

2013



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA



School of Engineering and Architecture
LAUREA MAGISTRALE (SECOND
CYCLE DEGREE/TWO YEAR MASTER
- 120 ECTS) IN CIVIL ENGINEERING
A.Y. 2013/2014
Programme Director Prof. MONTANARI ALBERTO

REPORT

Study Programme Report
Civil Engineering
Programme ex D.M. 270/04 - Code 0930 - Class LM-23
School of Engineering and Architecture
Programme Director Prof. MONTANARI ALBERTO

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

Edited by AAGG – University Web Portal Division and CeSLA – Web Technology Division, with MultiPublishing technology

Release date: July 2013

Academic year of reference: 2013/2014

www.unibo.it/QualityAssuranceEn

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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 2nd cycle degree programme in Civil Engineering specifically aims to produce professional figures with a high level of preparation and specialisation who are able to fill technical and technical-organisational roles in working contexts which demand the knowledge of methodological and operative aspects of basic sciences and engineering, privileging the specific aspects of civil engineering but without ignoring also more general areas.

The degree programme aims to produce a range of highly qualified professional figures that are in great demand both locally and nationally.

The achievement of these objectives is assured through a teaching programme which, based on a solid background in physics and mathematics, is completed in this 2nd cycle degree programme by some specific course units, the acquisition of professional and operative skills in all specific disciplines of Civil Engineering, and in particular the design, execution, management and monitoring of civil building works, hydraulic works, infrastructures, transport systems, geotechnical works, territorial projects and surveying in territorial and urban areas.

The course curriculum provides ample room for autonomous learning activities concerning exercises, laboratory work for the production of design work and study of specific subjects, which allow students to develop strong skills in the design, execution, management and monitoring of even highly complex works.

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:

Graduates will have completed their knowledge of the methodological and operative aspects of basic sciences and will have studied many specific disciplines of Civil Engineering, in particular those concerning construction science and techniques, hydraulics and hydraulic constructions, road infrastructures, transport systems, geotechnical works, surveying, technical systems and safety. The acquired skills aim to achieve the critical analysis and solution of even highly complex engineering problems in the civil engineering field. Assessment of the achievement of the described learning outcomes shall be mainly through tests, written and oral exams and project work.

ABILITY TO APPLY KNOWLEDGE AND UNDERSTANDING:

2nd cycle graduates will possess specialist knowledge in the many field of Civil Engineering. The applied knowledge acquired by the end of the degree programme also depends on the chosen study programme. Depending on the students' individual study plan, they will:

- possess advanced knowledge of the principles, methodologies and tools for modelling and calculating of structures built from different materials (reinforced concrete, steel, brickwork, wood) and using different technologies and structural types (pre-compressed, prefabricated structures, etc.);
- know and be able to apply criteria for the calculation and design of various types of even complex structures (framed structures, roofs, bridges, tanks, underground structures, foundations, etc.), from the structural design to sizing, control, design of construction details;
- have an in-depth knowledge of the features of conventional and innovative materials, and will be able to apply that knowledge in order to choose the most suitable for each specific structural application;
- be able to assess the level of safety of a newly designed or existing structure, with reference to the requirements of modern performance standards;
- know how to use even complex calculation software to carry out linear, non linear and dynamic structural analyses;
- possess specific skills in the field of design in seismic areas and the consolidation of buildings, including the use of innovative materials and techniques;
- know the principles, methodologies and tools to assess design stress, assess the impact on the surrounding environment and the design of even complex infrastructures and hydraulic works in urban, rural, mountain, river and marine environments, through the application of updated calculation methods selected autonomously with responsibility;

- possess advanced skills in the theories and techniques of design, construction, management and maintenance of road infrastructures (roads and railways, including underground and airport works);
- possess specialist knowledge of the construction techniques and management of infrastructural works, the mechanics of road materials, the design and structural analysis of road, rail and airport superstructures, the assessment of their stability and functionality and the organisation, management and safety of worksites and systems for execution of infrastructures;
- possess specialist knowledge of the construction techniques and management of infrastructural works, the mechanics of road materials, the design and structural analysis of road, rail and airport superstructures, the assessment of their stability and functionality and the organisation, management and safety of worksites and systems for execution of infrastructures;
- possess advanced knowledge of modelling methodologies for transport systems: individual road, collective road, rail, maritime and air transport;
- be able to design the various types of even complex transport networks which present various modes of transport (multimodal), considering the supply and demand of transport and interaction and the technological aspects of the design problem;
- possess the skills required to manage networks of various transport systems in the best possible way, considering their operational efficiency and economic aspects;
- understand the methodologies to assess alternative transport designs, methodologies which consider the points of view of the direct users of the transport system and the community as a whole, in particular concerning the problem of environmental impact and safety in transport systems;
- possess advanced knowledge of the principles, methodologies and tools for modelling soil behaviour and its interaction with structures;
- be able to manage the calculations of the main types of even complex geotechnical works (foundations, support works, embankments, excavations, etc.);
- know and be able to apply intervention criteria and the main technologies to improve the mechanical and hydraulic soil features;
- possess advanced skills in the field of survey engineering and the criteria, problems and methodologies for surveying, control, monitoring and representation of structures and the territory;
- be able to adopt the most appropriate acquisition and processing techniques for surveying objects and the territory in various applications;
- be able to apply methodologies and modern techniques in an integrated manner for the design, development and production of topographic surveys on different scales and over different areas. They will also possess specific skills for the surveying and control of structures and infrastructures, also for testing purposes;
- know and be able to apply geo-referenced digital data processing techniques;
- know how to carry out critical evaluations and reliability analyses according to criteria of statistical processing of observations;
- possess knowledge of the principles of "energy saving" design of building coverings, associated to the advanced knowledge of the building-systems system and systems using renewable energy sources;
- be able to include systems design in the context of the architectural and structural design of a building;
- be proficient in the forecasting, prevention and management of hydraulic, geological and seismic risks in the civil field, through interventions to safeguard the population and make buildings and infrastructures safe;
- possess skills in representation and remote surveying techniques to monitor risk and procedures and interventions in the civil defence field.
- be able to participate in even complex experimental tests in various fields of Civil Engineering and to critically interpret the relative data.

The achievement of the ability to apply the above knowledge and understanding will be accomplished through the learning activities organised in the "Civil Engineering" programme, supplementary and complementary activities as well as further activities including work placement and laboratories. The teaching methods include participation in seminars and exercises in the classroom and in the laboratory, individual and group projects, guided self-study and autonomous study. Assessment of the achievement of the described learning outcomes shall be mainly through tests, written and oral exams and project work.

JUDGEMENT SKILLS:

2nd cycle graduates:

- will be able to identify, formulate and solve highly complex problems concerning the design of structures and infrastructures, the execution, management and control of civil building works, hydraulic works, infrastructures, transport systems, geotechnical works and surveying, technical systems and safety;
- will be able to keep abreast of methods, techniques and tools in many civil engineering fields;
- will be able to source, consult and interpret the main technical journals and national, European and international standards in the sector.

The aforementioned judgement skills are accomplished through the learning activities organised in the "Civil Engineering" programme, as well as further activities including work placement and laboratories and the preparation for the final examination. The teaching methods include participation in seminars and exercises in the classroom and in the laboratory, individual and group projects, guided

self-study and autonomous study. Assessment of the achievement of the described learning outcomes shall be mainly through tests, written and oral exams and project work.

COMMUNICATION SKILLS:

2nd cycle graduates:

- will be able to effectively communicate orally and in writing both in Italian and English, to a high level;
- will be able to autonomously produce technical project reports and interpret reports produced by other technicians;
- will be able to work profitably in a group of technicians for the design and execution of civil works, also in a management or coordination role;
- will be able to gather, filter and interpret data and formulate autonomous opinions of their technical relevance. They will also be able to effectively communicate such data, as well as information, ideas, problems and solutions to both specialist and non-specialist interlocutors.

The aforementioned communication skills are accomplished through the participation in core and supplementary learning activities as well as further activities including work placement and laboratories and the preparation for the final examination. The teaching methods include participation in exercises in the classroom and in the laboratory, individual and group projects and guided self-study. Assessment of the achievement of the described learning outcomes shall be mainly through written and oral exams and project work.

LEARNING SKILLS:

2nd cycle graduates:

- will be able to keep abreast of methods, techniques and tools in the Civil Engineering field for the design of structures and infrastructures, the execution, management and control of civil building works, hydraulic works, infrastructures, transport systems, geotechnical works, technical systems as well as surveying, and safety;
- will possess the learning skills needed to continue studies to a higher level with a high level of autonomy (PhD or 2nd level Master's degree), as well as to update and improve their skills on a continuous basis, as is currently required in the professional world.

The aforementioned learning skills are achieved through learning activities in the disciplinary fields laid down in the degree programme system and in particular the activities carried out partly in an autonomous manner. The specific teaching methodologies include tutorials. Assessment of the achievement of the learning skills shall be through the various exams organised throughout the

A.4. CAREER OPPORTUNITIES

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

Professional figure:

STRUCTURAL ENGINEER

Main functions:

Referring to highly complex structures (buildings, roofs, bridges, tanks, etc.), they lead the design phase, starting with the design and as far as the definition of construction details: they model the structure using a calculation method, draw up load analyses and calculate stress, design and verify structural elements, produce graphic reports complete with construction details and calculation reports. They select the most appropriate materials and technology for the specific structural application. They assess the level of safety of a newly designed or existing structure, with reference to the requirements of modern performance standards;

They use even complex calculation software to carry out linear, non linear and dynamic structural analyses; They possess specific skills in the field of design in seismic areas.

They design interventions for the consolidation of buildings, including the use of innovative materials. They carry out experimental tests on even complex structures and critically interpret the relative data.

Professional figure:

HYDRAULIC ENGINEER FOR TERRITORIAL MANAGEMENT

Main functions:

With reference to even highly complex hydraulic infrastructures (hydrographical basins and complexes, mains water networks, sewage systems and drainage land, water lifting and hydroelectric systems, torrents, rivers, estuaries, beaches and ports) they carry out 1) functional analyses, 2) design of interventions, from the initial idea to the design of construction details, 3) control of correct execution, 4) response monitoring. In this field they choose the appropriate stress conditions (precipitation, discharge, waves), model infrastructural behaviour using appropriate models (physical or numeric), design and verify structural elements and systems, produce graphic reports complete with construction details and reports to accompany the designs. They carry out even complex experimental tests on physical models or prototype measurements and critically interpret the results.

Professional figure:

ROAD INFRASTRUCTURE ENGINEER

Main functions:

With reference to even highly complex transport infrastructures (roads, motorways, railways, airports), they deal with the design (from preliminary to executive), construction and maintenance with particular reference to safety and environmental impact. They possess

specific skills in the design of such works in seismic areas. They can autonomously manage problems concerning the design of main support works (shafts, walls, braced walls). The main skills concerning therefore the construction and design of roads, railways and airports, maintenance of road infrastructure and the organisation and management of infrastructure worksites and systems.

Professional figure:

TRANSPORT ENGINEER

Main functions:

They design various types of even complex transport networks which include several transport modes and in particular the following types of network: urban and extra-urban road transport; collective urban rail and road transport; rail, maritime and air transport. They know how to deal with the problems of transport systems planning considering supply, demand and interaction. They are familiar with the most common software programmes used internationally for the design and planning of various kinds of transport system networks. They produce urban transport plans, considering the following aspects: operational (traffic), economic and environmental impact. They execute the detailed design of even complex hubs: road intersections with and without traffic lights, stations, airports, ports, intermodal centres. They possess the skills needed to participate in the organisation, management and direction of services delivered by the following: collective urban transport systems, collective extra-urban road transport systems, regional and national rail transport, air and maritime transport.

Professional figure:

SURVEY ENGINEER

Main functions:

They design, execute and supervise complex surveying activities, using the most modern geomatics techniques for the purposes of surveying, monitoring and representing structures and the territory. They identify the most appropriate operative methods for the specific applications in the engineering field using the methodologies inherent to topography, digital photogrammetry and image analysis, spatial geodesics (GPS), aerial and ground-based laser scanning, aerial or satellite multispectral remote sensing. They work in the execution, testing and management of topographic databases, Territorial Information Systems and GIS, numeric cartography, cadastral systems. They carry out controls, also for the purposes of testing, during the execution and management of works and infrastructures, and know how to implement specialist surveys with high precision in order to monitor structures. They are able to carry out highly complex experiments and critically analyse the results.

Professional figure:

GEOTECHNICAL ENGINEER

Main functions:

With reference to the execution of all civil engineering works, they identify geotechnical problems, manage their analysis through the appropriate characterisation of the involved soils, process and implement suitable geotechnical models to study the soil response and its interaction with structures. They also identify appropriate design solutions and develop calculations and relative, possibly innovative, intervention methods with particular attention to issues concerning execution. Finally, they design even advanced appropriate geotechnical surveying programmes, assuring the correct execution, critically interpret data and establish relevant parameters.

Professional figure:

CIVIL CONSTRUCTION ENGINEER

Main functions:

Starting from an architectural design, they produce the structural design and make constructive choices, in collaboration with other specialist technicians (systems technicians, electricians) and with the architect, within an integrated works project. They are familiar with the most recent standards concerning energy savings for building heating and can make the relative calculations, produce technical heating projects concerning the building covering and can analyse the relative building-system system in order to minimise consumption without compromising on the wellbeing of its occupants. They carry out applied research into the technological features of even innovative materials and processes. They define and design standards and procedures to assure the functionality and safety of structures. They have specific skills in the field of surveying for Cultural Heritage and in the use of Geomatics techniques integrated with other diagnostic methods.

Professional figure:

ENGINEER – WORKS DIRECTOR

Main functions:

In various civil engineering fields (building, hydraulic and geotechnical works, infrastructure and transport), they control and plan the execution of works on behalf of the contractor (Worksite Manager-Engineer) or on behalf of the Contracting Authority (Works Director). They provide their services throughout the whole project (General Works Director) or only for specific interventions (Structural/Technical Systems Works Director, for the organisation and topographic surveying operations for large works or numeric cartography, etc.).

Professional figure:

CONTROL ENGINEER FOR CIVIL ENGINEERING MATERIALS AND GOODS PRODUCTION

Main functions:

They cover the position of production manager in companies which manufacture materials for civil works (concrete, steel for frames and reinforced concrete, bituminous binders, bituminous conglomerates) and the execution of prefabricated structural and non-structural elements. They plan production according to orders, assure the procurement of materials, oversee routine controls on materials and mass-produced goods, also using advanced surveying methods to control geometries and modifications.

Professional figure:

SAFETY ENGINEER FOR INFRASTRUCTURES AND CIVIL DEFENCE

Main functions:

They design, implement and manage engineering works to safeguard the population and make civil buildings and infrastructures safe from hydraulic, geological and seismic risks. They are experts in the field of information management and cartography in risk areas. They know how to characterise and interpret different event scenarios that are useful for risk forecasting and prevention. They design infrastructures to make civil settlements safe and plan structural and non-structural interventions to mitigate the effects of natural disasters. They collaborate on environmental impact studies concerning civil infrastructures and the development of emergency procedures for civil defence. In Furthermore, with reference to civil works, they draw up the Operational Safety Plan (POS). They understand the implications of the most recent criteria in the field of worksite operator safety, and can satisfy the requirements of Italian law 626 concerning worksite safety and health protection in the surrounding residential areas.

Career opportunities:

Engineer employed by the civil service and local administrations: specialist technical role in local authorities (Municipalities, Provinces, Regions, Mountain authorities) and national bodies (Ministry of Infrastructure, Ministry of Transport, Motorways Authority, ANAS SpA (Italian roads authority), State Railways, National Civil Aviation Authority - ENAC, etc.) in various fields of Civil Engineering, including the design, management and control of civil and building works, hydraulic works, infrastructure, transport systems and territorial interventions, as well as the management and representation of the territory and its works. Specialist technical role in authorities managing the reduction and control of risks linked to civil works (Civil Defence, Fire Brigade, etc.).

Engineer employed by companies: specialist technical role in construction companies, for the management of public and private construction sites, as well as transport infrastructure. They control production and assure quality control in companies which manufacture materials for civil works (concrete, steel for frames and reinforced concrete, bituminous binders, bituminous conglomerates) and the execution of prefabricated structural and non-structural elements. Specialist technical role in companies working in the urban and extra-urban territory (airport infrastructure management companies, motorway concession companies, mobility managers) which require technical and operational management skills in the design of even highly complex works and management and control skills relative to Territorial Information Systems. Specialist technical role in the management, organisation and direction of services provided by transport companies, passenger and goods transport, working in the municipal, provincial, regional and national level, including collective urban transport companies, regional and national railway companies, air and maritime transport companies.

Freelance Engineer: having passed the state examination, in compliance with the applicable regulations, graduates in Civil Engineering may register with Section A of the professional association and freely exercise the private profession. They may therefore sign even highly complex civil works projects, either individually or as part of a design team. They may also follow the execution of civil building works, hydraulic works, infrastructures, geotechnical works, surveying, in the role of Works Director. As a freelance engineer, they may also carry out the activities listed in the above profiles as an external collaborator on projects on behalf of public administrations, authorities and companies, or providing their services directly to private contractors.

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 thirdcycle studies (PhD/Specialisation schools) and to professional master'sprogrammes.

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 a 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 (in Italian). Information updated to 28 May 2013 (in Italian).

Permanent teaching staff:

Artina, Sandro	Diotallevi, Pier Paolo	Pascale, Giovanni	Vignali, Valeria
Benedetti, Andrea	Gandolfi, Stefano	Ruggeri, Tommaso	Viola, Erasmo
Bitelli, Gabriele	Gottardi, Guido	Rupi, Federico	Zanutta, Antonio
Boldini, Daniela	Mancini, Maurizio	Savoia, Marco	Zanuttigh, Barbara
Bragalli, Cristiana	Mantecchini, Luca	Semprini, Giovanni	de Miranda, Stefano
Brath, Armando	Mazzotti, Claudio	Simone, Andrea	
Custodi, Alberto	Merli, Maurizio	Tonni, Laura	
Di Federico, Vittorio	Micucci, Alfonso	Tornabene, Francesco	

Contract teaching staff:

[Marino, Roberto](#)
[Poluzzi, Raffaele](#)
[Praitoni, Giannino](#)

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 which provides specific information about the offices and the services for the enrolled students (in italian).

- [Enrolled students](#)

C.2.3. INTERNATIONAL STUDENTS

The links take you to the reference Work Placement and International Relations office for the Study Programme, where available.

- [International students](#)

C.2.4. GRADUATES

- [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. For this reason for the previous academic years for some information, as opinion of the graduates and employment situation, are provided in the reports of those Programmes, on the paragraph D.5. refers to the Study Programmes as they were presented prior to the reform.

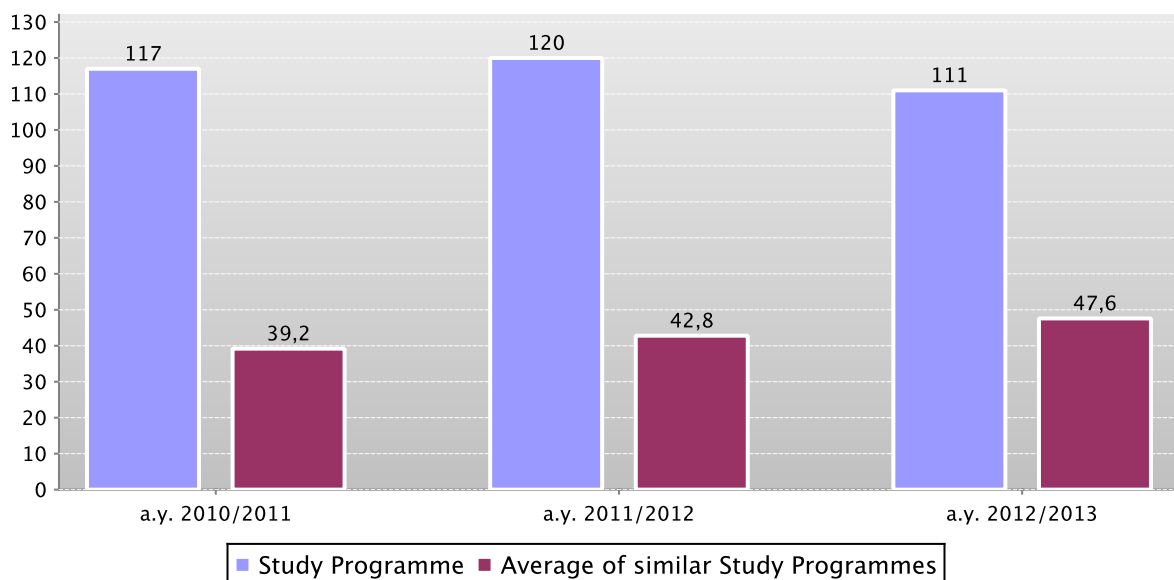
D.1. STUDENTS STARTING THEIR UNIVERSITY CAREERS

Characteristics of incoming students at the beginning of their study. Tables and graphs provide information on number of enrolled students (*new careers*), focusing on the characteristics of students and results of any entrance tests.

D.1.1. ENROLMENTS

The **graph** and the **table** show the number of **new careers** of the Study Programme compared with the **average of similar Study Programmes** (which belong to the same group), for the indicated academic years.

New careers



	a.y. 2010/2011		a.y. 2011/2012		a.y. 2012/2013	
	New careers	Total N. enrolled students	New careers	Total N. enrolled students	New careers	Total N. enrolled students
Study Programme	117	264	120	338	111	348
Average of similar Study Programmes	39,2	60,4	42,8	62,9	47,6	62,6

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 1st cycle degree, age and gender of students.

The 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 1st cycle degree of students enrolling in the degree programme.

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

		New careers	Geographic origin					Gender		Average age of new career 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	22 or less	23 - 24	25 or more
Students 2010/2011	Study Programme	117	30,8%	23,9%	9,4%	33,3%	2,6%	70,9%	29,1%	29,9%	47,9%	22,2%
	Average of similar Study Programmes	39,2	26,0%	19,0%	8,2%	42,6%	4,3%	70,2%	29,8%	36,7%	42,3%	21,0%
Students 2011/2012	Study Programme	120	24,2%	25,8%	5,0%	45,0%		64,2%	35,8%	14,2%	59,2%	26,7%
	Average of similar Study Programmes	42,8	25,6%	18,3%	8,1%	44,8%	3,2%	66,3%	33,7%	31,2%	46,7%	22,2%
Students 2012/2013	Study Programme	111	27,0%	21,6%	10,8%	37,8%	2,7%	66,7%	33,3%	30,6%	48,6%	20,7%
	Average of similar Study Programmes	47,6	27,9%	18,2%	6,2%	43,2%	4,6%	68,2%	31,8%	32,0%	44,7%	23,3%

		First Cycle Degree: University of previous studies				First Cycle Degree: more frequent class		First Cycle Degree: grade					
		University of Bologna	Other Italian Universities	Foreign University	Other not defined	Class code and name	% of students	First Cycle Degree grade between 66 and 90	First Cycle Degree grade between 91 and 100	First Cycle Degree grade between 101 and 105	First Cycle Degree grade between 106 and 110	First Cycle Degree grade 110 and honors	First Cycle Degree grade not available
Students 2010/2011	Study Programme	90,6%	7,7%		1,7%	8 INGEGNERIA CIVILE E AMBIENTALE	84,6%	20,5%	47,0%	17,9%	8,5%	4,3%	1,7%
	Average of similar Study Programmes	75,1%	17,9%	0,6%	6,4%	10 INGEGNERIA INDUSTRIALE	25,3%	16,3%	31,8%	16,8%	14,2%	14,5%	6,4%
Students 2011/2012	Study Programme	84,2%	15,0%	0,8%		8 INGEGNERIA CIVILE E AMBIENTALE	64,2%	25,8%	45,8%	12,5%	9,2%	6,7%	
	Average of similar Study Programmes	71,3%	21,4%	0,4%	6,9%	10 INGEGNERIA INDUSTRIALE	15,9%	15,3%	34,0%	17,7%	13,6%	12,5%	6,8%
Students 2012/2013	Study Programme	76,6%	19,8%		3,6%	L-7 INGEGNERIA CIVILE E AMBIENTALE	58,6%	22,5%	39,6%	9,9%	10,8%	13,5%	3,6%
	Average of similar Study Programmes	67,6%	15,8%	0,4%	16,3%	L-9 INGEGNERIA INDUSTRIALE	21,0%	16,4%	33,9%	12,8%	11,1%	9,5%	16,3%

D.2. REGULARITY OF STUDIES

Insight into the regularity with which the students pass their exams. The graphs and the tables provide information on the number of students who leave the programme between the first and second 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

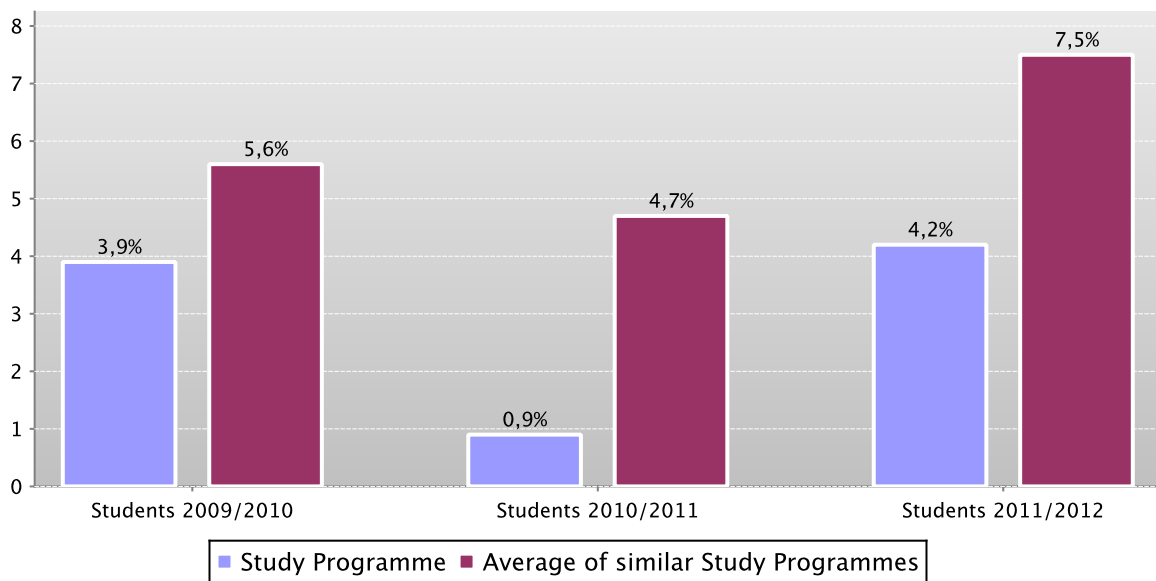
Here the number of students leaving the Study Programme is shown.

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 (**new careers**), 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** (which belong to the same group), for students registered (**new careers**) in the indicated academic years.

Percentage of withdrawals between years 1 and 2



		New careers	% withdrawals	% passages and transfers	% repeating students	Students enrolled in the second year
Students 2009/2010	Study Programme	127	3,9%	0,0%	0,0%	122
	Average of similar Study Programmes	40,5	5,6%	0,8%	0,1%	37,9
Students 2010/2011	Study Programme	117	0,9%	1,7%	0,0%	114
	Average of similar Study Programmes	39,2	4,7%	0,7%	0,0%	37,1
Students 2011/2012	Study Programme	120	4,2%	0,0%	0,0%	115
	Average of similar Study Programmes	42,8	7,5%	1,3%	0,1%	39

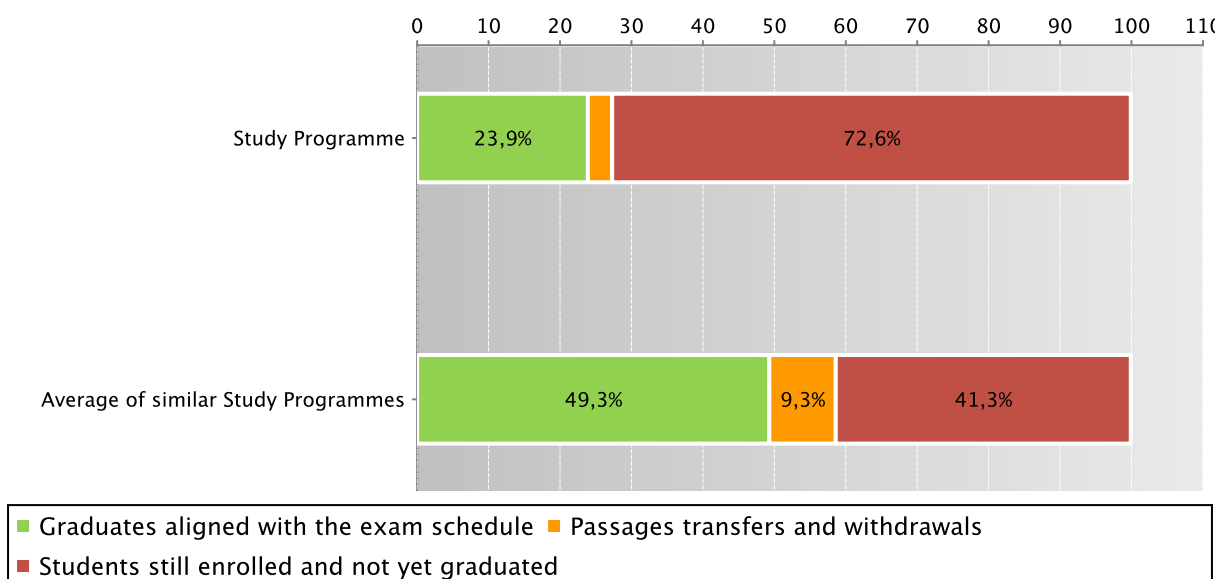
D.2.2. REGULAR GRADUATES

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 the **registered students (new careers)** 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 enrolled in the indicated academic year.

Situation of students 2010/2011 at the end of regular duration of the study programme



		New careers		Regular graduates		Passages transfers and withdrawals		Students still enrolled and not yet graduated	
		N.	%	N.	%	N.	%	N.	%
Students 2009/2010	Study Programme	127	38	29,9%	5	3,9%	84	66,1%	
	Average of similar Study Programmes	40,5	17	42,0%	4,3	10,7%	19,1	47,2%	
Students 2010/2011	Study Programme	117	28	23,9%	4	3,4%	85	72,6%	
	Average of similar Study Programmes	39,2	19,3	49,3%	3,7	9,3%	16,2	41,3%	

See data of previous academic years – Study Programme D.M. 509/99 Civil Engineering (code 0452) 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

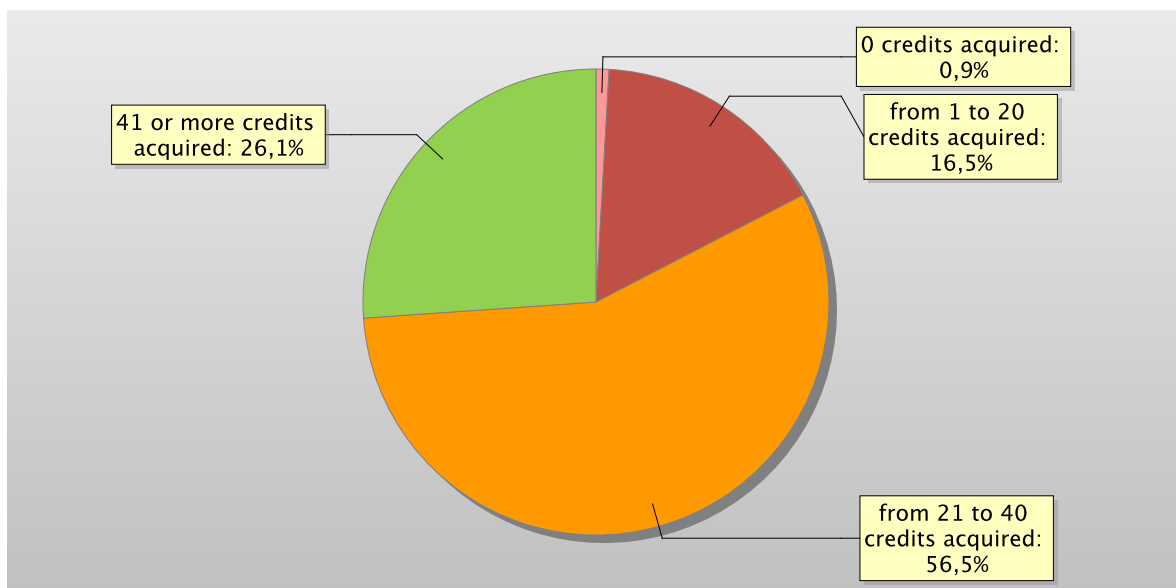
This offers an insight into how regularly students pass their exams.

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** (wich belong to the same group), for students registered in 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*



	Study Programme	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	122	1,6%	17,2%	55,7%	25,4%	31,5
	Average of similar Study Programmes	37,9	8,1%	22,8%	42,5%	26,7%	29
Students 2010/2011	Study Programme	114	1,8%	21,1%	57,0%	20,2%	29,7
	Average of similar Study Programmes	37,1	6,8%	17,0%	45,8%	30,4%	31,2
Students 2011/2012	Study Programme	115	0,9%	16,5%	56,5%	26,1%	32,6
	Average of similar Study Programmes	39	3,1%	16,3%	45,0%	35,6%	33,9

*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.

The data concerning previous programmes is given in a separate section.

Data of the Study Programme D.M. 270/04 Ingegneria civile (code 0930)

	N. of exams passed	Average grade *
31469 CARTOGRAFIA NUMERICA E SISTEMI INFORMATIVI TERRITORIALI T	3	
34722 COSTRUZIONI IDRAULICHE M	140	25,7
34723 PROTEZIONE IDRAULICA DEL TERRITORIO M	10	28,2
34771 CONSOLIDAMENTO DEI TERRENI M	18	29,1
34773 IDRAULICA MARITTIMA M	23	28,3
34784 PROGETTO DI OPERE DI INGEGNERIA SANITARIA M	38	29,3
34785 OPERE IN SOTTERRANEO M	12	26,3
34841 INGEGNERIA PORTUALE M	1	
35125 TECNICA DELLE COSTRUZIONI M	115	26,5
35348 OPERE GEOTECNICHE M	125	24,4
35354 FISICA MATEMATICA E TRATTAMENTO STATISTICO DELLE OSSERVAZIONI M	131	24

	N. of exams passed	Average grade *
35355 METODI NUMERICI PER L'INGEGNERIA CIVILE M C.I.	32	26,3
35380 COSTRUZIONI DI STRADE, FERROVIE, AEROPORTI M	4	
35381 PIANIFICAZIONE DEI TRASPORTI M	5	
35384 TECNICA E SICUREZZA DEI CANTIERI VIARI M	23	29
35386 COSTRUZIONI FERROVIARIE E AEROPORTUALI M	18	27,8
35388 TEORIA E TECNICA DELLA CIRCOLAZIONE M	31	27,7
35389 PROGETTAZIONE DEI SISTEMI DI TRASPORTO M	5	
35397 CONTEXT-SENSITIVE DESIGN IN TRANSPORTATION INFRASTRUCTURES	15	29,8
35398 SUSTAINABLE TRANSPORTATION ENGINEERING M	1	
35399 TELERILEVAMENTO E GIS M	17	27,1
35400 PROGETTO DI PONTI M	13	26
35401 CALCOLO AUTOMATICO DELLE STRUTTURE M	17	26,8
35407 PROGETTO DI STRUTTURE DI FONDAZIONE M	12	27,9
35408 PROGETTO IN ZONA SISMICA M	26	26,3
35409 COASTAL ENGINEERING	7	28,6
35410 IDRAULICA AMBIENTALE M	1	
35411 IMPIANTI SPECIALI IDRAULICI M	10	26,8
35412 SISTEMI IDRAULICI URBANI M	67	27,2
35415 IDROLOGIA SOTTERRANEA M	1	
35416 ADVANCED HYDROLOGY & WATER RESOURCES MANAGEMENT M	14	28,9
35427 CONTROLLO E COLLAUDO DELLE COSTRUZIONI E DEL TERRITORIO M	4	
35428 FOTOGRAMMETRIA APPLICATA M	37	26,9
35432 APPLIED GEOMATICS	3	
35434 DIAGNOSTICA E SPERIMENTAZIONE DELLE STRUTTURE M	52	27,7
35435 STRUCTURAL STRENGTHENING & REHABILITATION	3	
35436 MECHANICS OF HISTORICAL MASONRY STRUCTURES	13	27,7
35437 TEORIA DELLE STRUTTURE M	29	25,3
35439 PROGETTI DI STRUTTURE M	24	27,3
35445 DINAMICA DELLE STRUTTURE M	28	26,7
35450 STRUCTURAL SAFETY	6	25,5
35452 IMPIANTI TECNICI M	12	27,8
35460 MANAGING ENGINEERING & CONSTRUCTION PROCESSES M	10	27,4
66792 INFRASTRUCTURE SYSTEMS	2	
66910 METODI NUMERICI PER L'INGEGNERIA CIVILE M	108	28,1
66911 MISURE E MODELLI IDRAULICI M	5	
66912 PROGETTAZIONE AVANZATA DI INFRASTRUTTURE VIARIE M	20	28,1
66914 STRUCTURAL STRENGTHENING AND REHABILITATION	4	
67018 CONTROLLO E COLLAUDO DELLE STRUTTURE E DEL TERRITORIO M	11	28,1

	N. of exams passed	Average grade *
67381 TEORIA E TECNICA DELLA CIRCOLAZIONE M (6 CFU)	10	29,1
67383 PROGETTO IN ZONA SISMICA M (6 CFU)	6	26,5
67385 CALCOLO AUTOMATICO DELLE STRUTTURE M (6 CFU)	76	27,3
67387 TELERILEVAMENTO E GIS M (6 CFU)	8	28,5
68587 LABORATORIO DI INGEGNERIA CIVILE M	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

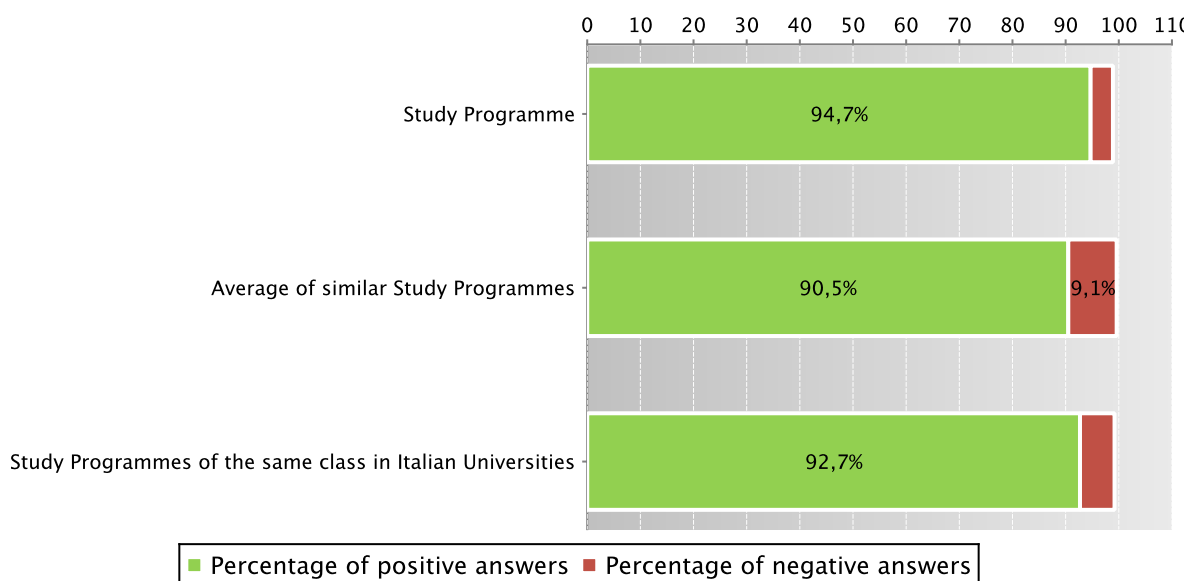
The **graph** shows the percentage of graduates (*AlmaLaurea* survey) who responded positively to the question: “**Are you generally satisfied with the Study Programme**”.

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 civile (code 0930)



Data of the Study Programme D.M. 270/04 Ingegneria civile (code 0930)

		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	6	5	100,0%	80,0%
	Average of similar Study Programmes	20	19,4	90,0%	78,4%
	Study Programmes of the same class in Italian Universities	282	271	88,9%	80,1%
2012	Study Programme	97	95	94,7%	85,3%
	Average of similar Study Programmes	22	21,5	90,5%	78,6%
	Study Programmes of the same class in Italian Universities	789	741	92,7%	81,1%

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 Civil Engineering (code 0452) [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.

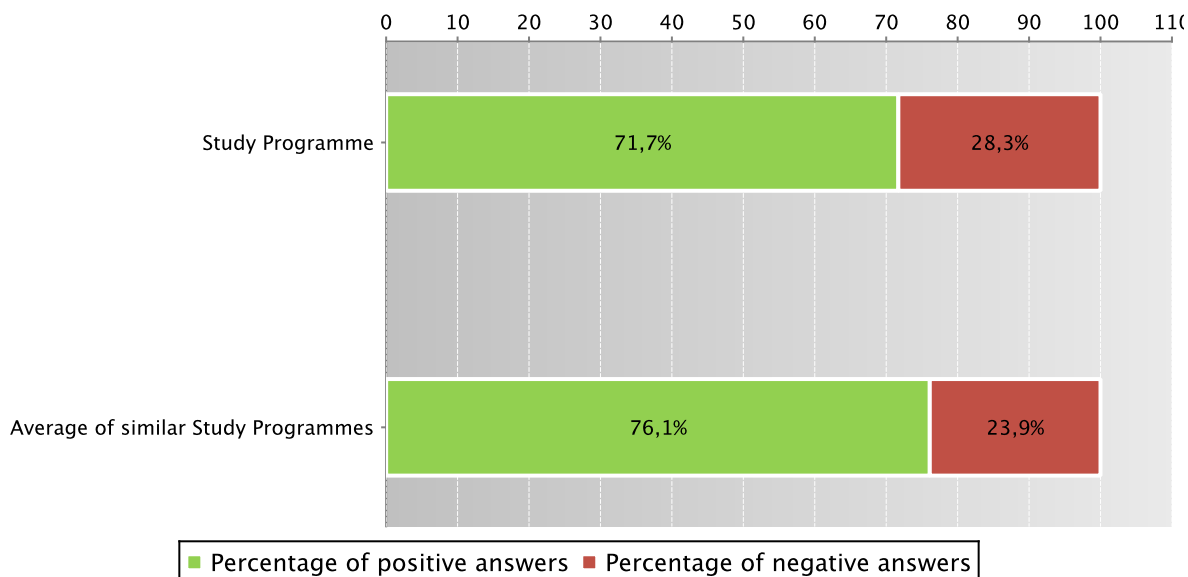
The Study Programme data is compared with the **average of similar Study Programmes** (which belong to the same group), for the indicated academic years.

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 *Aform* - Quality Assurance Department and *Arag* - 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 civile (code 0930) and of the Study Programme D.M. 509/99 Ingegneria civile (code 0452)



Data of the Study Programme D.M. 270/04 Ingegneria civile (code 0930) and of the Study Programme D.M. 509/99 Ingegneria civile (code 0452)

		Number of completed questionnaires	% of positive answers concerning the general satisfaction with the course unit – Question 19
a.y. 2009/2010	Study Programme	891	71,5%
	Average of similar Study Programmes	386,1	77,1%
a.y. 2010/2011	Study Programme	889	74,6%
	Average of similar Study Programmes	372,6	77,9%
a.y. 2011/2012	Study Programme	1100	71,7%
	Average of similar Study Programmes	422,1	76,1%

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

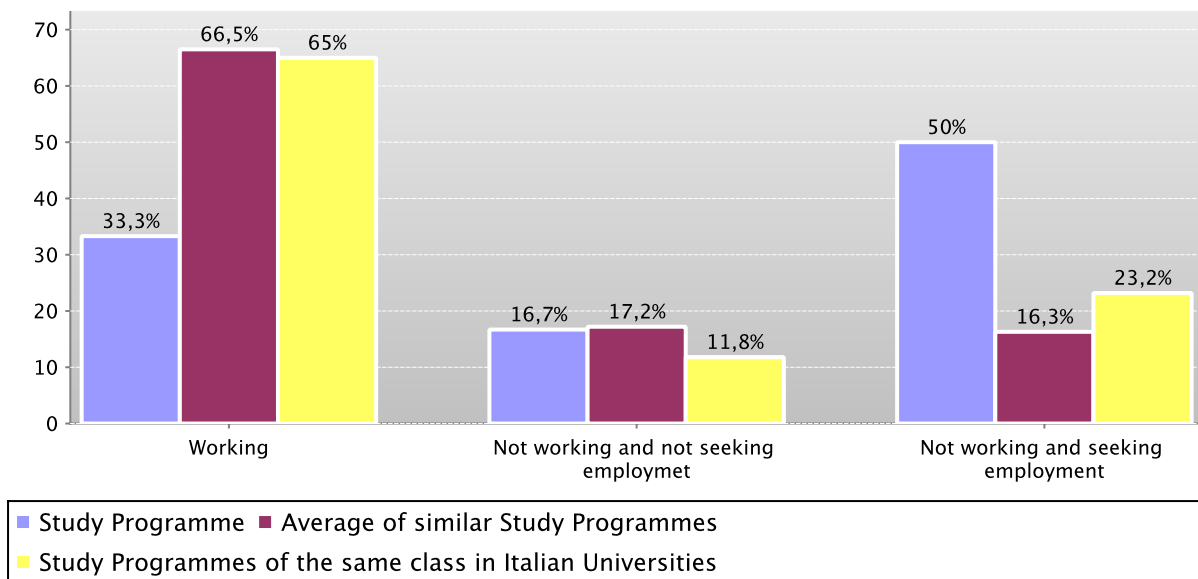
The paragraph shows the employment situation of graduates one year after graduating.

The data is taken from the [AlmaLaurea](#) reports on the employment situation of graduates.

The **graph** shows who is working, who is not working 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 [class](#) of other Italian universities for the graduates of the indicated years.

Employment situation of graduates in 2011 one year after graduating



	Study Programme	N. graduates interviewed	Employment 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	Not working and not seeking employment	Not working and seeking employment		Effective / very effective	Quite effective
Graduation Year 2011	Study Programme	6	33,3%	16,7%	50,0%		100,0%	
	Average of similar Study Programmes	17,8	66,5%	17,2%	16,3%	12,3%	58,1%	30,8%
	Study Programmes of the same class in Italian Universities	263	65,0%	11,8%	23,2%	6,5%	67,5%	23,5%

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 situation": the definition includes the number of employed graduates who declaring to carry out a paid work activity, provided that is not training activity (internship, traineeship, PhD degrees, specialization schools).

(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](#).

See data of previous academic years – Study Programme D.M. 509/99 Civil Engineering (code 0452) [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 study. Tables and graphs provide information on number of enrolled students (new careers), focusing on the characteristics of students.

D.5.1.1. ENROLMENTS

Data of enrolments 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, 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

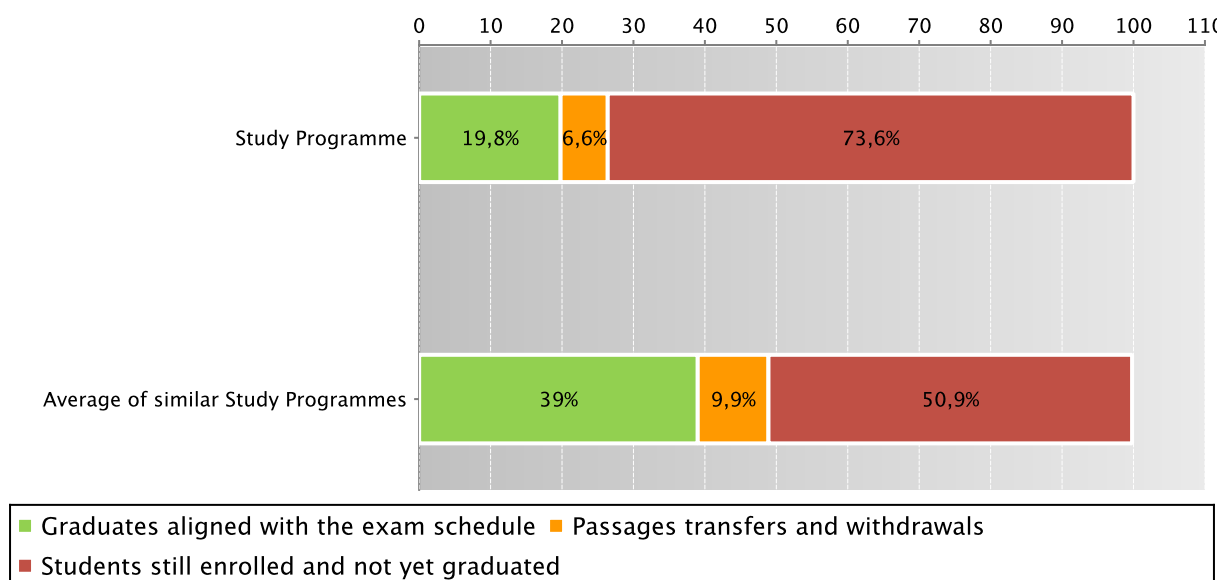
Here you will find information on regular graduates, on how many students, at the end of the regular programme duration, left the programme and how many are still enrolled but not aligned to the exam schedule.

The **graph** and the **table** show the situation concerning the students enrolled at the first year (**new careers**) 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 2008/2009 at the end of regular duration of the study programme

Data of the Study Programme D.M. 509/99 Civil Engineering (code 0452)



Data of the Study Programme D.M. 509/99 Civil Engineering (code 0452)

		New careers		Regular graduates		Passages transfers and withdrawals		Students still enrolled and not yet graduated	
		N.	%	N.	%	N.	%	N.	%
Students 2008/2009	Study Programme	121	24	19,8%	8	6,6%	89	73,6%	
	Average of similar Study Programmes	42,6	16,6	39,0%	4,2	9,9%	21,7	50,9%	

[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

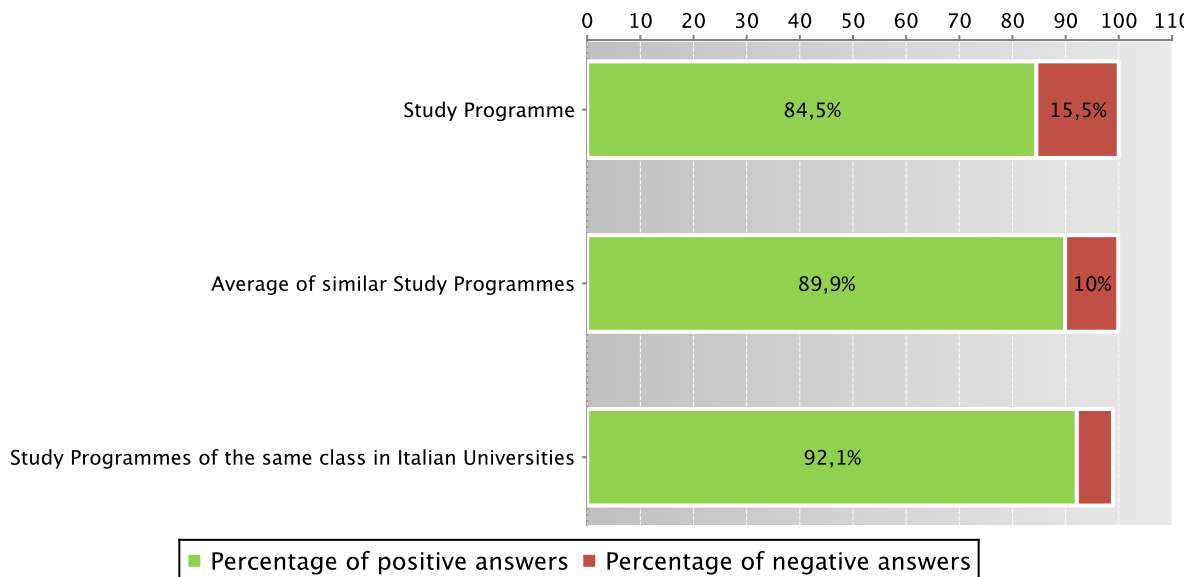
The **graph** shows the percentage of graduates (AlmaLaurea survey) who responded positively to the question: “**Are you generally satisfied with the Study Programme?**”.

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 civile (code 0452)



Data of the Study Programme D.M. 509/99 Ingegneria civile (code 0452)

		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	100	97	84,5%	86,6%
	Average of similar Study Programmes	25,5	24,8	89,9%	78,6%
	Study Programmes of the same class in Italian Universities	1011	971	92,1%	84,2%

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.

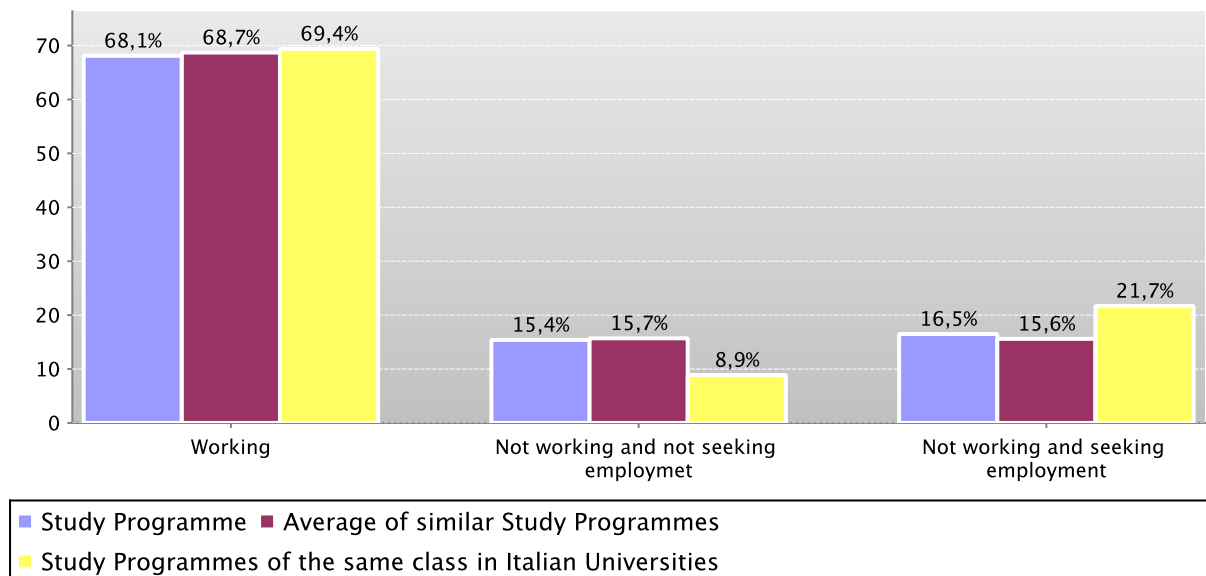
The **graph** shows who is working, who is not working and is not seeking employment, who is not working but is seeking employment.

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 [class](#) 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 Civil Engineering (code 0452)



Data of the Study Programme D.M. 509/99 Civil Engineering (code 0452)

		N. graduates interviewed	Employment 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	Not working and not seeking employment	Not working and seeking employment		Effective / very effective	Quite effective
Graduation Year 2009	Study Programme	64	73,4%	9,4%	17,2%	6,3%	91,5%	8,5%
	Average of similar Study Programmes	32,1	63,8%	18,3%	17,9%	11,8%	55,3%	34,7%
	Study Programmes of the same class in Italian Universities	765	70,2%	11,2%	18,6%	6,1%	77,2%	18,1%
Graduation Year 2010	Study Programme	91	68,1%	15,4%	16,5%	8,8%	83,6%	9,8%
	Average of similar Study Programmes	23,5	68,7%	15,7%	15,6%	9,9%	57,4%	32,5%
	Study Programmes of the same class in Italian Universities	942	69,4%	8,9%	21,7%	5,4%	79,4%	15,7%

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 situation": the definition includes the number of employed graduates who declaring to carry out a paid work activity, provided that is not training activity (internship, traineeship, PhD degrees, specialization schools).

(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.

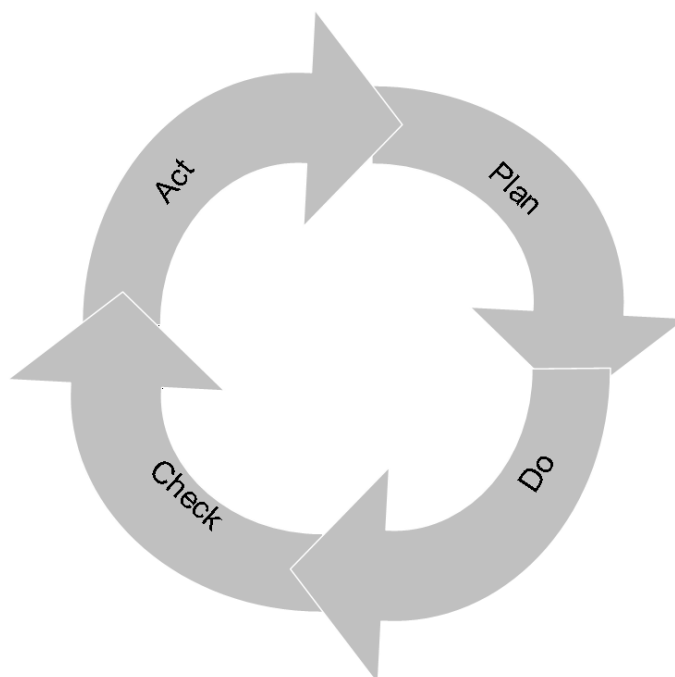
In the Statute and the Strategic Plan 2010-2013 the University of Bologna acknowledges its responsibility in guaranteeing the quality of its study programmes, and for this purpose adopts an "internal quality assurance system".

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>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.</p>	Academic Bodies
<p>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.</p>	Schools and Study Programmes
<p>Internal audit</p> <p>The results of the self-assessment process are reviewed in the following phases:</p> <ul style="list-style-type: none"> • 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. 	<p>Quality Manager</p> <p>Vice Rector for Teaching and Education</p> <p>Academic Bodies</p>
<ul style="list-style-type: none"> • 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.