2017

REPORT

ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

School of Agriculture and Veterinary Medicine

Laurea Magistrale (Second cycle degree/Two year Master - 120 ECTS) in Animal Biotechnology a.y. 2017/2018

Degree Programme Director, Prof. Barbara Brunetti

Study Programme Report
Animal Biotechnology
Programme ex D.M. 270/04 - Code 8522 - Class LM-9
School of Agriculture and Veterinary Medicine
Degree Programme Director, Prof. Barbara Brunetti

Created in collaboration with *Academic Affairs Division (AFORM), Quality Assurance*

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www.unibo.it/QualityAssuranceEn

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 2017/18: the information and data provided is as updated as possible.
- Sections A, B and C provide data for the academic year 2017/18.
- 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 **3 May 2017.**

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 2017/18.

A.1. PRESENTATION

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

The degree programme in Animal Biotechnologies sets out to train professional figures able to perform and coordinate research and analyses linked to the cellular and molecular aspects of animal health, and consequently human health.
Graduates are able to perform basic and applied research in a range of sectors including veterinary medicine, pharmacology, diagnostics, epidemiology and food safety.
They may particularly work in animal research to study human diseases, significantly contributing to the scientific bases of innovative approaches to diagnosis and treatment of disease, including gene therapy, stem cells and reproductive biotechnologies.
They may also work in the technical and sales areas of companies specialising in human and animal nutrition.
After sitting the state exam and registering with the National Association of Biologists, they may also hold management positions in analytical laboratories.
Graduates are particularly able to perform the following:
1) laboratory activities to study and identify cures for animal diseases;
2) in vivo and in vitro modelling to study human diseases;
3) laboratory activities linked to reproductive biotechnologies;
4) food hygiene, quality and safety.
The adopted learning model is inductive, based on a learning process that develops a simultaneous mix of basic, technical, professional and transversal knowledge.
The curriculum is structured in four areas of knowledge:
- DIAGNOSTICS This theoretical and practical knowledge starts with basic cell and molecular techniques, developing through a range of disciplines aiming on one hand to identify specific pathological conditions in animals and on the other to study in-depth the models and progression of the diseases as a result of interference factors including drugs, innovative foods, genetics, etc.
- ANIMAL MODELS This highly interdisciplinary knowledge is gained in all course units, allowing students to understand the possibilities afforded by spontaneous and induced models of animal diseases. These models are considered fundamental instruments for the study of human diseases and syndromes and the effectiveness of conventional or innovative pharmacological approaches including gene therapy, stem cells, nutrigenomics. These competences are not strictly linked to a specific professional activity, but can be applied to medical, pharmacological, zootechnical research, or the food industry, and become part of the researchers' professional heritage, allowing them to develop a holistic vision of the problem studied, which, together with communication, interpersonal, decision making and problem solving skills, is essential to work in a team leader capacity in research projects or industrial R&D activities.
- REPRODUCTION These highly specialist competences are closely linked to a specific professional context, allowing graduates to work with animal embryos and gametes, also in genetic manipulation, transgenic organisms and cloning. These competences, combined with genetic skills and the ability to establish and use stem cells, provide the grounding to work in both animal and human research and clinical activities.
- FOOD QUALITY AND SAFETY In their dual role as both consumers and food source, animals are heavily involved in the food safety and quality process. Knowledge of biochemistry of nutrition and traditional and functional foods, etiopathogenesis and principles of prevention and control of transmissible diseases, the principles of legislation and molecular analytical methods are decisive skills allowing graduates to work in this specific professional area.
The ability to apply knowledge and understanding is developed through lectures and a significant amount of seminars, group work, practical activities and exercises, field trips, a curricular internship and the production of the final dissertation. The latter activities can be performed in approved businesses in Italy or abroad, and are systematically promoted by the degree programme. A further important element developing this knowledge is the students' self-study, an opportunity to further process the acquired information in order to assure a stronger command of the curriculum.
A teaching laboratory equipped for the main biomolecular techniques is available specifically for this purpose. Training may also be integrated by the attendance of laboratories for research and diagnostic activities running at the Department of Veterinary Medical Science or externally.
The ability to apply knowledge and understanding is assessed in oral and written exams, and through the assessment of written papers and essays produced by students and the discussion of problems in group work, where students demonstrate their command of the instruments and methods introduced during the study programme.
All core course units in the degree programme are functional to the development of the identified professional profiles.

The programme aims to offer specific cultural competences but at the same time to provide the technical means and interpretative methods applicable to a wide range of laboratory activities, from simple diagnostics to complex research in all biological and biotechnological areas.
The programme curriculum covers a series of core and supplementary learning activities.

A.2. LEARNING OUTCOMES

This paragraph provides information on the knowledge and skills students will have acquired by the end of the 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 third cycle studies (Dottorato di ricerca/Scuole di specializzazione) and master universitario di secondo livello.

B. TEACHING AND LEARNING

This section describes the updated course structure diagram (for academic year 2017/18), 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).

- Course timetable
- Examination sessions
- Final examination sessions

C. RESOURCES AND SERVICES

This section provides a list of teaching staff and their relative curricula and and description of the services available to students for the academic year 2017/18.

C.1. TEACHERS

The link take you to the webpage which provides the personal web pages of each one of the lecturers teaching in the Study Programme.

- Faculty

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).

- Prospective 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).

- Current 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.

- Exchange students

C.2.4. GRADUATES

- Graduates

D. THE STUDY PROGRAMME IN FIGURES

The section presents the results of the Study Programme for the last three academic years.
Main data shows how many students enrolled, the number of students assigned OFA, how many drop out after the first year, how many graduate in line with the programme schedule, the opinions of attending and graduating students on the teaching programmes and information concerning graduate employment.
The information and data presented in this section, updated to 3 May 2017, 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

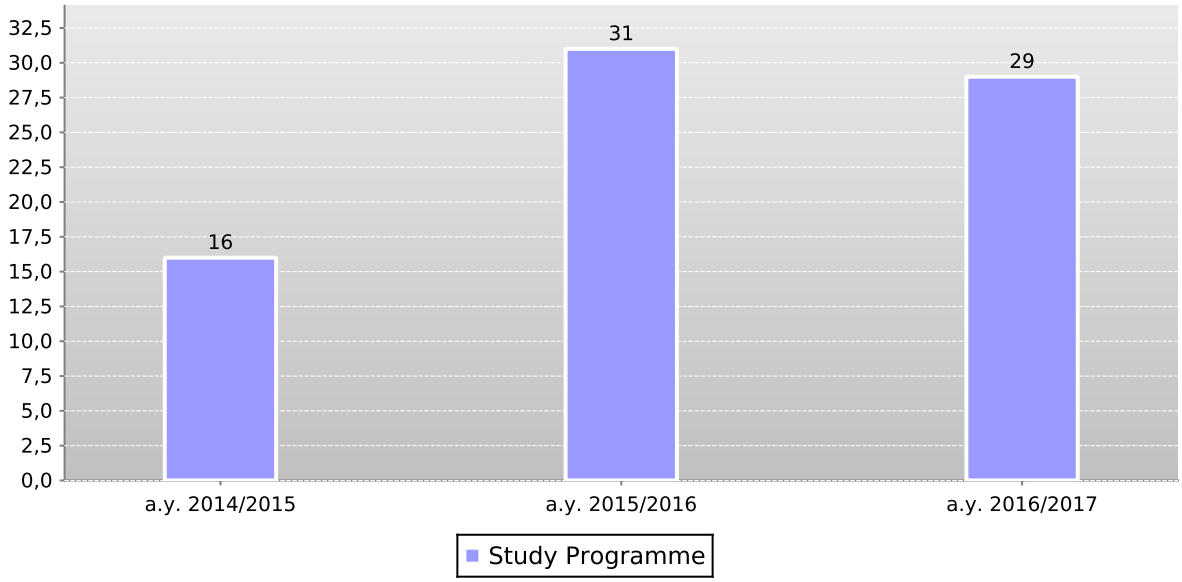
Characteristics of the incoming students at the beginning of their study. The tables and the graphs provide information on the characteristics of the students and on the results of any entrance tests.

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 Study Programme.

First year enrolments

Data of the Study Programme D.M. 270/04 Animal Biotechnology (code 8522)



Data of the Study Programmes D.M. 270/04 School of Animal Biotechnology (code 8207), Animal Biotechnology (code 8522)

	Students of the cohort	Students enrolled		
		Students enrolled at the first year	Students enrolled at the second year	Students enrolled on supplementary year
a.y. 2014/2015	16	16	13	1
a.y. 2015/2016	30	31	16	2
a.y. 2016/2017	29	29	29	2

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

In academic year 2016/2017 access to this Study Programme was not restricted.

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 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.

Data of the Study Programme D.M. 270/04 Animal Biotechnology (code 8522)

	Students of the cohort	Geographic origin			Students with foreign citizenship	Gender		Average age of new career students		
		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
Cohort 2014/2015	16		68,8%	12,5%	18,8%	25,0%	75,0%	18,8%	43,8%	37,5%
Cohort 2015/2016	30	6,7%	46,7%	6,7%	13,3%	33,3%	66,7%	26,7%	56,7%	16,7%
Cohort 2016/2017	29	6,9%	72,4%	6,9%	10,3%	37,9%	62,1%	27,6%	62,1%	10,3%

	First Cycle Degree: grade						First Cycle Degree: University of previous studies			First Cycle Degree: more frequent class	
	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	University of Bologna	Other Italian Universities	Foreign University	Class code and name	% of students
Cohort 2014/2015	37,5%	18,8%	12,5%	12,5%	18,8%		31,3%	50,0%	18,8%	L-38 SCIENZE ZOOTECNICHE E TECNOLOGIE DELLE PRODUZIONI ANIMALI	31,3%
Cohort 2015/2016	13,3%	36,7%	23,3%	13,3%	10,0%	3,3%	53,3%	33,3%	13,3%	L-38 SCIENZE ZOOTECNICHE E TECNOLOGIE DELLE PRODUZIONI ANIMALI	50,0%
Cohort 2016/2017	3,4%	34,5%	24,1%	27,6%	10,3%		27,6%	69,0%	3,4%	L-38 SCIENZE ZOOTECNICHE E TECNOLOGIE DELLE PRODUZIONI ANIMALI	51,7%

D.2. REGULARITY OF STUDIES

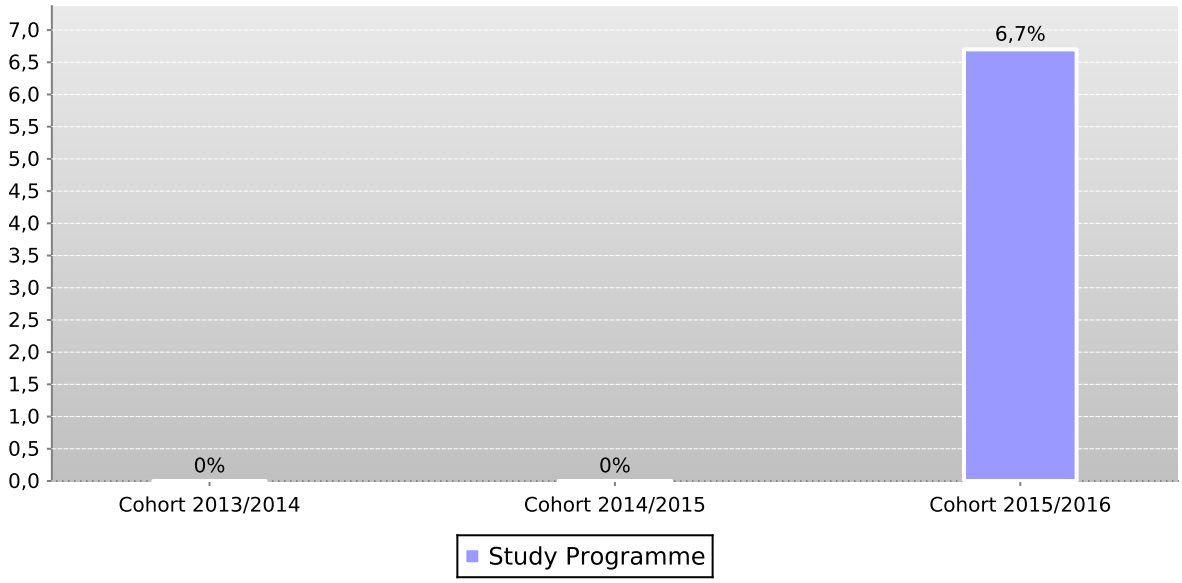
The graph and the table provide information on the number of students who withdraw the programme between the first and second year and the number of regular graduates, focusing on the number of credits obtained at the end of the first year, on the passed exams, average grade achieved for each course 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 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.
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.

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

Data of the Study Programme D.M. 270/04 Animal Biotechnology (code 8522)



Data of the Study Programme D.M. 270/04 Animal Biotechnology (code 8522)

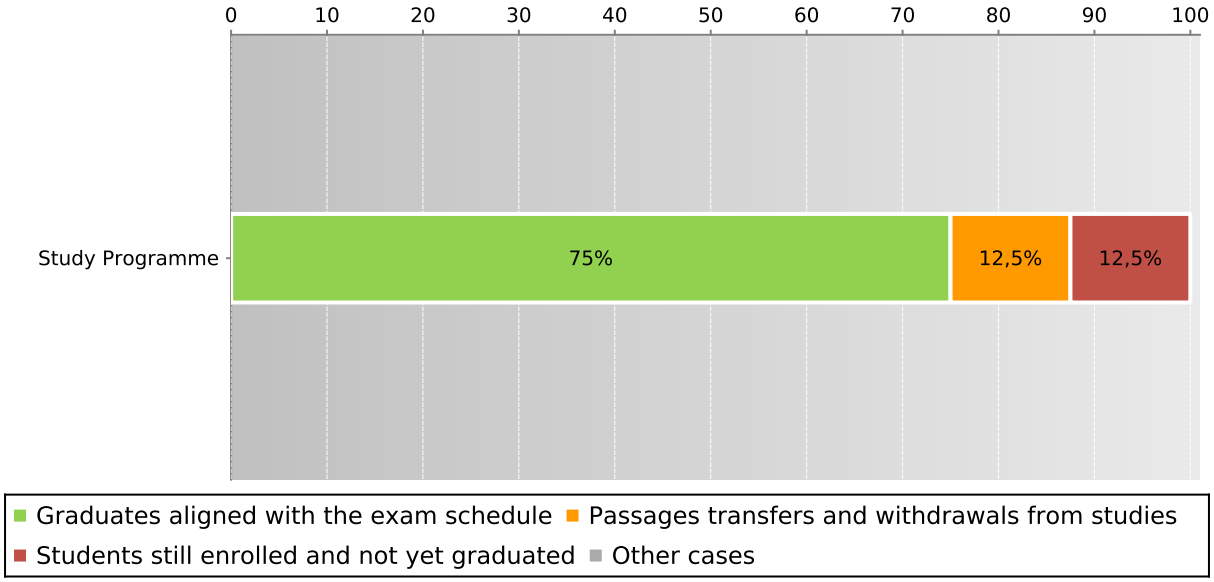
	Students of the cohort	% withdrawal from studies	% passages and transfers	% repeating students	Students of the cohort in the 2nd year
Cohort 2013/2014	13	0,0%	0,0%	0,0%	13
Cohort 2014/2015	16	0,0%	0,0%	0,0%	16
Cohort 2015/2016	30	6,7%	0,0%	0,0%	28

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 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).

Situation of the students of the cohort 2014/2015 at the end of the regular duration of the studies

Data of the Study Programme D.M. 270/04 Animal Biotechnology (code 8522)



Data of the Study Programme D.M. 270/04 Animal Biotechnology (code 8522)

	Students of the cohort	Regular graduates		Passages, transfers and withdrawals from studies		Students still enrolled and not yet graduated	
		N.	%	N.	%	N.	%
Cohort 2012/2013	6	6	100,0%	0	0,0%	0	0,0%
Cohort 2013/2014	13	12	92,3%	0	0,0%	1	7,7%
Cohort 2014/2015	16	12	75,0%	2	12,5%	2	12,5%

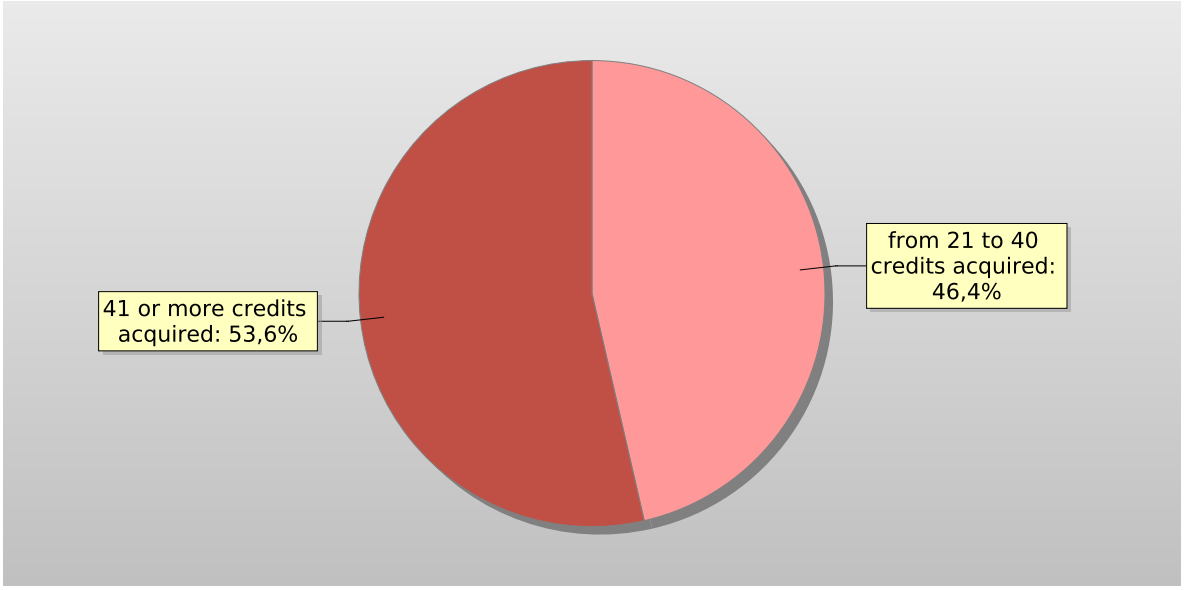
D.2.3. ADDITIONAL DATA ON REGULARITY OF STUDIES

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.

Distribution of the students of the cohort 2015/2016 (at 2nd year) based on the number of credits obtained during the 1st year *

Data of the Study Programme D.M. 270/04 Animal Biotechnology (code 8522)



Data of the Study Programme D.M. 270/04 Animal Biotechnology (code 8522)

	Students of the cohort enrolled at the 2nd year	% students with *			Average credits per student
		from 1 to 20 credits acquired	from 21 to 40 credits acquired	41 or more credits acquired	
Cohort 2013/2014	13	7,7%	30,8%	61,5%	42,2
Cohort 2014/2015	16	6,3%	18,8%	75,0%	45,9
Cohort 2015/2016	28		46,4%	53,6%	43

*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 2016. 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 whith pass/fail score are excluded.

Data of the Study Programmes D.M. 270/04 School of Animal Biotechnology (code 8207), Animal Biotechnology (code 8522)

	N. of exams passed	Average grade *
72709 APPLICAZIONI DI GENOMICA AVANZATA NELLE PRODUZIONI ANIMALI	13	27,8
66429 ATTIVITA' SPERIMENTALE NEL LABORATORIO BIOTECNOLOGICO (C.I.)	31	28,4
72710 BIOCHIMICA DEGLI ALIMENTI E DELLA NUTRIZIONE	23	27,6
72711 BIOTECNOLOGIE APPLICATE ALLA RIPRODUZIONE ANIMALE, INGEGNERIA GENETICA E CLONAZIONE DEGLI ANIMALI D'ALLEVAMENTO	21	26,6
66443 BIOTECNOLOGIE DELLA NUTRIZIONE ANIMALE E DEGLI ALIMENTI TRADIZIONALI E FUNZIONALI	26	24
72722 CELLULE STAMINALI IN MEDICINA RIGENERATIVA	29	29,3
78989 ECONOMIA PER LE BIOTECNOLOGIE	14	28,5
72712 FISIOLOGIA ED ENDOCRINOLOGIA VETERINARIA	18	28,6
66446 METODICHE BIOMOLECOLARI APPLICATE ALLE MALATTIE TRASMISSIBILI	22	28,3
81281 MODELLI ANIMALI DI MALATTIE NEUROLOGICHE E NEUROBIOLOGIA	22	29,8
76456 NEUROBIOLOGIA E MODELLI ANIMALI DI MALATTIE NEUROLOGICHE	1	
72723 PATOLOGIA GENERALE 2 E ANATOMIA PATOLOGICA DEGLI ANIMALI DA LABORATORIO	15	29,3
66430 PATOLOGIA GENERALE VETERINARIA E ONCOGENESI MOLECOLARE	17	26,5
72724 SALUTE ANIMALE E SICUREZZA DEGLI ALIMENTI PER L'UOMO (C.I.)	16	28,2

* 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 of 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 2013/14, 2014/15 and 2015/16.

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*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 School of Animal Biotechnology (code 8207), Animal Biotechnology (code 8522) and of the Study Programme D.M. 509/99 Animal Biotechnologies (code 0459)

	Incoming exchange students *	Total exam passed by the incoming exchange students
a.y. 2013/2014	1	4
a.y. 2014/2015	2	3

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: Eplus-Erasmus Study, Eplus-Erasmus Placement, Action 2 (Partnership EMA2), Swiss-European Mobility Programme, projetcs "Semestrers@Buenos Aires" and Overseas.
The data is not including students participating to different mobility and educational activities in the context of further opportunities 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.
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 School of Animal Biotechnology (code 8207), Animal Biotechnology (code 8522) and of the Study Programme D.M. 509/99 Animal Biotechnologies (code 0459)

	Total N. enrolled students	Number of students taking part in the following exchange programmes *	Total number of exchange students	% participants (Participants of exchange programmes / Total number enrolled students)
		Eplus - Erasmus Placement *		
a.y. 2013/2014	23		0	0,0%
a.y. 2014/2015	30	2	2	6,7%
a.y. 2015/2016	49	1	1	2,0%

(*) In the a.y. 2013/14 Eplus-Erasmus Study was: Erasmus Study; Eplus-Erasmus Placement was: Erasmus Placement.

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. 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 Animal Biotechnology (code 8522) and of the Study Programme D.M. 509/99 Animal Biotechnologies (code 0459)

	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 ???
2014	11	0	0,0%
2015	11	0	0,0%
2016	10	0	0,0%

*"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

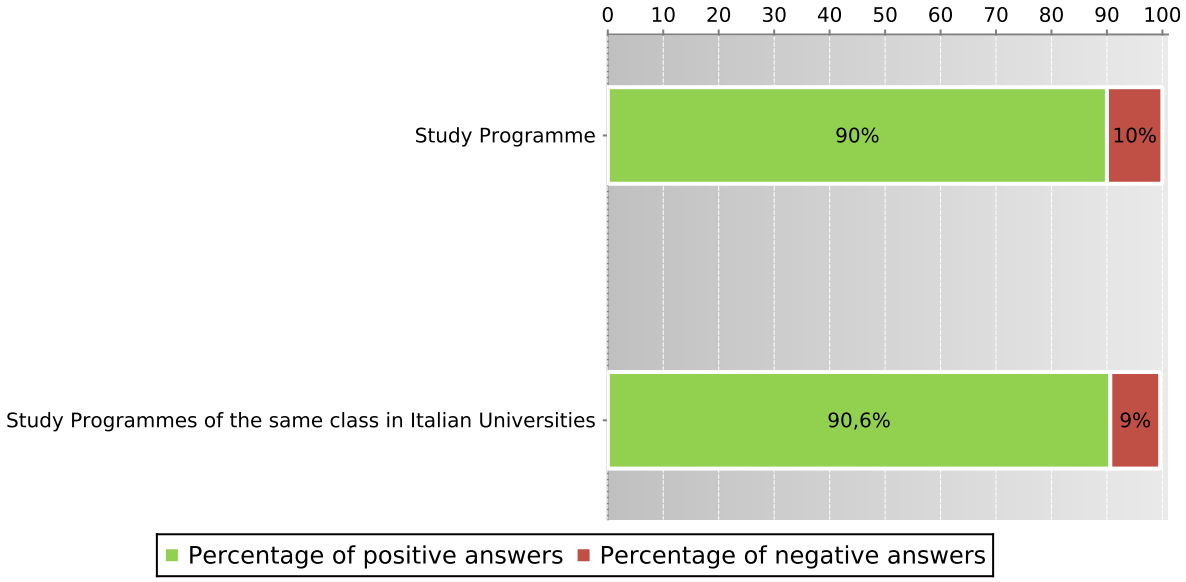
The tables and the graphs provide information on the number of graduates who expressed positive opinions on the Study Programme, and a focus on opinions expressed by attending students on the course units.

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 Study Programmes of the same class of other Italian universities for the graduates of the indicated years.

Graduates in 2016 who responded positively to the question: "Are you generally satisfied with this Study Programme?"

Data of the Study Programme D.M. 270/04 Animal Biotechnology (code 8522)



Data of the Study Programme D.M. 270/04 Animal Biotechnology (code 8522)

		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"
2014	Study Programme	11	11	100,0%	90,9%
	Study Programmes of the same class in Italian Universities	899	835	84,6%	69,7%
2015	Study Programme	11	11	90,9%	81,8%
	Study Programmes of the same class in Italian Universities	1271	1137	86,6%	69,7%
2016	Study Programme	10	10	90,0%	70,0%
	Study Programmes of the same class in Italian Universities	1171	1091	90,6%	72,8%

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

Further information on Graduates' Profile Report of AlmaLaurea.

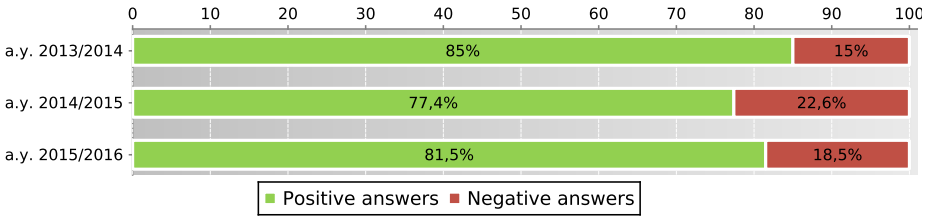
D.3.2. ADDITIONAL DATA ON OPINIONS OF STUDENTS

D.3.2.1. OPINION OF ATTENDING STUDENTS

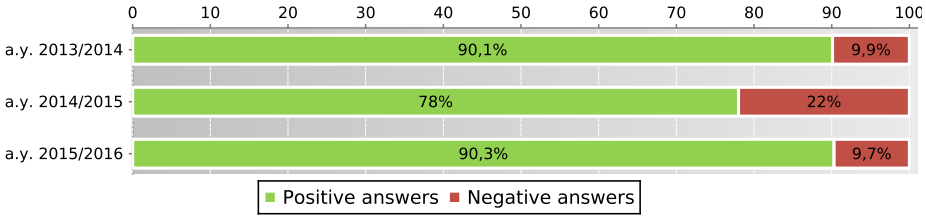
The **graphs** show the percentage of attending students who responded positively and negatively to the questions in the questionnaire in the last three academic years 2013/14, 2014/15 and 2015/16.
For questions n. 8 and n.16 the percentages are calculated excluding students responding that the activities, that are the subject of the question, are not foreseen.
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.

Data of the Study Programmes D.M. 270/04 School of Animal Biotechnology (code 8207), Animal Biotechnology (code 8522) and of the Study Programme D.M. 509/99 Animal Biotechnologies (code 0459)

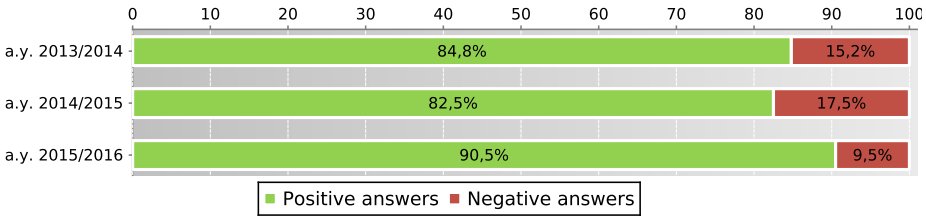
1: Was your prior knowledge of this course's subject sufficient to understand the topics the course deals with?



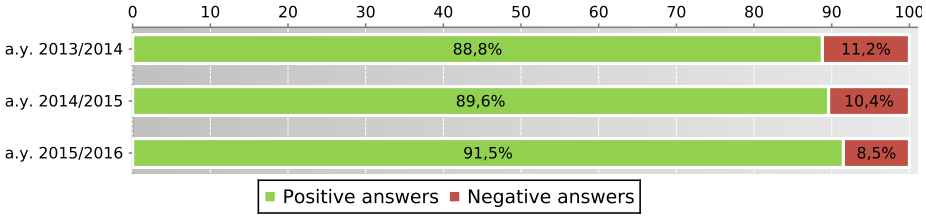
2: Is the workload required by this course unit proportionate to the number of university credits?



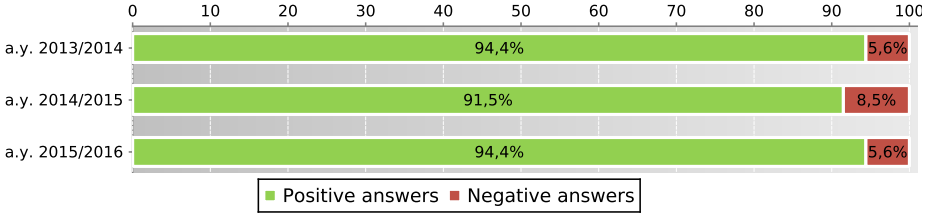
3: Are the (suggested and available) teaching materials adequate for this subject?



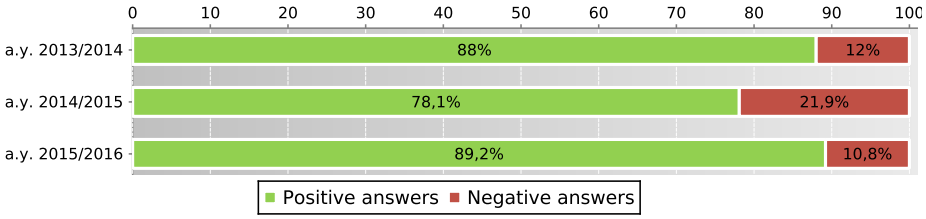
4: Have the assessment methods been clearly explained?



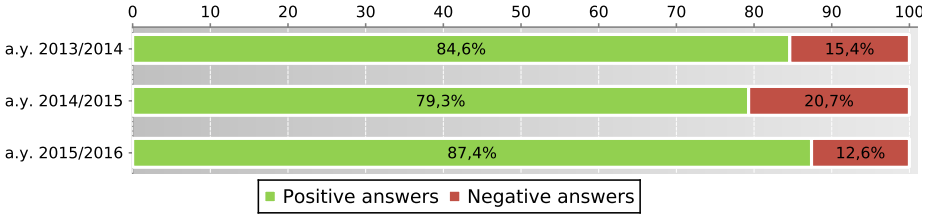
5: Has the teacher adhered to the lesson timetable?



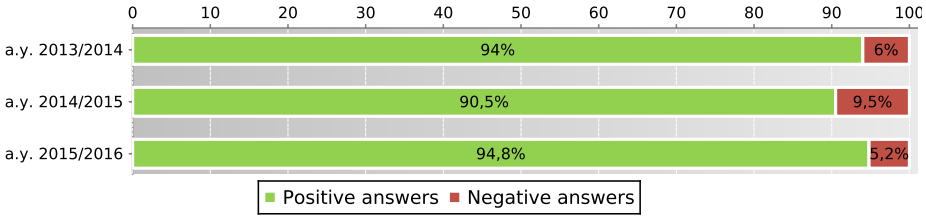
6: Is the teacher able to arouse students' interest in the course's subject?



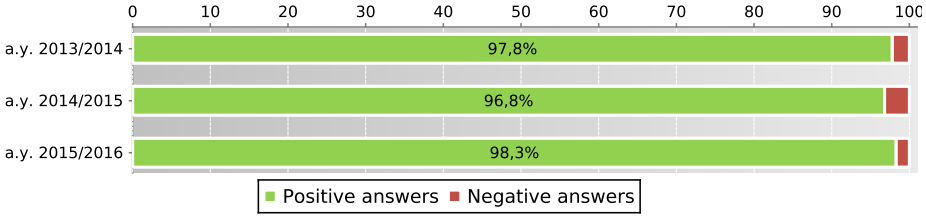
7: Are the teacher's explanations clear?



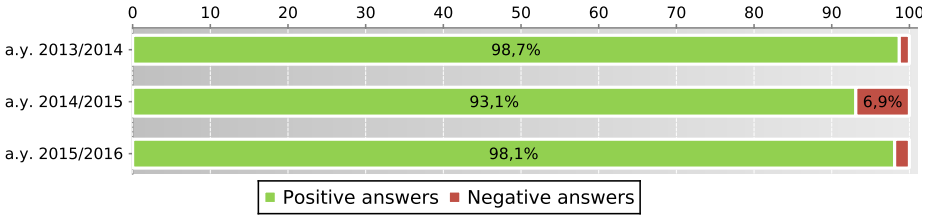
8: Are the supplementary teaching activities (exercises, workshops, seminars, etc.) useful for the learning process?



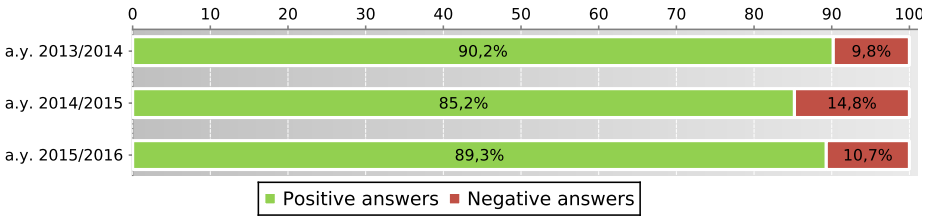
9: Was the delivery of the course unit consistent with what stated on the degree programme website?



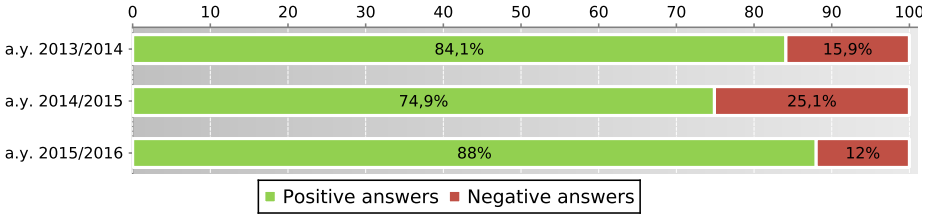
10: Is the teacher available to clarify topics and offer explanations?



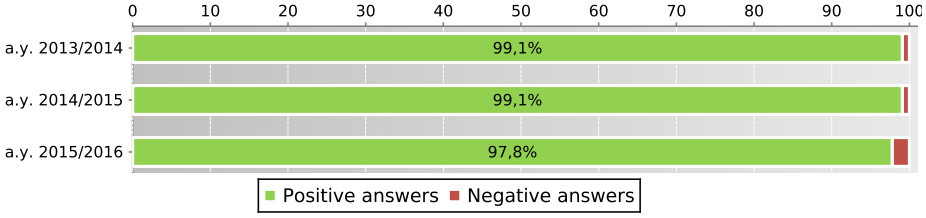
11: Are you interested in the subject matter of this course unit?



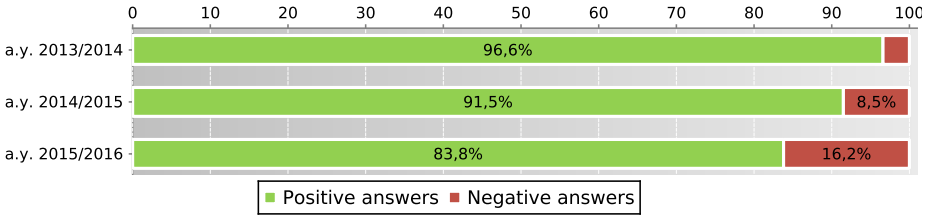
12: On the whole, are you satisfied with the way this course has been taught?



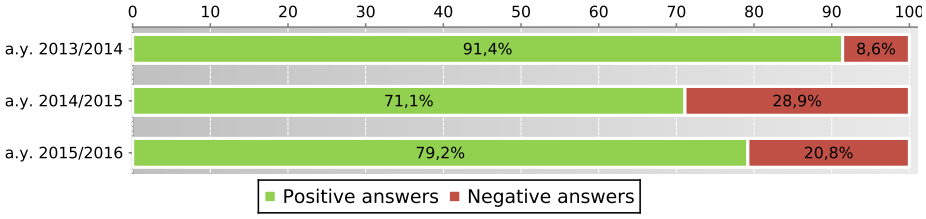
13: Have all the lessons been delivered by the official teacher of this course unit?



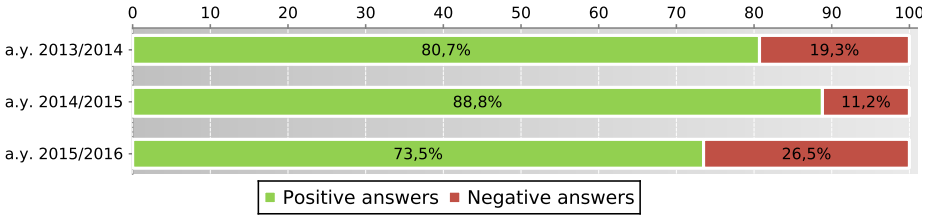
14: Were the classes where the lessons were held suitable (you could see, hear and find a place)?



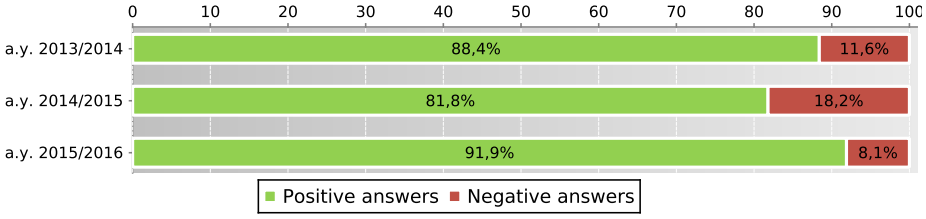
15: Was the lesson timetable planned to allow appropriate attendance and personal study?



16: Are the rooms and the equipment devoted to supplementary teaching activities (exercises, laboratories, seminars, etc.) adequate?



17: Did the teacher place sufficient importance on the questionnaire (e.g. provided instructions and allowed enough time for the questionnaire to be completed, explained the purpose of the survey, etc.)?



Data of the Study Programmes D.M. 270/04 School of Animal Biotechnology (code 8207), Animal Biotechnology (code 8522) and of the Study Programme D.M. 509/99 Animal Biotechnologies (code 0459)

	N. of regular enrolled	N. of completed questionnaires
a.y. 2013/2014	20	234
a.y. 2014/2015	29	319
a.y. 2015/2016	47	537

Further information on opinion of attending students available in the site with the overall survey results.

D.4. ENTRY INTO THE WORLD OF WORK

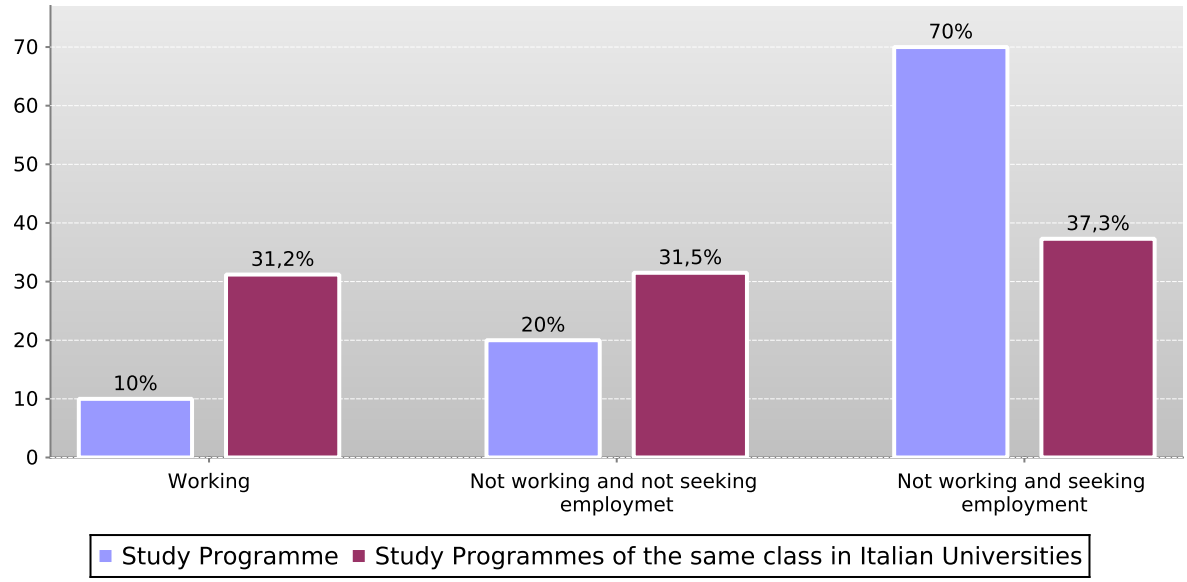
Employment situation of graduates of the Study Programme. The tables and the graphs provide information on the employment situation of graduates one year after graduating. Furthermore provide the percentage of graduates who have obtained credits for the activity of curriculum internship during their 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 the Study Programmes of the same class in the Italian Universities for the graduates of the indicated calendar years.

Employment situation of graduates in 2015 one year after graduating

Data of the Study Programme D.M. 270/04 Animal Biotechnology (code 8522)



Data of the Study Programmes D.M. 270/04 School of Animal Biotechnology (code 8207), Animal Biotechnology (code 8522)

		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 employmet	Not working and seeking employment		Effective / very effective	Quite effective
Graduation Year 2013	Study Programme	6	33,3%	33,3%	33,3%	33,3%	50,0%	50,0%
	Study Programmes of the same class in Italian Universities	809	29,4%	34,0%	36,6%	24,6%	51,7%	20,9%
Graduation Year 2014	Study Programme	7	42,9%	28,6%	28,6%	14,3%	33,3%	
	Study Programmes of the same class in Italian Universities	928	26,4%	36,0%	37,6%	24,7%	47,3%	23,4%
Graduation Year 2015	Study Programme	10	10,0%	20,0%	70,0%	20,0%		
	Study Programmes of the same class in Italian Universities	1055	31,2%	31,5%	37,3%	21,2%	55,4%	21,8%

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.

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.

Data of the Study Programme D.M. 270/04 Animal Biotechnology (code 8522)

	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
2014	11	11	0	100,0%
2015	11	10	1	90,9%
2016	10	9	1	90,0%

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.

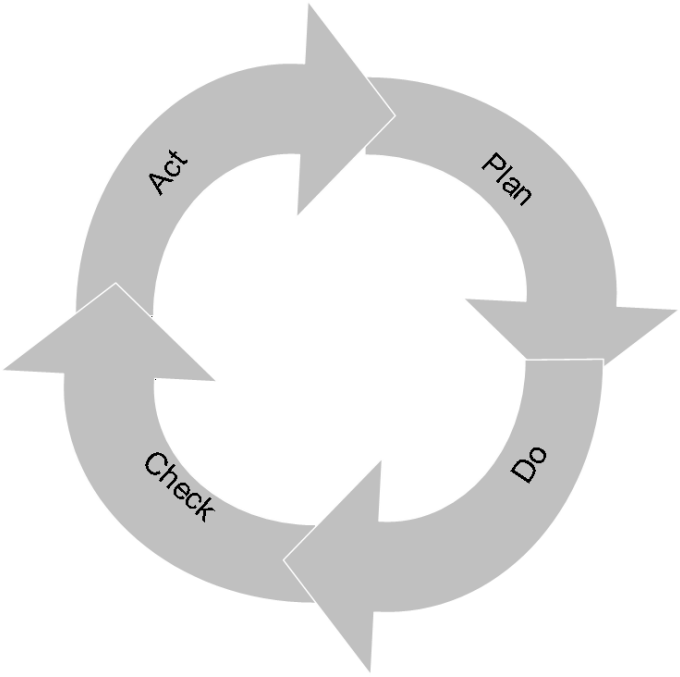
The percentage in the last column shows the relation between the "Graduates with credits acquired through internship activity" and the "N. graduates".

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

The University of Bologna has identified its objectives as *to promote the quality of the programme catalogue and invest in distinctive and multidisciplinary fields related to people's needs and society's needs* (Strategic Plan 2016/2018).
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 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 Study 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 Study 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	x
Guidance service		x	x		Education Division
Internships		x	x		Education Division
Administrative services: Student Administration Office					Education Division
Administration services: Degree programme office					Education Division
Study grants and loans ad honorem					Libraries and Study Services Division
Student mobility: university subsidies and programmes					International Relations Division
Mobility: study grants for dissertations abroad			x		International Relations Division
Mobility: authorisations and recognitions		x			International Relations Division
Other students support services		x	x		x

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

What we do	Who does what
Definition, gathering and publication of evaluation data According to the general guidelines of the University and national and international standards, are defined the tools through which should be evaluated the results (indicators). The survey data to be evaluated are published every year on the Report of the Study Program and other documentation. Since 2017, the National Agency for Evaluation of the University and Research System (ANVUR) provides a set of homogeneous indicators for all the Italian Universities and for all the Study Programme, which is alongside the University's statistical data.	Academic Bodies Since 2017 also ANVUR
Self-Assessment The teaching structures and Study Programmes assess the effectiveness of the previously adopted solutions, analyse the progress of their learning activities and draw up proposals for improvement.	Schools and Study Programmes
Internal audit The results of the self-assessment process are reviewed in the following phases: • Analysis: the University "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. • 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 the results. • Sharing: the conclusions of the review activities are submitted to the Academic Bodies and the University Evaluation Board.	Presidio della Qualità Vice Rector for Teaching and Education Academic Bodies

- **Improvement**: on the basis of the results of the internal audit, the teaching structures 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 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.

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.