

2016  
REPORT



ALMA MATER STUDIORUM  
UNIVERSITÀ DI BOLOGNA



School of Engineering and Architecture – Forlì Campus  
**LAUREA (FIRST CYCLE DEGREE/  
BACHELOR - 180 ECTS) IN AEROSPACE  
ENGINEERING A.Y. 2016/2017**  
Programme Director Prof. Paolo Tortora

Study Programme Report  
Aerospace Engineering  
Programme ex D.M. 270/04 - Code 8263 - Class L-9  
School of Engineering and Architecture – Forlì Campus  
Programme Director Prof. Paolo Tortora

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<b>What is the Study Programme Report?</b> .....	1
<b>A. Presentation and prospects</b> .....	2
A.1. Presentation .....	2
A.2. Learning outcomes .....	2
A.3. Career opportunities .....	2
A.4. Opinion of social partners and potential employers .....	3
A.5. Further studies .....	3
<b>B. Teaching and Learning</b> .....	4
B.1. Course Structure Diagram .....	4
B.2. Calendar and lecture timetable .....	4
<b>C. Resources and services</b> .....	5
C.1. Teachers .....	5
C.2. Student services: offices .....	5
C.2.1. Future students .....	5
C.2.2. Enrolled students .....	5
C.2.3. International students .....	5
C.2.4. Graduates .....	5
<b>D. The Study Programme in figures</b> .....	6
D.1. Students starting their university careers .....	6
D.1.1. Enrolled .....	6
D.1.2. Additional data on students' starting their university careers .....	7
D.1.2.1. Registered for the entrance examinations of the Study Programmes with restricted access .....	7
D.1.2.2. Incoming students .....	8
D.1.2.3. Additional Learning Requirements .....	9
D.2. Regularity of studies .....	10
D.2.1. Students leaving the Programme between years 1 and 2 .....	10
D.2.2. Regular graduates .....	11
D.2.3. Additional data on regularity of studies .....	12
D.2.3.1. Credits obtained by students in the 1st year .....	12
D.2.3.2. Exams passed and average grade .....	13
D.2.4. Additional data on internationalization .....	15
D.2.4.1. Exams passed by the incoming exchange students .....	15
D.2.4.2. Outgoing exchange students .....	16
D.2.4.3. Credits obtained abroad by graduates .....	17
D.3. Opinions of graduates and attending students .....	18
D.3.1. Opinion of graduates .....	18
D.3.2. Additional data on opinions of students .....	20
D.3.2.1. Opinion of attending students .....	20
D.4. Entry into the world of work .....	22
D.4.1. Employment situation .....	22
D.4.2. Credits obtained by graduates through curriculum internship activity .....	24
<b>E. Find out more: the quality of your Study Programme</b> .....	25
<b>F. Glossary terms</b> .....	28



# 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 services 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 2016/2017: the information and data provided is as updated as possible.
- Sections A, B and C provide data for the academic year 2016/2017.
- The section D presents data regarding the Study Programmes in the last three academic years. 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. When Study Programme data are not available for three academic years, for some information the data of the previous Study Programme are available, too (as for example, the number and the opinion of the graduates, the employment situation). Graphs and tables about attending students opinions and exchange students mobility refers to students whether they are enrolled/graduated in the current programme or in the Study programme running under previous reform regulations (D.M. 509).
- The information and data were taken from the University databases and the reports published by [AlmaLaurea](#), and are updated to **6 May 2015**.

## 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 2016/2017.*

### A.1. PRESENTATION

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

The 1st cycle degree programme in Aerospace Engineering produces professionals with knowledge of the methodological and practical aspects of both basic sciences and industrial engineering science, with particular focus on aeronautics and space. The Aerospace Engineer profile is ISTAT-listed (2.2.1.1.3) and has specific skills compared to other industrial engineering graduates. In particular, graduates will have the skills to work as professionals in different fields, covering the design, production, management and organisation, assistance in technical and sales structures, risk assessment, safety management in both prevention and emergency situations, working both freelance and employed by aeronautic and space companies.

The programme produces professionals able to hold positions of responsibility in the field of the aircraft mobilisation planning, flight management, air traffic control, air fleet management also from a purely technical point of view (maintenance, aircraft and systems updating, etc.). Graduates are able to acquire knowledge which allows them to easily work in aeronautic (or advanced technology) companies with responsibility for the management of quality systems, production systems, in the aircraft maintenance field.

The programme also provides good knowledge of the tools and procedures required by the most important civil aviation authorities in the field of technical monitoring, certification, navigation and safety.

Graduates gain direct knowledge of the possible career opportunities through the participation in activities carried out in facilities inside and outside of the university, in coherence with the learning outcomes, in order to develop group working skills, interpersonal skills and external stimulation to relevant topics which can be used for the final dissertation. The production of the dissertation will provide graduates with synthesis skills and the ability to carry out research autonomously and guided by the supervising professor and to present and discuss personal essays.

The curriculum covers three learning areas:

- Basic sciences

This area covers mathematics and basic physics and chemistry, as well as computing, economics and rational mechanics. The relative course units are run in the first two lecture sessions in the first year of the programme.

- Basic Industrial Engineering

This set of course units are run in the second year, and provide the foundations of knowledge common to all industrial engineers. It include technical drawing, mechanical behaviour of materials, fluid dynamics, automatic controls, electrotechnics and electronics.

- Aerospace Engineering

This last set of course units, run in the second and third year, cover the traditional set of knowledge of aerospace engineering and builds the foundations of the discipline also with a view to second cycle studies.

It includes aircraft aerodynamics, flight mechanics, aircraft construction, aerospace systems and propulsion. These bases form the main technical competences of graduates, with a view to lifelong learning and further studies.

The third year also includes elective course units which are part of thematic learning areas: a) design, b) astronautics and space c) air navigation and d) construction technologies.

The programme is completed by two teaching workshops, chosen freely by the students.

Concluding the curriculum, the final examination is based on a written dissertation produced autonomously by the students, under the supervision of a professor, usually from the Degree Programme, submitted to an Examination Board.

Having passed the state examination, in compliance with the applicable regulations, graduates may join the engineering profession.

### A.2. LEARNING OUTCOMES

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

This content is not currently available.

### A.3. CAREER OPPORTUNITIES

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

This content is not currently available.

#### A.4. 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.5. 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 2016/2017), 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 (examination session and final examination session) and the course timetable.*

- [Course timetable](#)
- [Examination 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 2016/2017.*

### 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 13 June 2016.*

#### Permanent teaching staff:

<a href="#">Celli, Annamaria</a>	<a href="#">Galli, Domenico</a>	<a href="#">Montanari, Annamaria</a>	<a href="#">Roli, Andrea</a>
<a href="#">Ceruti, Alessandro</a>	<a href="#">Giulietti, Fabrizio</a>	<a href="#">Moro, Davide</a>	<a href="#">Seccia, Leonardo</a>
<a href="#">Donati, Lorenzo</a>	<a href="#">Mastri, Franco</a>	<a href="#">Olmi, Giorgio</a>	<a href="#">Talamelli, Alessandro</a>
<a href="#">Falfari, Stefania</a>	<a href="#">Masutti, Anna</a>	<a href="#">Piancastelli, Luca</a>	<a href="#">Tortora, Paolo</a>
<a href="#">Fortunato, Alessandro</a>	<a href="#">Minak, Giangiacomo</a>	<a href="#">Ponti, Fabrizio</a>	<a href="#">Troiani, Enrico</a>
<a href="#">Francaviglia, Stefano</a>	<a href="#">Modenini, Dario</a>	<a href="#">Rivola, Alessandro</a>	<a href="#">Zanzi, Matteo</a>

#### Contract teaching staff:

<a href="#">Baldetti, Giuseppe</a>	<a href="#">Rossetti, Alessandro</a>
<a href="#">De Angelis, Emanuele Luigi</a>	<a href="#">Scarpi, Gianbattista</a>
<a href="#">Ferrario, Michael Richard</a>	
<a href="#">Musi, Massimiliano</a>	
<a href="#">Olivetti, Fabio</a>	
<a href="#">Quattrocolo, Gianrico</a>	

### 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 prospective students.*

- [Prospective students](#)

#### C.2.2. ENROLLED STUDENTS

*The link take you to the webpage with the information on the offices and the services for the current students.*

- [Current students](#)

#### C.2.3. INTERNATIONAL STUDENTS

*The link take you to the webpage with the information on the offices and the services for the exchange students.*

- [Exchange students](#)

#### C.2.4. GRADUATES

*The link take you to the webpage with the information on the offices and the services for the 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 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 6 May 2016, 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.

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. When Study Programme data are not available for three academic years, for some information the data of the previous Study Programme are available, too (as for example, the number and the opinion of the graduates, the employment situation). Graphs and tables about attending students opinions and exchange students mobility refers to students whether they are enrolled/graduated in the current programme or in the Study programme running under previous reform regulations (D.M. 509).

From the publication of this study programme report is updated the procedure of the selection of the cohorts: the student belongs to the cohort of the study programme on which one has been enrolled on 31 December of the year of the beginning of student career.

### D.1. STUDENTS STARTING THEIR UNIVERSITY CAREERS

Characteristics of the incoming students at the beginning of their university careers. The tables and the graphs provide information on the characteristics of the students, on the results of any entrance tests and the students assigned any **additional learning requirements** (OEA).

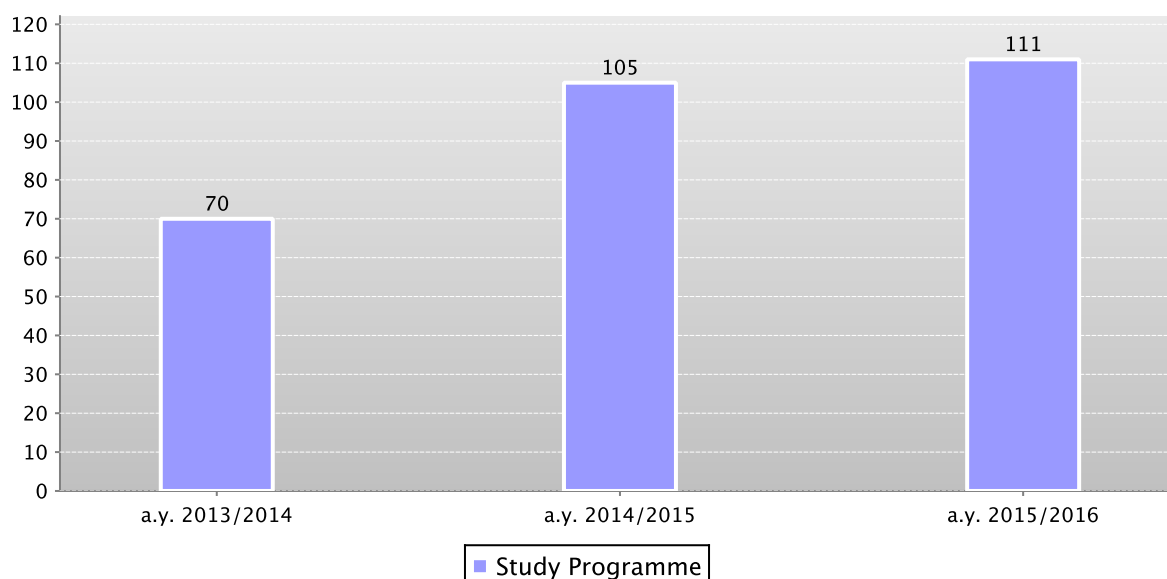
#### D.1.1. ENROLLED

The **graph** shows the number of **students enrolled in the 1st year**.

In addition, the **table** shows for each academic year the number of the students of the cohort and the enrolled students for each year of the programme.

First year enrolments

Data of the Study Programme D.M. 270/04 Aerospace Engineering (code 8263)



Data of the Study Programmes D.M. 270/04 Aerospace Engineering (code 0945), Aerospace Engineering (code 8263)

	Students of the cohort	Students enrolled			
		Students enrolled at the first year	Students enrolled at the second year	Students enrolled at the third year	Students enrolled on supplementary year
a.y. 2013/2014	61	70	50	49	57
a.y. 2014/2015	96	105	52	50	66
a.y. 2015/2016	97	111	76	49	70

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

### D.1.2.1. REGISTERED FOR THE ENTRANCE EXAMINATIONS OF THE STUDY PROGRAMMES WITH RESTRICTED ACCESS

For all study programme with restricted access is expected a maximum number of available places and selection procedure suitable to develop classification of the students which could enroll to the study programme. The procedure for management of the call for application and the classification, unclaimed places included, may vary from year to year. The selection may be specific to a study programme or could be part of an examination covering several programmes from the same university or from other universities. The following definitions apply:

- **Available places** = the number of places estimated by the call for applications of the Study Programme or defined by subsequent legal provisions; except any additional places reserved according to specific characteristics of the programme (e.g. for some international study programmes, are not included places for foreign students selected from other universities).
- **Number of participants in the exam** = number of actual participations (when the test are organized in several exam sessions, the data refers to the total of the participants for each session).

When an examination is covering several programmes, the table shows the number of participations indicating the study programme as their first choice.

For the health's study programmes are shown the candidates registered at the test indicating the study programme if is indicated as first, second or third choice. For single cycle degree programmes of the School of Medicine is indicated the total number of enrolled on the joint selection.

Data of the Study Programme D.M. 270/04 Aerospace Engineering (code 8263)

	N. of places available	N. of participants
a.y. 2013/2014	120	75
a.y. 2014/2015	120	131
a.y. 2015/2016	120	135

## D.1.2.2. INCOMING STUDENTS

Data shows a group of students (**cohort**) which started on the same academic year their students career. Students which have been **transferred** or which requested to **passed** to another Study Programme, or enrolled to a second degree are not included.

From the publication of this study programme report is updated the procedure of the selection of the cohorts: the student belongs to the cohort of the study programme on which one has been enrolled on 31 December of the year of the beginning of student's career. The **tables** show the number, geographic origin, citizenship, gender, age, type of diploma and grade of high school of the students of the cohort.

The Study Programme data is compared with the **average of similar Study Programmes (which belong to the same group)**. To remind that for the same grouping could include Study Programmes with a different entrance access and some of them could have restricted access.

Data of the Study Programme D.M. 270/04 Aerospace Engineering (code 8263)

		Students of the cohort	Geographic origin						Gender		Average age of registered students		
			Students coming from the province of the Study Programme site	Students coming from other provinces where Umbro has a site	Students coming from other provinces of Emilia Romagna region	Students coming from other Italian regions (Republic of San Marino included)	Students coming from abroad	Students with foreign citizenship (different of Italian and Republic of San Marino)	M	F	19 or less	20 - 24	25 or more
Cohort 2013/2014	Study Programme	61	11,5%	39,3%	9,8%	37,7%	1,6%	6,6%	86,9%	13,1%	86,9%	9,8%	3,3%
	Average of similar Study Programmes	95,6	34,6%	21,8%	7,7%	34,9%	1,0%	4,5%	69,4%	30,6%	82,1%	16,1%	1,8%
Cohort 2014/2015	Study Programme	96	13,5%	28,1%	16,7%	40,6%	1,0%	9,4%	79,2%	20,8%	76,0%	22,9%	1,0%
	Average of similar Study Programmes	106,6	33,1%	20,9%	8,3%	36,6%	1,0%	5,3%	69,6%	30,4%	80,2%	18,5%	1,3%
Cohort 2015/2016	Study Programme	97	20,6%	37,1%	7,2%	35,1%		10,3%	84,5%	15,5%	72,2%	25,8%	2,1%
	Average of similar Study Programmes	112,3	32,2%	21,4%	8,0%	37,0%	1,5%	4,9%	70,6%	29,4%	82,3%	16,0%	1,7%

		Vocational schools	Technical Colleges	High school certificate					Educational qualification not available	Grade of High school				
				High school specializing in education and in psycho-pedagogical science	High schools specializing in classical studies, modern languages, science education	Other high schools (including S. Marino)	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	Grade not available	
Cohort 2013/2014	Study Programme	1,6%	44,3%		49,2%		4,9%		9,8%	32,8%	32,8%	24,6%		
	Average of similar Study Programmes	2,3%	30,2%	1,7%	61,9%	1,1%	2,4%	0,3%	15,9%	27,4%	27,0%	29,2%	0,5%	
Cohort 2014/2015	Study Programme	2,1%	37,5%		52,1%		3,1%	5,2%	13,5%	14,6%	33,3%	34,4%	4,2%	
	Average of similar Study Programmes	1,9%	29,4%	1,7%	61,4%	1,5%	2,7%	1,3%	16,4%	26,4%	26,9%	29,5%	0,8%	
Cohort 2015/2016	Study Programme	1,0%	32,0%		61,9%	2,1%		3,1%	9,3%	25,8%	33,0%	32,0%		
	Average of similar Study Programmes	1,6%	27,3%	1,2%	64,2%	1,2%	2,4%	2,0%	12,9%	24,7%	28,4%	33,0%	1,0%	

### D.1.2.3. ADDITIONAL LEARNING REQUIREMENTS

Students on the programme with assigned **additional learning requirements** (OFA).

The OFA are learning requirements assigned in order to permit to enroll students who have not demonstrated the full possession of the entrance initial preparation. The assessment methods of students' initial preparation and the fulfillment of the OFA are described in the Study Programme Regulations, and may change each year. In case the student has not passed the additional learning requirements should re-enroll in the first year as repeating student.

Data shows a group of students (**cohort**) which started on the same academic year their university career. Students which have been **transferred** or which requested to pass to another Study Programme, or enrolled to a second degree are not included.

From the publication of this study programme report is updated the procedure of the selection of the cohorts: the student belongs to the cohort of the study programme on which one has been enrolled on 31 December of the year of the beginning of student career. The **table** shows the numerosity of the cohort, the number of students assigned OFA, the number of who fulfilled them, the percentage of students assigned the OFA compared to the number of cohort of the students and the percentage of who fulfilled the OFA related to those to whom was assigned.

The last two columns show the number of students, those with assigned OFA, those who left the programme between the first and second year due to **withdrawal from studies**, or who enrolled again at the first year as **repeating** students.

Data of the Study Programme D.M. 270/04 Aerospace Engineering (code 8263)

	Students of the cohort (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 assigned OFA who leave the Study Programme between the 1st and the 2nd year	
						N. students assigned OFA who dropped out the studies	N. of students assigned OFA who enrolled as repeating student
Cohort 2012/2013	74	45	27	60,8%	60,0%	21	4
Cohort 2013/2014	61	21	15	34,4%	71,4%	5	2
Cohort 2014/2015	96	22	11	22,9%	50,0%	7	6
Cohort 2015/2016	97	12					

\*Note: At the time of publication of this report the number of students fulfilling the OFA can be measured for a.y. 2012/13, 2013/14 and a.y. 2014/2015 only.

## D.2. REGULARITY OF STUDIES

The graph and the table provide information on the number of students who withdraw 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 passed exams, average grade achieved for each course unit and exchange students' data.

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

Data shows a group of students (cohort) which started on the same academic year their students career. Students which have been transferred or which requested to pass to another Study Programme, or enrolled to a second degree are not included.

From the publication of this study programme report is updated the procedure of the selection of the cohorts: the student belongs to the cohort of the study programme on which one has been enrolled on 31 December of the year of the beginning of student career.

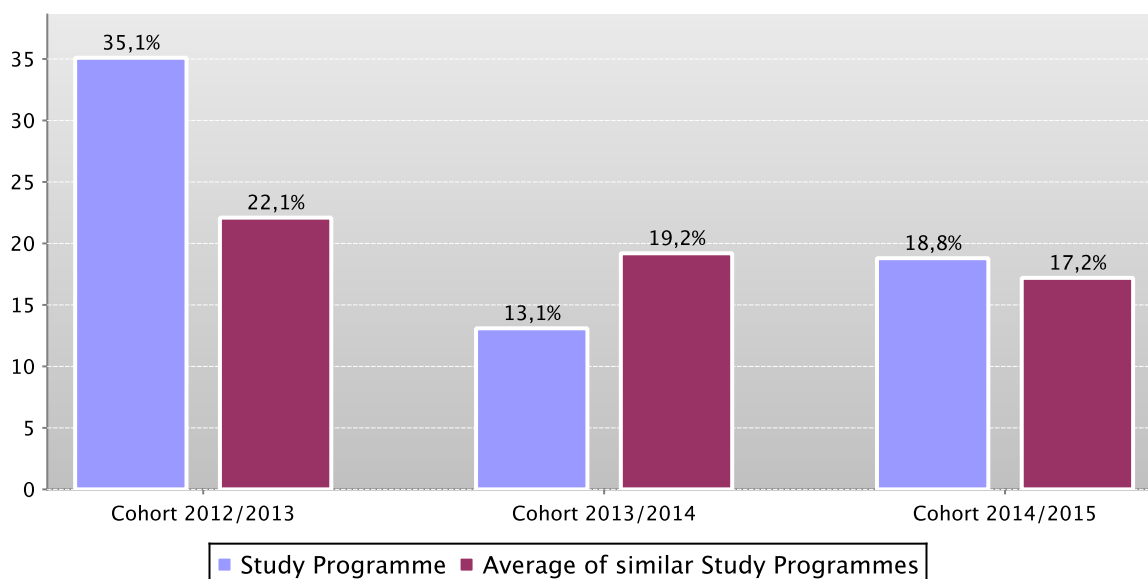
The graph shows the percentage of students who withdrawal the studies after the first year compared to the average of similar Study Programmes (belonging to the same group).

The table shows the numerosity of the cohort, the percentage of students leaving the programme due to withdrawal from studies, passages to a different Study Programme in the same university or transfers to another university, the percentage of the students enrolled as 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).

Percentage of withdrawal from studies between 1st and 2nd year

Data of the Study Programme D.M. 270/04 Aerospace Engineering (code 8263)



Data of the Study Programme D.M. 270/04 Aerospace Engineering (code 8263)

		Students of the cohort	% withdrawal from studies	% passages and transfers	% repeating students	Students of the cohort in the 2nd year
Cohort 2012/2013	Study Programme	74	35,1%	2,7%	5,4%	42
	Average of similar Study Programmes	109,9	22,1%	8,0%	3,1%	73,5
Cohort 2013/2014	Study Programme	61	13,1%	4,9%	3,3%	48
	Average of similar Study Programmes	95,6	19,2%	6,4%	2,8%	68,6
Cohort 2014/2015	Study Programme	96	18,8%	5,2%	6,3%	67
	Average of similar Study Programmes	106,6	17,2%	5,5%	2,1%	80,2

### D.2.2. REGULAR GRADUATES

Data shows a group of students (**cohort**) which started on the same academic year their university career. Students which have been **transferred** or which requested to pass to another Study Programme, or enrolled to a second degree are not included.

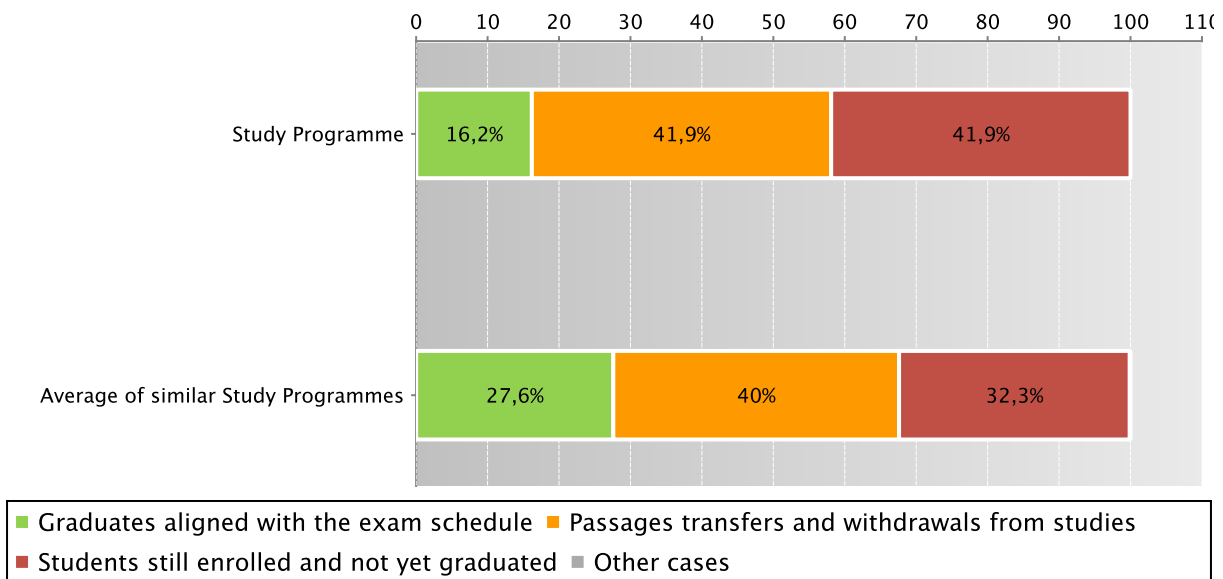
From the publication of this study programme report is updated the procedure of the selection of the cohorts: the student belongs to the cohort of the study programme on which one has been enrolled on 31 December of the year of the beginning of student career.

The **graph** and the **table** show the situation of the indicated cohorts, at the end of the standard length of study, 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 from studies**).

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

Situation of the students of the cohort 2012/2013 at the end of the regular duration of the studies

Data of the Study Programme D.M. 270/04 Aerospace Engineering (code 8263)



		Students of the cohort		Regular graduates		Passages, transfers and withdrawals from studies		Students still enrolled and not yet graduated	
		N.	%	N.	%	N.	%	N.	%
Cohort 2010/2011	Study Programme	69		15	21,7%	33	47,8%	21	30,4%
	Average of similar Study Programmes	95,7		25,3	26,5%	39,3	41,1%	31	32,4%
Cohort 2011/2012	Study Programme	68		15	22,1%	35	51,5%	18	26,5%
	Average of similar Study Programmes	114,9		31,5	27,4%	47,9	41,7%	35,5	30,9%
Cohort 2012/2013	Study Programme	74		12	16,2%	31	41,9%	31	41,9%
	Average of similar Study Programmes	109,9		30,4	27,6%	44	40,0%	35,5	32,3%

### D.2.3. ADDITIONAL DATA ON REGULARITY OF STUDIES

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

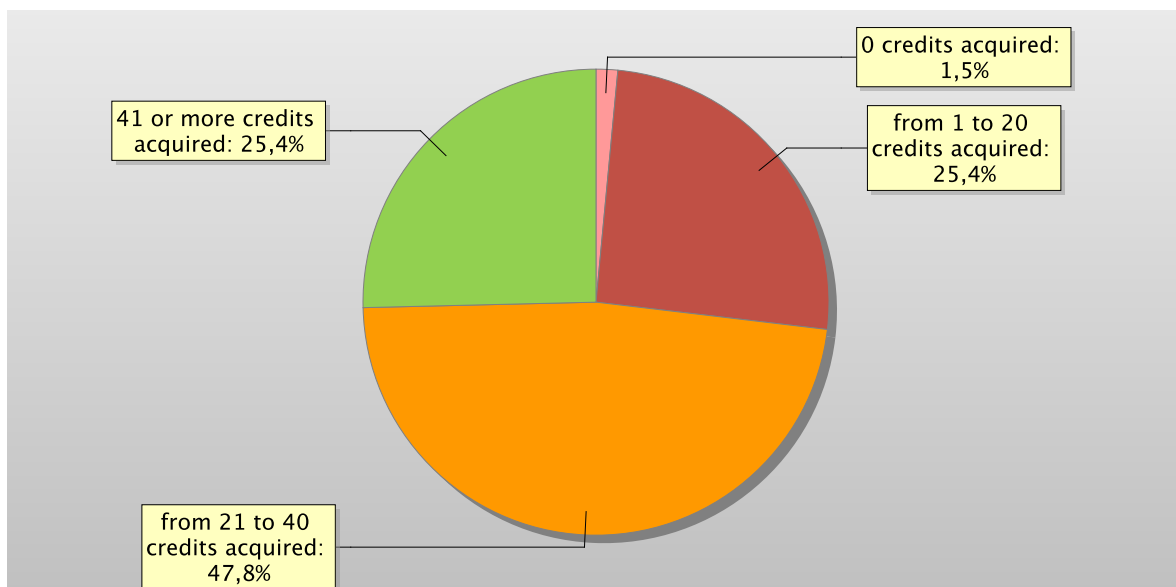
This offers an insight into how regularly students pass their exams.

The **graph** shows the distribution of the students of the cohort who passed at the second year, in the same Study Programme, according to the number of **credits** obtained at 31 October of the year after the enrollment.

In addition, the **table** shows the number of the cohort of students enrolled at the second year in the same Study Programme and the average **credits** obtained from the students 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 of the cohort 2014/2015 (at 2nd year) based on the number of credits obtained during the 1st year \*





Data of the Study Programme D.M. 270/04 Aerospace Engineering (code 8263)

		Students of the cohort enrolled at 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	
Cohort 2012/2013	Study Programme	42		23,8%	52,4%	23,8%	29,7
	Average of similar Study Programmes	73,5	3,6%	14,1%	37,8%	44,5%	35,7
Cohort 2013/2014	Study Programme	48	4,2%	31,3%	47,9%	16,7%	24,9
	Average of similar Study Programmes	68,6	2,3%	16,2%	34,8%	46,7%	36,4
Cohort 2014/2015	Study Programme	67	1,5%	25,4%	47,8%	25,4%	29,5
	Average of similar Study Programmes	80,2	2,2%	14,4%	34,7%	48,7%	37,6

\*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, in an alphabetical order of the course units, number of exams passed and average grade achieved for each course unit in the calendar year 2015. 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.

Course units which pass/fail score are excluded.

Data of the Study Programmes D.M. 270/04 Aerospace Engineering (code 0945), Aerospace Engineering (code 8263)

	Ni. of exams passed	Average grade *
34672 AERODINAMICA DEGLI AEROMOBILI (C.I.)	5	
31203 AERODINAMICA DEGLI AEROMOBILI	38	25,5
15300 ANALISI MATEMATICA A	64	21,7
30377 ANALISI MATEMATICA E NUMERICA (C.I.)	1	
32866 ANALISI MATEMATICA E NUMERICA (C.I.)	4	
58833 ANALISI MATEMATICA E NUMERICA	27	26,6
31603 AVIONICA E STRUMENTAZIONE SPAZIALE	8	24
15211 COMPORTAMENTO MECCANICO DEI MATERIALI	35	22,9
00196 CONTROLLI AUTOMATICI	36	22,7
07900 CONTROLLO DEL TRAFFICO AEREO	26	27,2
00199 COSTRUZIONI AERONAUTICHE	49	23,2
31258 DIRITTO DELLA NAVIGAZIONE AEREA	54	28
11361 DISEGNO ASSISTITO DAL CALCOLATORE	15	30
11493 DISEGNO TECNICO AEROSPAZIALE	43	23,7

	N. of exams passed	Average grade *
00251 ECONOMIA E ORGANIZZAZIONE AZIENDALE	74	23,7
31263 ELABORAZIONE DATI PER LA NAVIGAZIONE	14	28,7
06793 ELETTROTECNICA	21	24,3
32586 ELETTROTECNICA ED ELETTRONICA (C.I.)	4	
07889 ELETTROTECNICA ED ELETTRONICA	10	24,8
30375 FISICA GENERALE (C.I.)	43	24,5
09458 FLUIDODINAMICA	7	25,1
34671 FLUIDODINAMICA E SISTEMI ENERGETICI (C.I.)	3	
17399 FLUIDODINAMICA L	13	24
15750 FONDAMENTI DI CHIMICA	66	23,8
09730 FONDAMENTI DI INFORMATICA	72	26,7
34685 FONDAMENTI DI MECCANICA ORBITALE	20	27,2
09757 GEOMETRIA E ALGEBRA	56	23,7
15626 IMPIANTI AEROSPAZIALI	14	21,9
15623 MECCANICA DEL VOLO	39	24,3
01379 MECCANICA RAZIONALE	48	24,8
72736 PROPULSIONE AERONAUTICA E SPAZIALE	1	
31177 PROPULSIONE AEROSPAZIALE (C.I.)	31	27,1
17348 PROPULSIONE AEROSPAZIALE	39	27,8
15615 TECNICA DELLE COSTRUZIONI MECCANICHE	3	
32712 TECNOLOGIA DELLE COSTRUZIONI AERONAUTICHE	1	

Data of the Study Programme D.M. 509/99 Aerospace Engineering (code 0207)

	N. of exams passed	Average grade *
44527 AVIONICA E STRUMENTAZIONE SPAZIALE L	1	
17998 CONTROLLI AUTOMATICI L	1	
17402 COSTRUZIONI AERONAUTICHE L	5	
17347 DIRITTO DELLA NAVIGAZIONE AEREA L	1	
18621 DISEGNO TECNICO AEROSPAZIALE L	1	
17380 ECONOMIA E ORGANIZZAZIONE AZIENDALE L	2	
17991 ELETTROTECNICA L	1	
17916 FISICA GENERALE L-B	1	
17399 FLUIDODINAMICA L	1	
17989 FONDAMENTI DI CHIMICA L	1	
17990 GEOMETRIA E ALGEBRA L	1	

	Ni. of exams passed	Average grade *
17996 MACCHINE L	1	
17401 MECCANICA DEL VOLO L	1	
17986 MECCANICA RAZIONALE L	1	
17404 PROPULSIONE AEROSPAZIALE L	1	

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

#### D.2.4. ADDITIONAL DATA ON INTERNATIONALIZATION

The table shows data about international students mobility: incoming and outgoing.

Data refers to Study programme students independently if enrollment as the current programme or in the Study programme running under previous reform regulations (D.M. 509).

##### D.2.4.1. EXAMS PASSED BY THE INCOMING EXCHANGE STUDENTS

The **table** shows the number of incoming exchange students who attended course units provided by the Study Programme and passed the exam. The table shows the total number of exams passed by these students during the academic year spent at the University of Bologna.

The data is provided by the [AlmaRM](#) application: system implemented by the University of Bologna in order to manage online student mobility programs.

It should be noted that incoming exchange students means exchange students from universities with which mobility agreements have been stipulated.

The table refers to exchange incoming students whether they attended course units provided by the current programme or to the Study programme running under previous reform regulations (D.M. 509).

- The row is not available in the table in case for one academic year the number of the incoming exchange students is equal to zero.
- The table is not available if the previous condition occurs for the three academic years 2012/13, 2013/14 and 2014/15.

\*Note: in case the study plan of the exchange student provides course units offered by more Study Programmes, the student is reported in the statistics of all the Study Programmes involved.

Data of the Study Programmes D.M. 270/04 Aerospace Engineering (code 0945), Aerospace Engineering (code 8263) and of the Study Programme D.M. 509/99 Aerospace Engineering (code 0207)

	Incoming exchange students *	Total exam passed by the incoming exchange students
a.y. 2012/2013	4	13
a.y. 2013/2014	2	6
a.y. 2014/2015	6	13

#### D.2.4.2. OUTGOING EXCHANGE STUDENTS

The **table** shows the number of outgoing students participating in a certain academic year in one of the following international mobility exchange programmes: Erasmus Study, Erasmus Placement, Erasmus Mundus Action 2, Overseas.

The data is not including students participating to different mobility and educational activities in the context of further opportunity of studying abroad offered by the Study Programme, the School, and the University of Bologna (for example scholarships for the development of the thesis abroad are not included).

The data is provided by the [AlmaRM](#) application: system implemented by the University of Bologna in order to manage online student mobility programs.

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

Table refers to students whether they are enrolled in the current programme or in the Study programme running under previous reform regulations (D.M. 509).

*Data of the Study Programmes D.M. 270/04 Aerospace Engineering (code 0945), Aerospace Engineering (code 8263) and of the Study Programme D.M. 509/99 Aerospace Engineering (code 0207)*

		Students enrolled in 2nd, 3rd and other years	Number of students taking part in the following exchange programmes			Total number of exchange students	% Participants of exchange programmes / Students enrolled in 2nd, 3rd and other years
			Erasmus Study	Erasmus Placement	Overseas		
a.y. 2012/2013	Study Programme	206				0	0,0%
	Average of similar Study Programmes	216,5	0,9	0,1		1	0,5%
a.y. 2013/2014	Study Programme	196	1			1	0,5%
	Average of similar Study Programmes	213,8	1,5	0,1	0,1	1,7	0,8%
a.y. 2014/2015	Study Programme	196	1			1	0,5%
	Average of similar Study Programmes	199,7	1,4	0,2	0	1,7	0,8%

### D.2.4.3. CREDITS OBTAINED ABROAD BY GRADUATES

The **table** shows the percentage of graduates in a certain calendar year with credits obtained abroad and traced in their students career. The Study Programme data is compared with the **average of similar Study Programmes** (which belong to the same group), for the indicated calendar years.

Data refers to graduates independently if attended in the current programme or in the Study programme running under previous reform regulations.

*Data of the Study Programme D.M. 270/04 Aerospace Engineering (code 8263) and of the Study Programme D.M. 509/99 Aerospace Engineering (code 0207)*

		Total N. of graduates in the calendar year	Graduates with credits acquired abroad traced in their students career	% graduates with credits acquired abroad traced in their students career on the total
2013	Study Programme	42	1	2,4%
	Average of similar Study Programmes	49,1	1,3	2,5%
2014	Study Programme	43	1	2,3%
	Average of similar Study Programmes	53	1,3	2,4%
2015	Study Programme	34	1	2,9%
	Average of similar Study Programmes	54,8	1,5	2,8%

\*"Total number of graduates", for each year, refers to graduates whether they graduated in the current programme or in the Study programme running under previous reform regulations.

## D.3. OPINIONS OF GRADUATES AND ATTENDING STUDENTS

The tables and the graphs provide information on the number of graduates who expressed positive opinions on the Study Programme, and a focus on opinions expressed by attending students on the 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**”.

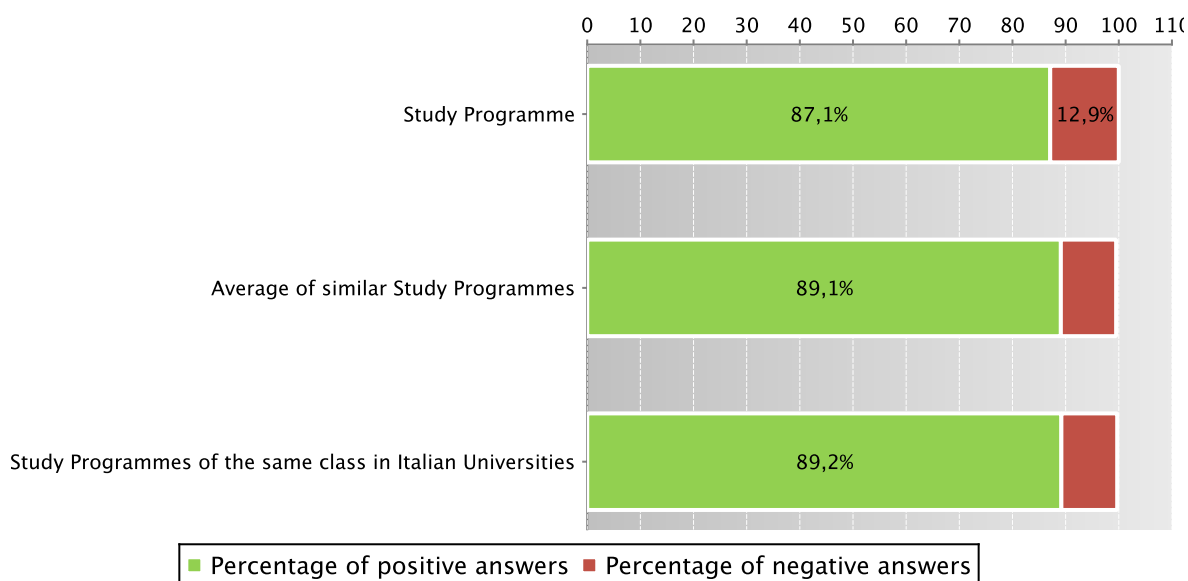
In addition, the **table** shows the percentage of students who answered “Yes, to the same programme in the same university” to the question “Would you register again to the university?”.

When the Study Programme data is not available for three academic years reformed ex DM 270/04, for the less recent years, for some information the data of the previous Study Programme are available, too.

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 2015 who responded positively to the question: “Are you generally satisfied with this Study Programme?”

Data of the Study Programme D.M. 270/04 Aerospace Engineering (code 8263)



Data of the Study Programme D.M. 270/04 Aerospace Engineering (code 8263)

		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"
2013	Study Programme	30	29	93,1%	79,3%
	Average of similar Study Programmes	48,8	47,7	89,7%	72,4%
	Study Programmes of the same class in Italian Universities	4500	4261	91,2%	77,3%
2014	Study Programme	35	35	94,3%	85,7%
	Average of similar Study Programmes	52,9	52	88,6%	73,1%
	Study Programmes of the same class in Italian Universities	6108	5724	89,2%	75,4%
2015	Study Programme	32	31	87,1%	64,5%
	Average of similar Study Programmes	54,1	53,1	89,1%	73,2%
	Study Programmes of the same class in Italian Universities	8326	7469	89,2%	74,4%

Note: The opinions of the Study Programmes with less than 5 graduates are not shown.

Further information on [Graduates' Profile Report of AlmaLaurea](#).

### 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 the academic year 2014/2015.

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

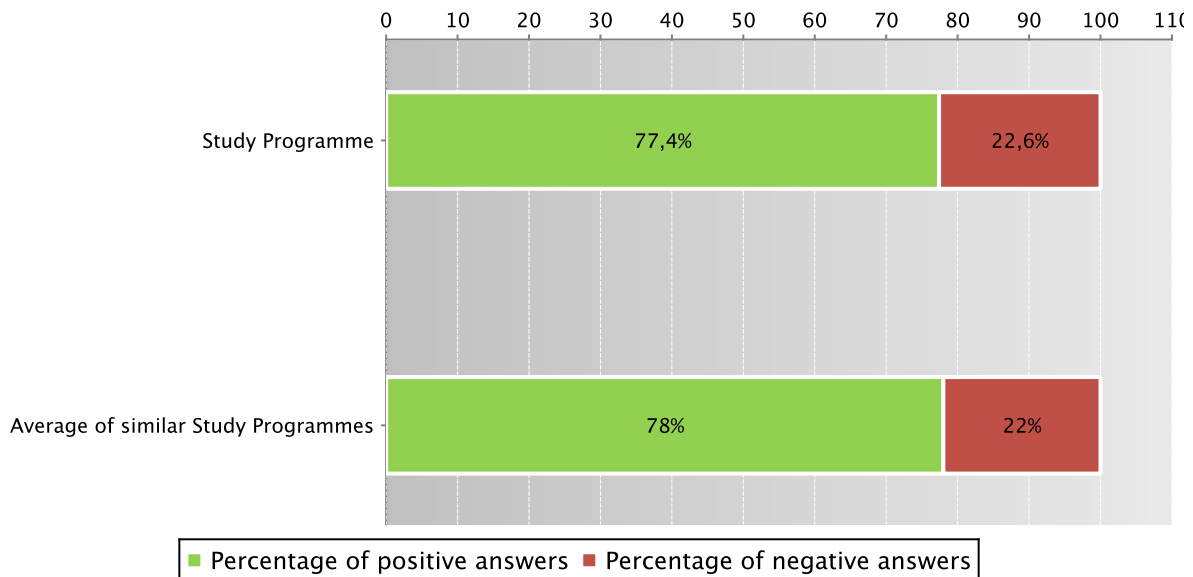
The Study Programme data is compared with the **average of similar Study Programmes (which belong to the same group)**, for the indicated academic years.

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

The survey and subsequently analysis of the opinions of students attending the course is cared for the University of Bologna by Academic Affairs Division - Quality Assurance and Control and Finance Division - Support Planning and Evaluation Department. The overall results are available on the following [link](#).

Students who responded positively to the question: “Are you generally satisfied with this course unit?” in academic year 2014/2015

*Data of the Study Programmes D.M. 270/04 Aerospace Engineering (code 0945), Aerospace Engineering (code 8263) and of the Study Programme D.M. 509/99 Aerospace Engineering (code 0207)*





Data of the Study Programmes D.M. 270/04 Aerospace Engineering (code 0945), Aerospace Engineering (code 8263) and of the Study Programme D.M. 509/99 Aerospace Engineering (code 0207)

		N. of completed questionnaires	% of positive answers concerning the workload required by the course unit - Question 2	% of positive answers concerning the teachers adherence to the timetable of course unit - Question 5	% of positive answers concerning the consistency with what stated on the web site - Question 9	% of positive answers concerning the teacher's availability to clarify topics and offer explanations - Question 10	% of positive answers concerning the general satisfaction with the course unit - Question 12	% of positive answers concerning the delivering by the official teacher of the course unit - Question 13
a.y. 2012/2013	Study Programme	797	80,7%	77,9%		88,2%	72,6%	91,8%
	Average of similar Study Programmes	1179	76,8%	91,8%		91,8%	76,1%	95,6%
a.y. 2013/2014	Study Programme	761	82,5%	89,3%	95,0%	93,2%	75,5%	97,5%
	Average of similar Study Programmes	1193,5	78,8%	93,5%	94,3%	92,8%	76,2%	96,7%
a.y. 2014/2015	Study Programme	1249	71,7%	94,7%	95,4%	87,0%	77,4%	97,1%
	Average of similar Study Programmes	1462,2	78,4%	94,2%	95,3%	93,5%	78,0%	96,8%

Note: For completeness is reported the full texts of the query of the questionnaire in tab: number 2 “Is the workload required by this course unit proportionate to the number of university credits?”, number 5 “Has the teacher adhered to the lesson timetable?”, number 9 “Was the delivery of the course unit consistent with what stated on the degree programme website?”, number 10 “Is the teacher available to clarify topics and offer explanations?”, number 12 “On the whole, are you satisfied with the way this course has been taught?”, and number 13 “Have all the lessons been delivered by the official teacher of this course unit?”.

Further information on [opinion of attending students available in the site with the overall survey results.](#)

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

*Employment situation of graduates of the Study Programme. The tables and the graphs provide information on the employment situation of graduates one year after graduating. Furthermore provide the percentage of graduates who have obtained credits for the activity of curriculum internship during their students career.*

### D.4.1. EMPLOYMENT SITUATION

Employment situation of graduates one year after graduating.

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

The **graph** shows who working; who not working and is enrolled in a 2nd Cycle Study Programme; not working, and not seeking employment; not working, and seeking employment.

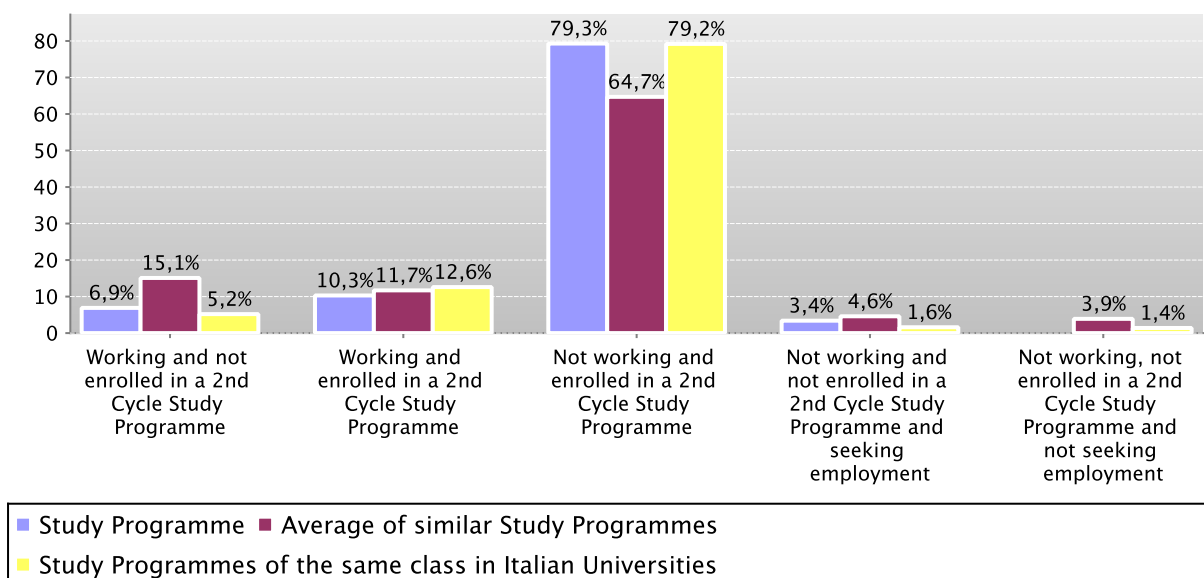
In addition, the **table** shows the number of interviewed, the percentage of who is following a university programme or traineeship and the appropriateness of their degree to the job.

The data refers to graduates who attended the study programme ex DM 270/04. When Study Programme data are not available for three academic years, for some information the data of the previous Study Programme are available too.

The Study Programme data is compared with the [average of similar Study Programmes](#) (which belong to the same group), and the average of the Study Programmes of the same class in the Italian Universities for the graduates of the indicated calendar years.

Employment situation of graduates in 2014 one year after graduating

*Data of the Study Programme D.M. 270/04 Aerospace Engineering (code 8263)*



Data of the Study Programme D.M. 270/04 Aerospace Engineering (code 8263)

		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 2012	Study Programme	4			100,0%			75,0%		
	Average of similar Study Programmes	43,8	16,9%	13,0%	63,2%	2,0%	4,8%	56,5%	27,8%	30,4%
	Study Programmes of the same class in Italian Universities	2421	3,1%	14,8%	80,4%	0,7%	1,0%	71,2%	20,3%	26,7%
Graduation Year 2013	Study Programme	28	3,6%	17,9%	78,6%			64,3%	20,0%	20,0%
	Average of similar Study Programmes	42,6	15,2%	13,7%	65,1%	1,8%	4,2%	58,3%	28,9%	27,5%
	Study Programmes of the same class in Italian Universities	3947	4,0%	14,5%	79,3%	0,9%	1,3%	69,4%	23,3%	26,7%
Graduation Year 2014	Study Programme	29	6,9%	10,3%	79,3%		3,4%	72,4%	40,0%	20,0%
	Average of similar Study Programmes	44,4	15,1%	11,7%	64,7%	3,9%	4,6%	59,8%	35,9%	29,3%
	Study Programmes of the same class in Italian Universities	6038	5,2%	12,6%	79,2%	1,4%	1,6%	71,1%	28,6%	30,8%

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

#### Notes to the AlmaLaurea Report of the Employment situation of the graduates

(1) "Employment and education situation": the share of employed is given by the sum of those who are working and who are working and are enrolled in a 2nd Cycle degree. The share of enrolled in the 2nd Cycle degree is given by the sum of those who working and studying and those who only studying.

(2) "Share of those who do not working, 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 processing of this data complies with D.M. 544 /2007, as later provided in D.D. no. 61/2008 and most recent D.M. 17, 22 September 2010 and D.M. 50, 23 December 2010 (transparency requirements).

(3) The evaluation of the effectiveness of the degree is obtained combining the request for the title of study at the work and the level of application of the skills learned at the university.

#### Additional note

In AlmaLaurea questionnaire, by three different questions, first level graduates give answers about they are working or not, they are seeking for a job or not, they are enrolled in a second cycle degree. Please note that there are some graduates who are not involved in no one of these three activities, other are involved in one or more at the same time.

Further information on [Graduates' Employment report of AlmaLaurea](#).

#### D.4.2. CREDITS OBTAINED BY GRADUATES THROUGH CURRICULUM INTERNSHIP ACTIVITY

The **table** shows the number of graduates, in a certain calendar year, who obtained credits for the activity of curricular internship, during their students career.

The data refers to graduates who attended the current programme. When Study Programme data are not available for three academic years, for some information the data of the previous Study Programme are also available.

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

Data of the Study Programme D.M. 270/04 Aerospace Engineering (code 8263)

		N. graduates	Graduates with credits acquired through internship activity (1)	Graduates with credits recognized as substitution of the internship activity (2)	% graduates with credits acquired through internship activity on the total number
2013	Study Programme	30	25	5	83,3%
	Average of similar Study Programmes	49,1	25,3	0,6	51,4%
2014	Study Programme	35	35	0	100,0%
	Average of similar Study Programmes	53	26,4	0,4	49,8%
2015	Study Programme	32	31	1	96,9%
	Average of similar Study Programmes	54,8	29,4	0,3	53,6%

Notes:

(1) The data refers to the graduates who have obtained credits in their students career for the activity defined as a trainship / stage / internship.

(2) The data refers to the graduates who have in their students career the activity defined as a trainship / stage / internship obtained as recognition.

The percentage in the last column shows the relation between the "Graduates with credits acquired through internship activity" and the "N. graduates".

## 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 2013/2015).

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.

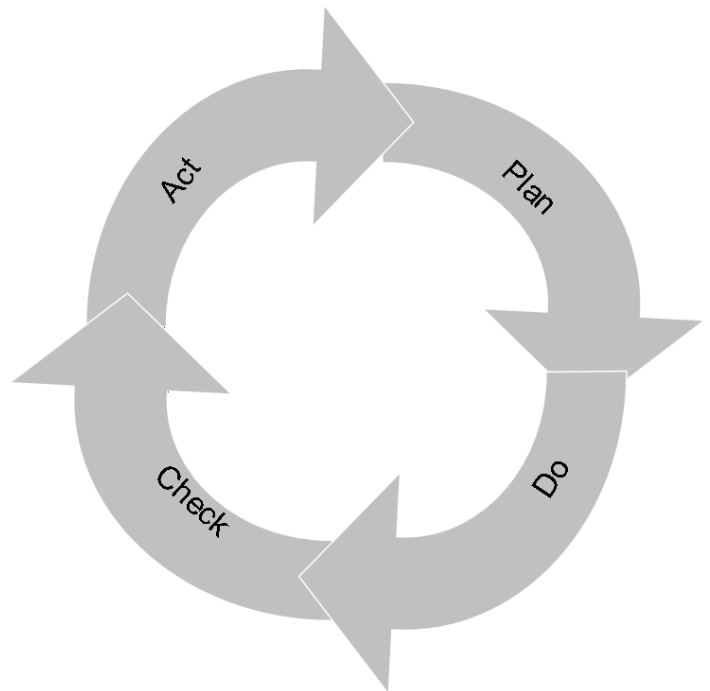
In the Statute and the Strategic Plan 2013/2015 the University of Bologna acknowledges its responsibility in guaranteeing the quality of its study programmes, and for this purpose adopts an "internal quality assurance system".

### 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	x	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	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 evaluated 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 "Presidio di Qualità" 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>Presidio della Qualità            Vice Rector for Teaching and Education            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 online database service of graduates' curriculum vitae (2,280,000 CVs, from 73 Italian universities as of 24/02/2016), 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 University of Bologna study programmes of the same cycle which belong to the subject group.

The University of Bologna has divided its Study Programmes into 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

Group of students beginning their students career on the same academic year. Students which have been transferred or which enrolled to pass to another Study Programme, or enrolled to a second degree are not included.

From the publication of this study programme report is updated the procedure of the selection of the cohorts: the student belongs to the cohort of the study programme on which one has been enrolled on 31 December of the year of the beginning of student career.

### 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).

### 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.



#### Repeating

Student 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.

#### 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 from studies

Suspension of studies by students who do not enroll in the next academic year or who drop out from the studies.