of biochemistry, microbiology, cellular biology, molecular biology, molecular genetics and immunology;
- knowledge of computational biology and bio-computing;
- basic knowledge of analytical chemistry, industrial microbiology and fermentative processes;

- knowledge of the political and economic framework, of legislation and the problems connected to the application of biotechnology at a national and international level, and especially of legislation regarding the patenting of intellectual property;
- further knowledge in specific sectors of biotechnology.

The above-listed knowledge and understanding abilities are achieved through attending lectures and carrying out laboratory activities at an individual workstation, which enable students to perform individual experimental procedures, and practical activities under the supervision of members of the teaching staff, as well as home study, within the course units offered in the degree programme in the following core curriculum subject groups: MAT/03; INF/01; SECS-S/02; FIS/01; FIS/07; CHIM/02; CHIM/03; CHIM/06; CHIM/08; CHIM/11; BIO/01; BIO/04; BIO/05; BIO/09; BIO/10; BIO/11; BIO/12; BIO13; BIO/14; BIO/16; BIO/18; BIO/19; MED/04; MED/05; MED/07; MED/08; AGR/02; AGR/03; AGR/07; AGR/12; AGR/16; AGR/19; VET/02; VET/05; VET/06; VET/07 IUS/04; M-FIL/03.

Assessment is accomplished through written and oral examinations, continuous assessments, reports on laboratory activities and discussion of scientific articles.

The choice of teaching methods, the interaction with teaching staff during lectures and laboratory activities along with the evaluation of learning outcomes through oral examinations and written papers and individual study, provide students with the opportunity to increase knowledge and develop understanding abilities.

#### ABILITY TO APPLY KNOWLEDGE AND TO UNDERSTAND:

Graduates are able to:

- use basic computer skills related to operating systems, word processing, spread sheets, use of data bases and use of internet;
- use and apply the main techniques of biochemistry and molecular biology;
- use and apply the main techniques for the extraction and purification of proteins;
- use and apply the technologies of recombinant DNA;
- apply techniques of molecular diagnostics;
- apply techniques of fermentative processes;
- apply techniques of computational biology and data bases analysis in the field of proteins and nucleic acids.

Achieving the ability to apply the knowledge and understanding listed above is achieved by through the high number of laboratory activities that are present in the degree programme, and the quality of these activities. These objectives are achieved through the availability of individual workstations in the laboratories: students are able to study, understand and apply the experimental procedures individually and independently, under the supervision of the specialist teaching staff of each course unit. These resources are available thanks to the restricted access to the degree programme. The continual updating of the laboratories enables teaching staff to propose innovative experimental procedures, also on research topics in the forefront of the sector permitting students to apply the knowledge gained and understanding abilities.

A further opportunity to enhance students' ability to apply knowledge and understanding is offered during the internship, which for students is the first direct contact with the world of work. The internship enables students to apply one or more of the techniques learnt in greater depth and in an environment that differs greatly from the teaching laboratory.

Assessment of laboratory activities may be through oral testing or based on the results of the experimental procedures proposed and presented as a report paper: this approach permits students to critically reason about the results obtained and to acquire a sound ability to apply the techniques studied. The assessment of the internship which is on the basis of the presentation of a report on the techniques applied, under the supervision of an academic tutor, contributes to reinforcing the achievement of these objectives.

#### JUDGEMENT SKILLS:

Graduates are able to:

- work independently when performing experimental procedures;
- gather and interpret important scientific data derived from laboratory observation and measurements;
- use skills of analysis and conciseness for the management and communication of experimental data in a scientific context;
- pass independent judgement on social, scientific and ethical problems linked to biotechnology;
- adapt to different work environments and themes;
- find and evaluate information sources, data, and specific scientific literature.

Judgement skills are fostered particularly in the laboratory activities that are performed individually and independently in numerous course units (scientific disciplinary fields: BIO/10, BIO/11; CHIM/06; CHIM 11; BIO/18; BIO/19; MED/04; MED/07; VET/02) as well as by means of the individual assignments required in certain course units, including laboratorial, and to the ends of the internship report and the final paper. In particular, the students develop judgement skills regarding social and ethical problems related to biotechnology within the course units of Bioethics and Biotechnology and Notions of Law, in the scientific disciplinary fields M-FIL/03 and IUS/04.

#### COMMUNICATON SKILLS:

Graduates are able to:

- work in a group, especially when planning laboratory activities;
- use English both in writing and orally effectively in the field of biotechnology
- have relational and communication skills that enable them to work in international contexts;

- write up technical and scientific reports in both Italian and English.

Written and oral communication skills are developed during assessment and laboratory activities, which require written reports and discussion of the results of procedures in work groups. The compulsory internship uses similar methods to reach these objectives. Internships, may in fact be carried out abroad in approved organisations or in Italian research institutes or laboratories of Bologna University that operate in international contexts, thus permitting students to acquire experience in this area. English is learnt and assessed through e-learning. Further opportunities to elaborate upon written and oral skills in English are provided for, as emphasised earlier, by internships abroad and the study of scientific articles that are frequently used throughout courses. These skills are also further developed in the preparation of the internship report and the final paper.

#### LEARNING SKILLS:

Graduates acquire the ability:

- to work independently and continue further professional training;
- to learn and elaborate upon further laboratory techniques and undertake specialist studies;
- to pursue objectives.

Learning skills are assessed continuously throughout the learning period, both through home study and interaction with teaching staff during oral assessments and the review of written assignments, as well as during the organisation of experimental procedures in laboratory activities, performed under the supervision of teaching staff.

The period of the compulsory internship and the activities completed for the preparation of the final paper are both of fundamental importance in developing learning skills. Assessment of learning skills is by means of the various testing methods used in the course units, with considerable importance being given to respect for the academic deadlines established for the different years of the programme, and considering the individual results obtained during the execution of experimental procedures and evaluating student ability for self-learning matured during the period of internship or in the activities performed for the preparation of the final paper, as well as ability to critically discuss scientific topics covered in the programme.

## A.4. CAREER OPPORTUNITIES

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

Graduates will be able to perform the professional roles and functions described below in the employment sectors here listed:

Biotechnologist

Professional functions:

- performing procedures of analysis and/or the preparation of biotechnological material, in which recombinant DNA, genomic, biochemical, micro-biological, biomolecular and cellular, and bio-computational methods are performed;
- analyzing and using biological and biotechnological information present in data-bases, using biocomputing programmes;
- performing procedures for the transfer of products and processes from the research stage to actual industrial application;
- carrying out marketing on a biotechnological product or a product-line;
- providing advice on the registration of patents and intellectual property in the field of biotechnology;
- creating and following science communication and popularisation activities.

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- performing procedures of analysis and/or the preparation of biotechnological material, in which recombinant DNA, genomic, biochemical, micro-biological, biomolecular and cellular, and bio-computational methods are performed;
- analyzing and using biological and biotechnological information present in data-bases, using biocomputing programmes;
- performing procedures for the transfer of products and processes from the research stage to actual industrial application;
- carrying out marketing on a biotechnological product or a product-line;
- providing advice on the registration of patents and intellectual property in the field of biotechnology;
- creating and following science communication and popularisation activities.

Career opportunities:

- Universities and public and private research institutes
- Health establishments
- Biotechnological industries, chemical and pharmaceutical companies, food and agriculture industries
- Private and public laboratories for analysis and quality control
- Assisted reproduction clinics
- Consulting offices and/or companies for registration of patents and intellectual property
- Agencies for the communication and popularisation of the sciences

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 (laurea specialistica/magistrale) and master universitario di primo livello.

## 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:

<a href="#">Bacci, Maria Laura</a>	<a href="#">Casadio, Rita</a>	<a href="#">Gentilucci, Luca</a>	<a href="#">Sartor, Giorgio</a>
<a href="#">Baraldi, Elena</a>	<a href="#">Credi, Alberto</a>	<a href="#">Lenci, Marco</a>	<a href="#">Sartorelli, Gabriella</a>
<a href="#">Bertucci, Carlo</a>	<a href="#">Desalvo, Fausto</a>	<a href="#">Maestrini, Elena</a>	<a href="#">Savoia, Diego</a>
<a href="#">Billi, Anna Maria</a>	<a href="#">D'Errico, Antonietta</a>	<a href="#">Marini, Marina</a>	<a href="#">Scarlatto, Vincenzo</a>
<a href="#">Bonsi, Laura</a>	<a href="#">Falconi, Rosanna</a>	<a href="#">Menotti, Laura</a>	<a href="#">Sgorbati, Barbara</a>
<a href="#">Brandimarti, Renato</a>	<a href="#">Fato, Romana</a>	<a href="#">Musso, Alberto</a>	<a href="#">Spampinato, Santi Mario</a>
<a href="#">Brigidi, Patrizia</a>	<a href="#">Follo, Matilde Yung</a>	<a href="#">Perini, Giovanni</a>	<a href="#">Sparla, Francesca</a>
<a href="#">Calonghi, Natalia</a>	<a href="#">Fontanesi, Luca</a>	<a href="#">Pession, Annalisa</a>	<a href="#">Trost, Paolo Bernardo</a>
<a href="#">Calzà, Laura</a>	<a href="#">Forni, Monica</a>	<a href="#">Recanatini, Maurizio</a>	<a href="#">Tuberosa, Roberto</a>
<a href="#">Campadelli, Maria Gabriella</a>	<a href="#">Galletti, Claudio</a>	<a href="#">Remondini, Daniel</a>	<a href="#">Vitali, Fabio</a>
<a href="#">Capranico, Giovanni</a>	<a href="#">Gallinella, Giorgio</a>	<a href="#">Roda, Aldo</a>	<a href="#">Zannoni, Davide</a>

#### Contract teaching staff:

[Monti, Daniela](#)  
[Rubies Autonell, Concepcion](#)  
[Serafini Fracassini, Donatella](#)  
[Zullo, Silvia](#)

### 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 OEA, 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.

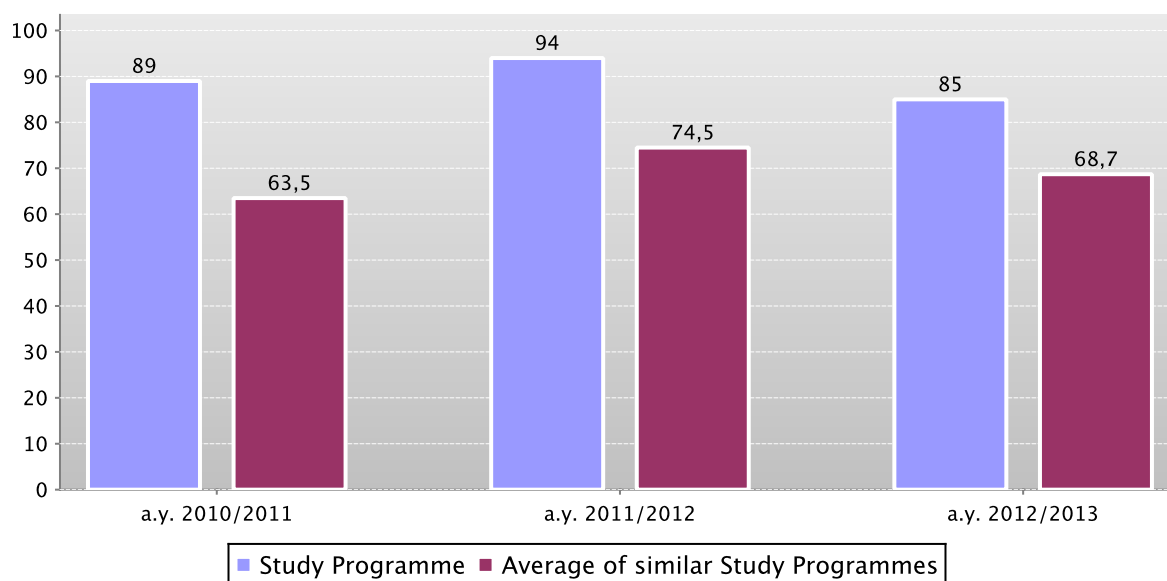
#### D.1.1. ENROLMENTS AND REGISTRATIONS

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



	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	65	89	248	68	94	265	84	85	251
Average of similar Study Programmes	48,9	63,5	136,8	58,1	74,5	106,6	51,8	68,7	104,4

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

### D.1.2.1. CANDIDATES REGISTERED FOR THE ENTRANCE EXAM

The number of students sitting the [entrance exam](#) for the Study Programme. Concerns the programmes with restricted access. 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 **table** shows the number of places available for the study programme, the number of candidates enrolling for the exam, the number sitting the exam and the percentage of students sitting the exam compared to the number of places available.

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.

	Number of places available (a)	Candidates registered for the exam	Candidates sitting the exam (b)	Number of candidates sitting the exam per place available (b/a)
a.y. 2010/2011	104	381	352	3,4
a.y. 2011/2012	104	450	407	3,9
a.y. 2012/2013	104	437	386	3,7

### D.1.2.2. INCOMING STUDENTS

Geographic origin, type of high school certificate, age and gender of students.

Data shows a homogeneous 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.

		Registered students	Geographic origin					Gender		Average age of 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	65	43,1%	12,3%	1,5%	41,5%	1,5%	21,5%	78,5%	93,8%	6,2%	
	Average of similar Study Programmes	48,9	37,0%	25,5%	7,9%	27,5%	2,1%	44,1%	55,9%	62,3%	28,7%	9,1%
Students 2011/2012	Study Programme	68	23,5%	14,7%	4,4%	52,9%	4,4%	35,3%	64,7%	92,6%	7,4%	
	Average of similar Study Programmes	58,1	36,9%	22,9%	9,7%	27,4%	3,0%	41,8%	58,2%	65,1%	29,1%	5,9%
Students 2012/2013	Study Programme	84	35,7%	17,9%	10,7%	33,3%	2,4%	51,2%	48,8%	86,9%	13,1%	
	Average of similar Study Programmes	51,8	35,6%	23,4%	10,3%	28,3%	2,4%	48,4%	51,6%	63,7%	29,7%	6,5%

		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	1,5%	6,2%		90,8%	1,5%	3,1%	16,9%	10,8%	69,2%
	Average of similar Study Programmes	9,7%	27,6%	4,5%	49,6%	8,6%	28,2%	33,3%	21,6%	14,8%
Students 2011/2012	Study Programme		10,3%		80,9%	8,8%	1,5%	8,8%	23,5%	64,7%
	Average of similar Study Programmes	8,1%	24,2%	9,5%	50,5%	7,7%	26,6%	32,3%	21,6%	17,7%
Students 2012/2013	Study Programme		6,0%		77,4%	16,7%	4,8%	10,7%	26,2%	42,9%
	Average of similar Study Programmes	8,6%	23,2%	7,2%	54,0%	7,0%	22,1%	34,6%	23,1%	15,0%

### 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	65	0			
Students 2011/2012	68	0			
Students 2012/2013	84	0			

\*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

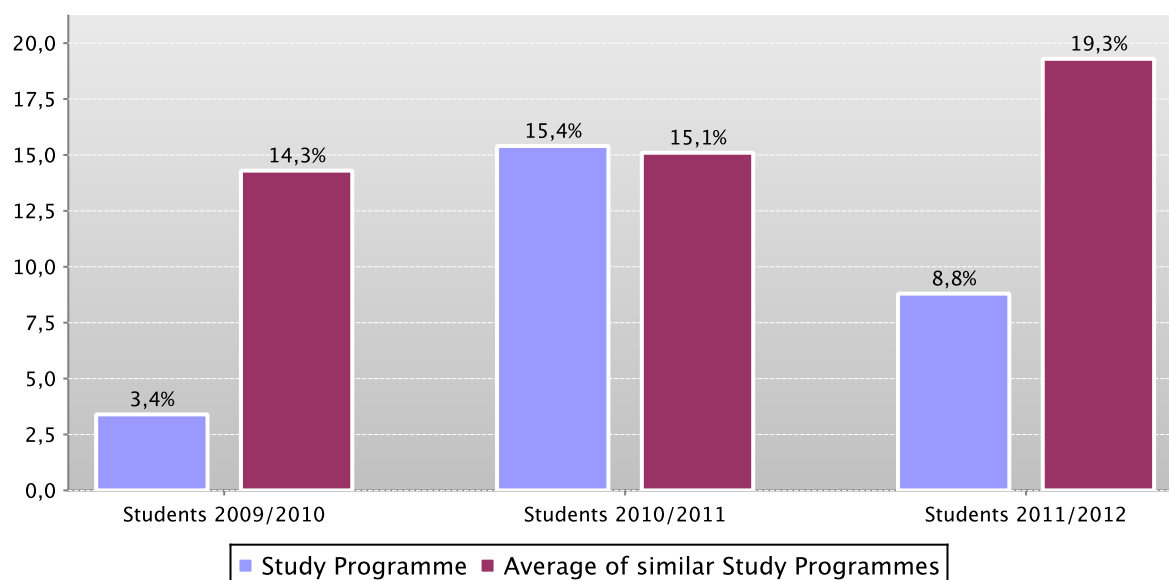
Here the number of students leaving the Study Programme is shown.

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	88	3,4%	19,3%	0,0%	68
	Average of similar Study Programmes	46,1	14,3%	6,8%	0,3%	36,3
Students 2010/2011	Study Programme	65	15,4%	29,2%	0,0%	36
	Average of similar Study Programmes	48,9	15,1%	9,4%	0,4%	36,8
Students 2011/2012	Study Programme	68	8,8%	30,9%	1,5%	40
	Average of similar Study Programmes	58,1	19,3%	12,9%	0,4%	39,1



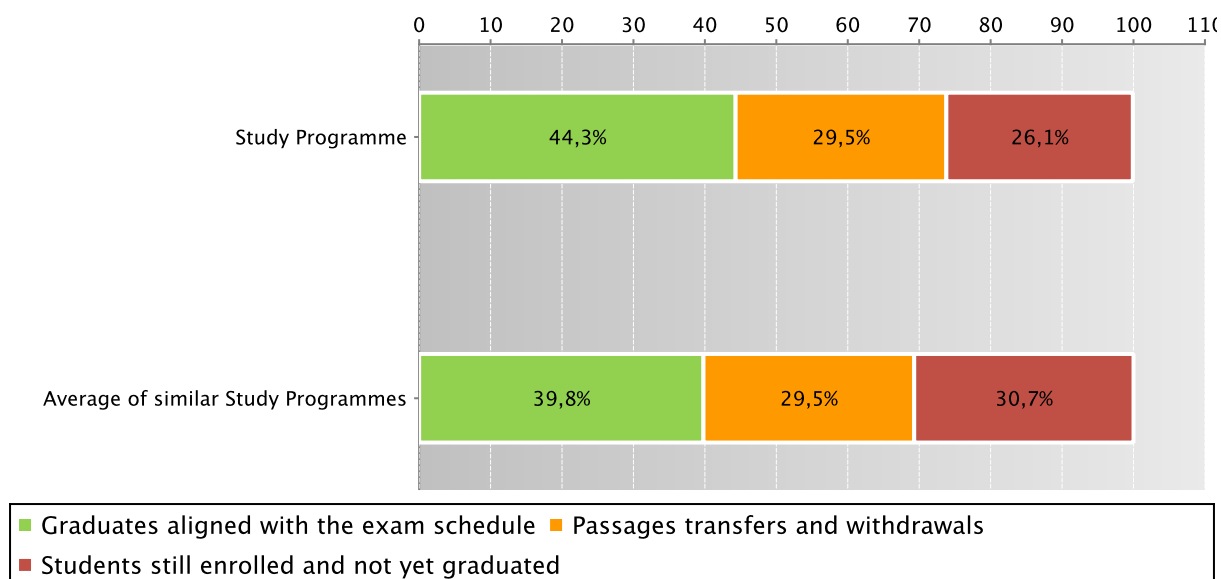
### D.2.2. REGULAR GRADUATES

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	81	36	44,4%	24	29,6%	21	25,9%
	Average of similar Study Programmes	42,7	16,4	38,4%	12,8	30,1%	13,4	31,4%
Students 2009/2010	Study Programme	88	39	44,3%	26	29,5%	23	26,1%
	Average of similar Study Programmes	46,1	18,3	39,8%	13,6	29,5%	14,2	30,7%

See data of previous academic years – Study Programme D.M. 509/99 Biotechnologies (code 0090) 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

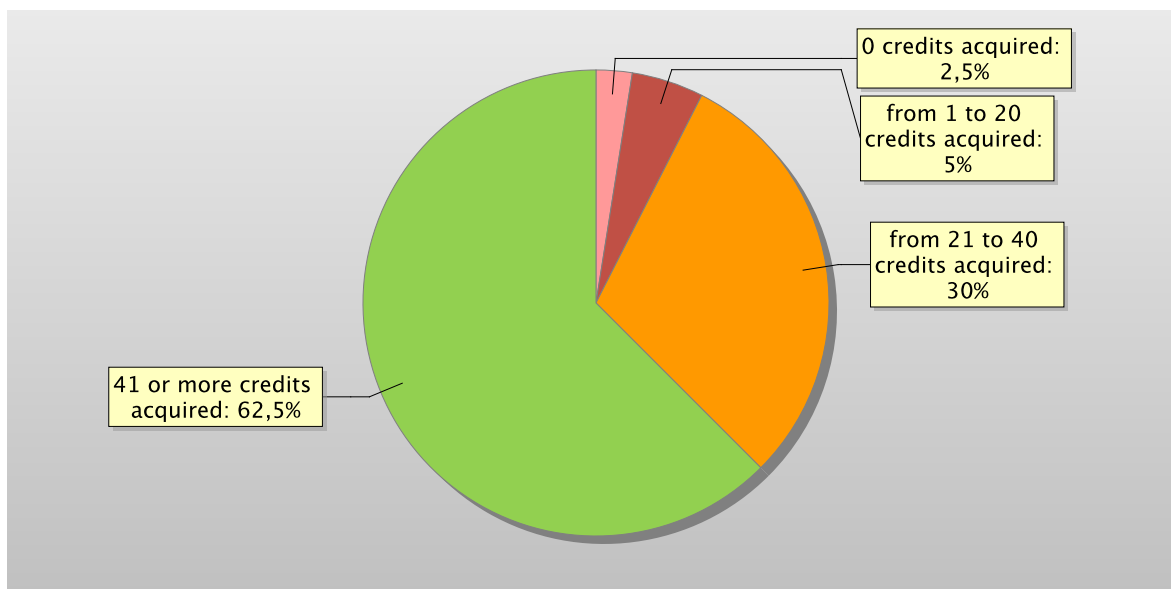
This offers an insight into how regularly students pass their exams.

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	68	1,5%	20,6%	50,0%	27,9%	32,3
	Average of similar Study Programmes	36,3	3,4%	18,7%	40,7%	37,2%	33,4
Students 2010/2011	Study Programme	36		11,1%	27,8%	61,1%	41,2
	Average of similar Study Programmes	36,8	2,3%	17,5%	40,2%	40,0%	34,8
Students 2011/2012	Study Programme	40	2,5%	5,0%	30,0%	62,5%	43,4
	Average of similar Study Programmes	39,1	4,9%	18,5%	35,9%	40,7%	33,5

\*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 Biotechnologie (code 8005)*

	N. of exams passed	Average grade *
00122 CHIMICA FISICA	1	
09229 MICROBIOLOGIA APPLICATA	2	
13731 GENETICA GENERALE	3	
27301 CHIMICA (C.I.)	9	24
28413 MATEMATICA, INFORMATICA, FISICA E STATISTICA (C.I.)	7	23,9
28434 BIOLOGIA GENERALE (C.I.)	16	27,9
28445 BIOLOGIA CELLULARE (C.I.)	10	25,2
28457 NOZIONI GIURIDICHE E BIOETICA (C.I.)	3	
28464 BIOCHIMICA 1 (C.I.)	65	27,7
28465 BIOLOGIA DEGLI ORGANISMI VIVENTI (C.I.)	62	26,8
28886 GENETICA MOLECOLARE E BIOINFORMATICA (C.I.)	70	26,5
28897 BIOLOGIA MOLECOLARE (C.I.)	50	26,7
28901 CHIMICA 2 (C.I.)	72	27,6
28911 MICROBIOLOGIA E VIROLOGIA GENERALI (C.I.)	64	27,7
28914 BIOCHIMICA 2 (C.I.)	62	29,2
28921 MICROBIOLOGIA INDUSTRIALE (C.I.)	59	27,6
28930 BIOTECNOLOGIE DELLE FERMENTAZIONI E LABORATORIO DI FERMENTAZIONI	1	
28934 IMMUNOLOGIA E PATOLOGIA GENERALE (C.I.)	64	28
28936 IMMUNOLOGIA CON LABORATORIO	4	
28938 PATOLOGIA GENERALE CON LABORATORIO	1	
28943 MODELLI ANIMALI E BIOTECNOLOGIE APPLICATE ALLA RIPRODUZIONE ANIMALE (C.I.)	63	28,4
28944 ANIMALI TRANSGENICI E BIOTECNOLOGIE APPLICATE ALLA RIPRODUZIONE ANIMALE	1	
28945 SCIENZA DELL' ANIMALE DA LABORATORIO	1	
28946 BIOTECNOLOGIE GENETICHE VEGETALI (C.I.)	60	27,3
28948 BIOTECNOLOGIE VEGETALI CON LABORATORIO	1	
28950 FARMACOLOGIA CON LABORATORIO	72	26,4
30510 BIOTECNOLOGIE NELL' AGROALIMENTARE (C.I.)	2	
30517 MALATTIE TRASMISSIBILI DEGLI ANIMALI: PRINCIPI DI BASE ED ASPETTI BIOMOLECOLARI (C.I.)	4	
31050 BIOTECNOLOGIE PER LA DIFESA DELLE PIANTE	6	29,3
31373 BIOLOGIA DEI SISTEMI INTEGRATI (C.I.)	8	29,1
31378 STRUTTURA E METABOLISMO DEGLI ACIDI NUCLEICI (C.I.)	7	28,9
31379 TECNOLOGIE ANALITICHE E MICROBIOLOGICHE (C.I.)	5	
31386 BIOLOGIA E VIROLOGIA MOLECOLARE AVANZATA (C.I.)	13	28,8

	N. of exams passed	Average grade *
32719 BIOTECNOLOGIE PER LE PRODUZIONI ANIMALI	3	
32728 NEUROSCIENZE COGNITIVE (C.I.)	60	28,8
42879 BIOCHIMICA STRUTTURALE	3	
42919 LABORATORIO DI BIOTECNOLOGIE APPLICATE ALLA RIPRODUZIONE ANIMALE	1	
55393 CHIMICA ORGANICA	1	
66599 MATEMATICA E INFORMATICA	55	26,3
66600 FISICA E STATISTICA	44	27,1
66601 CHIMICA (C.I.)	55	27,2
66602 BIODIVERSITA' ED EVOLUZIONE	56	28,3
66607 MORFOLOGIA CELLULARE E D'ORGANO (C.I.)	73	28
66608 PROPRIETA' INTELLETTUALE E BIOETICA	80	28,3
66642 BIOTECNOLOGIE CELLULARI	36	27,5

\* 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

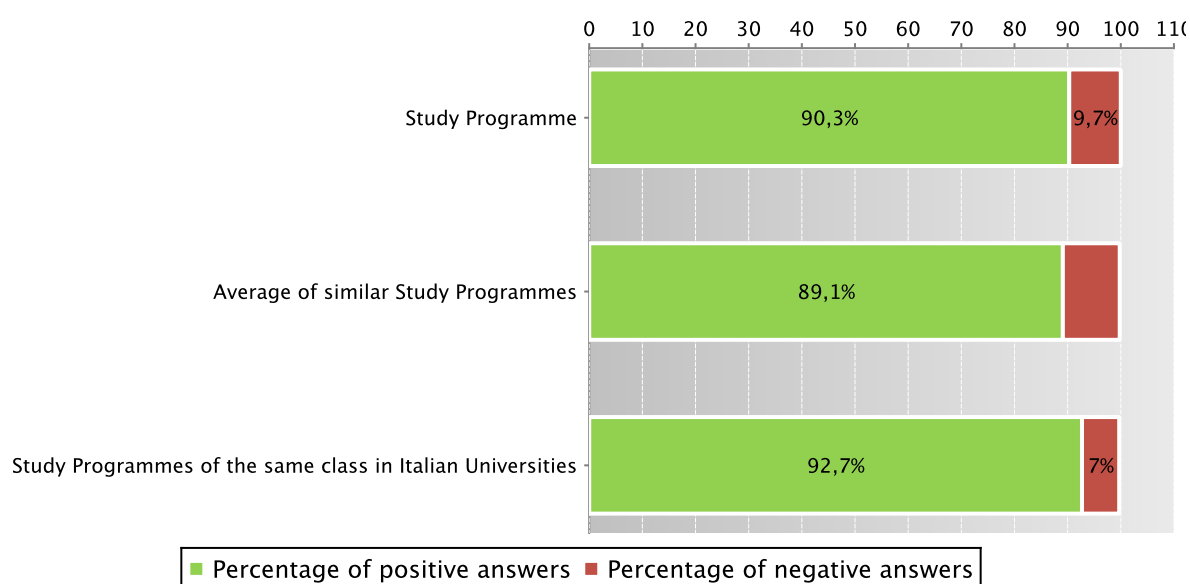
The **graph** shows the percentage of graduates (AlmaLaurea survey) who responded positively to the question: “**Are you generally satisfied with the Study Programme**”.

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 Biotecnologie (code 8005)*



*Data of the Study Programme D.M. 270/04 Biotecnologie (code 8005)*

		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	29	29	93,1%	69,0%
	Average of similar Study Programmes	21,2	19,8	89,2%	72,1%
	Study Programmes of the same class in Italian Universities	314	306	92,2%	71,9%
2012	Study Programme	62	62	90,3%	88,7%
	Average of similar Study Programmes	25,4	24,3	89,1%	73,0%
	Study Programmes of the same class in Italian Universities	767	738	92,7%	73,6%

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 Biotechnologies (code 0090) 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.

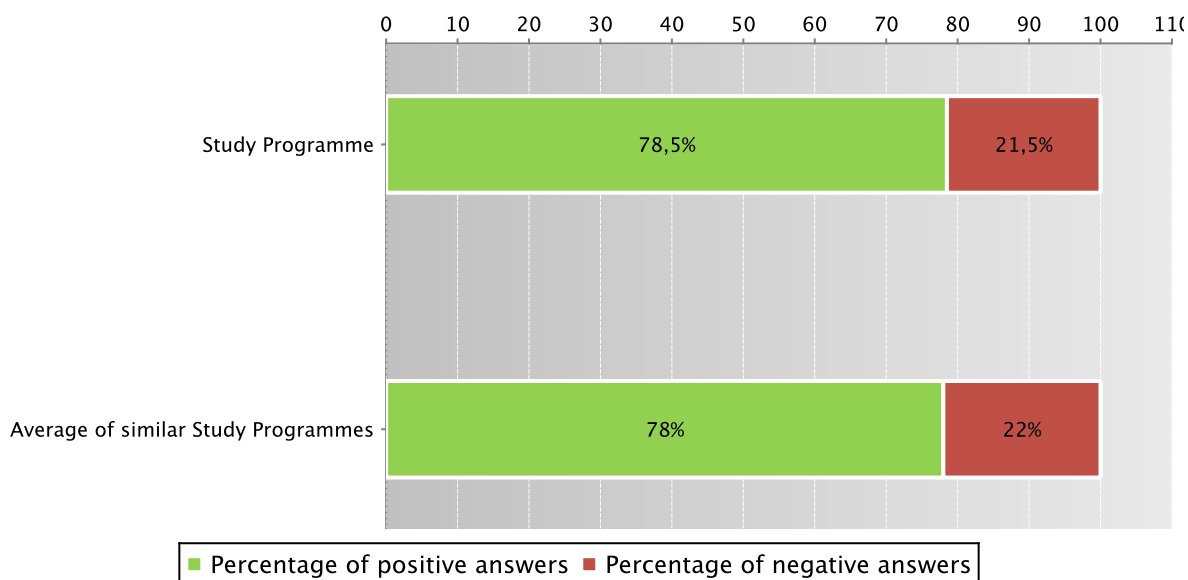
The Study Programme data is compared with the [average of similar Study Programmes \(which belong to the same group\)](#), for the indicated academic years.

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 Biotecnologie (code 8005) and of the Study Programme D.M. 509/99 Biotecnologie (code 0090)*



Data of the Study Programme D.M. 270/04 Biotecnologie (code 8005) and of the Study Programme D.M. 509/99 Biotecnologie (code 0090)

		Number of completed questionnaires	% of positive answers concerning the general satisfaction with the course unit – Question 19
a.y. 2009/2010	Study Programme	2228	71,5%
	Average of similar Study Programmes	1059,4	77,4%
a.y. 2010/2011	Study Programme	2810	77,0%
	Average of similar Study Programmes	1222	76,8%
a.y. 2011/2012	Study Programme	2599	78,5%
	Average of similar Study Programmes	1289,9	78,0%

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).

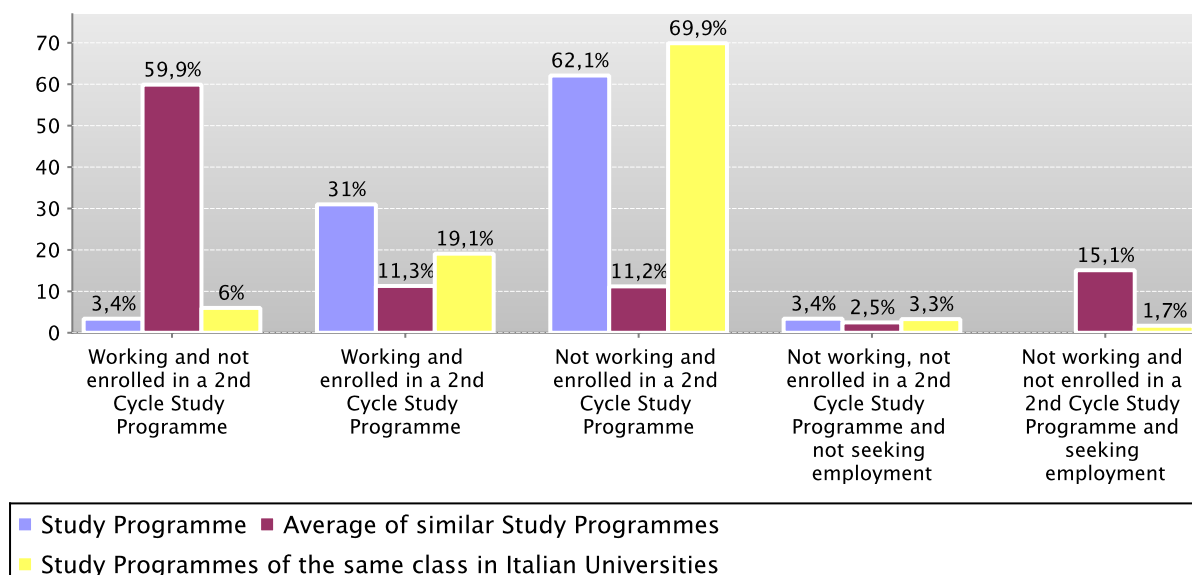
## D.4. ENTRY INTO THE WORLD OF WORK

*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



		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 2011	Study Programme	29	3,4%	31,0%	62,1%	3,4%		62,1%		33,3%
	Average of similar Study Programmes	18,9	59,9%	11,3%	11,2%	2,5%	15,1%	9,9%	73,3%	11,7%
	Study Programmes of the same class in Italian Universities	299	6,0%	19,1%	69,9%	3,3%	1,7%	63,9%	9,5%	12,2%

See data of previous academic years – Study Programme D.M. 509/99 Biotechnologies (code 0090) [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

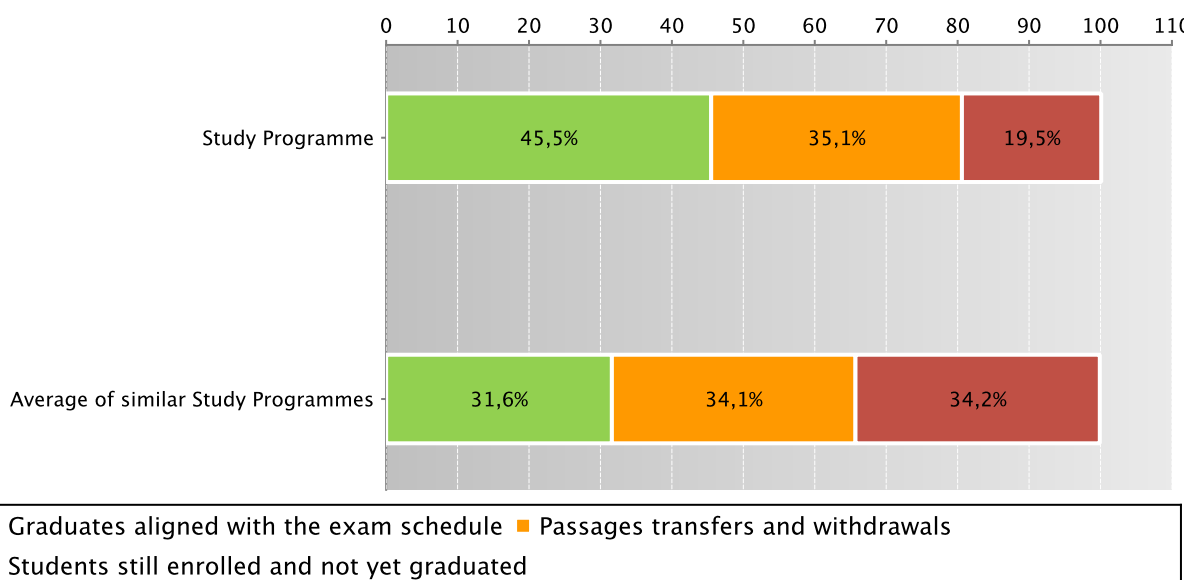
Here you will find information on regular graduates, on how many students, at the end of the regular programme duration, left the programme and how many are still enrolled but not aligned to the exam schedule.

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 Biotechnologies (code 0090)



Data of the Study Programme D.M. 509/99 Biotechnologies (code 0090)

	Registered students	Regular graduates		Passages transfers and withdrawals		Students still enrolled and not yet graduated		
		N.	%	N.	%	N.	%	
Students 2007/2008	Study Programme	77	35	45,5%	27	35,1%	15	19,5%
	Average of similar Study Programmes	38,5	12,2	31,6%	13,1	34,1%	13,2	34,2%

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

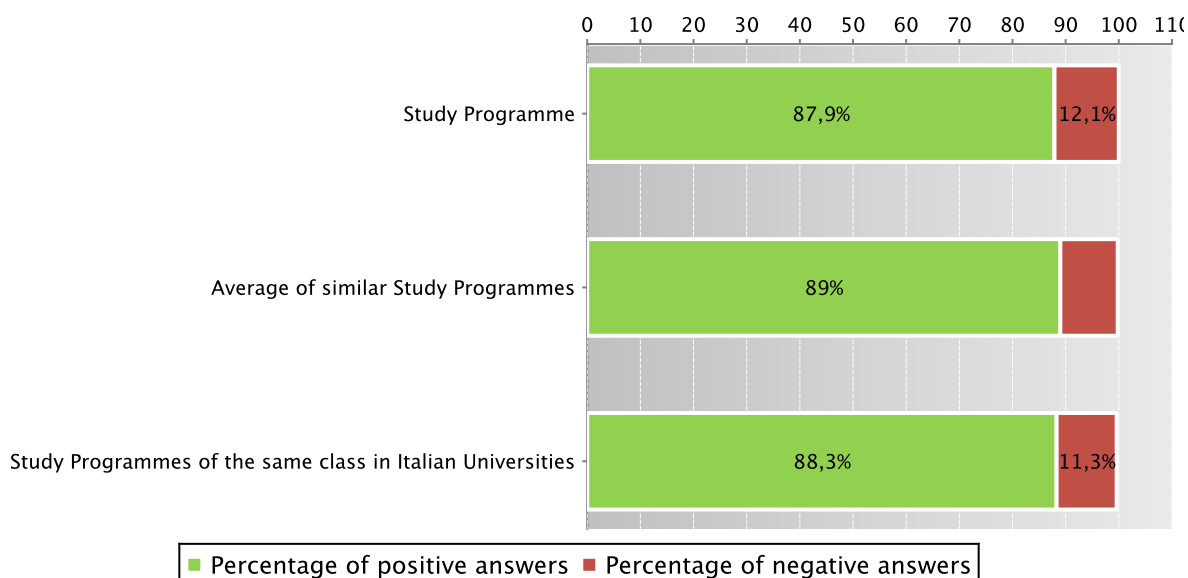
The **graph** shows the percentage of graduates (AlmaLaurea survey) who responded positively to the question: “**Are you generally satisfied with the Study Programme**”.

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 Biotecnologie (code 0090)*



*Data of the Study Programme D.M. 509/99 Biotecnologie (code 0090)*

		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	68	66	87,9%	69,7%
	Average of similar Study Programmes	31,7	29,2	89,0%	72,8%
	Study Programmes of the same class in Italian Universities	1219	1129	88,3%	65,6%

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.

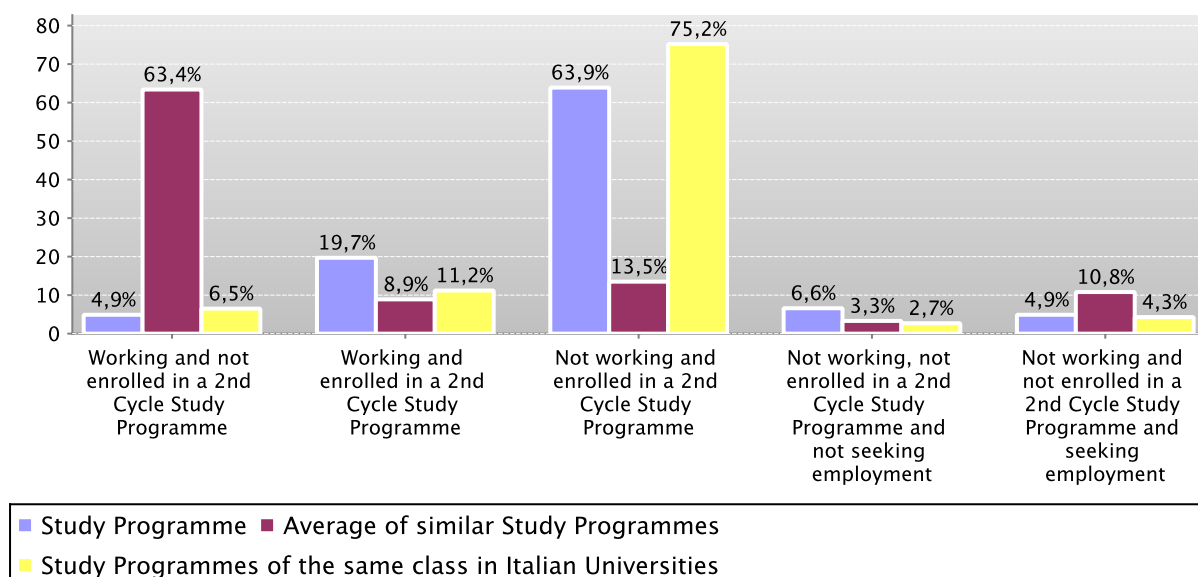
The **graph** shows who is working, who is not working but has enrolled in a Second Cycle study programme, who is not working and is not seeking employment, who is not working but is seeking employment.

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 Biotechnologies (code 0090)*



		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	51	5,9%	13,7%	78,4%		2,0%	72,5%	20,0%	20,0%
	Average of similar Study Programmes	26	66,8%	8,5%	13,7%	2,8%	8,2%	11,1%	77,6%	10,2%
	Study Programmes of the same class in Italian Universities	1149	6,6%	12,5%	74,6%	2,2%	4,1%	60,5%	14,2%	19,2%
Graduation Year 2010	Study Programme	61	4,9%	19,7%	63,9%	6,6%	4,9%	60,7%		7,1%
	Average of similar Study Programmes	26,6	63,4%	8,9%	13,5%	3,3%	10,8%	12,2%	74,7%	10,6%
	Study Programmes of the same class in Italian Universities	1134	6,5%	11,2%	75,2%	2,7%	4,3%	60,9%	8,9%	14,6%

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](#).

Go back to [D.4.1. Employment situation](#)

## 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.

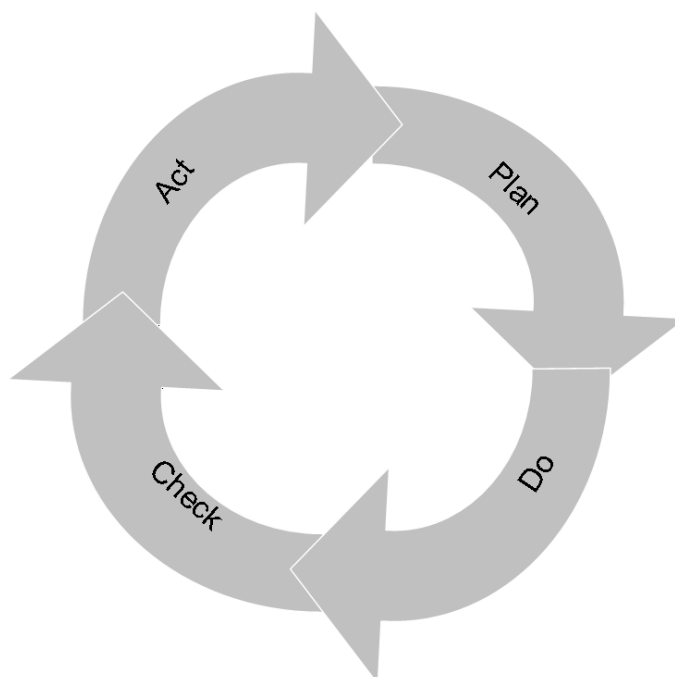
In the Statute and the Strategic Plan 2010-2013 the University of Bologna acknowledges its responsibility in guaranteeing the quality of its study programmes, and for this purpose adopts an "internal quality assurance system".

### 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	Who does what				
	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
<p><b>Definition, gathering and publication of evaluation data</b> 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.</p>	Academic Bodies
<p><b>Self-Assessment</b> 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.</p>	Schools and Study Programmes
<p><b>Internal audit</b></p> <p>The results of the self-assessment process are reviewed in the following phases:</p> <ul style="list-style-type: none"> <li>• <b>Analysis:</b> 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.</li> <li>• <b>Review:</b> 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.</li> <li>• <b>Sharing:</b> the conclusions of the review activities are submitted to the Academic Bodies and the University Evaluation Board.</li> </ul>	<p>Quality Manager</p> <p>Vice Rector for Teaching and Education</p> <p>Academic Bodies</p>
<ul style="list-style-type: none"> <li>• <b>Improvement:</b> 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.</li> </ul>	

## 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.