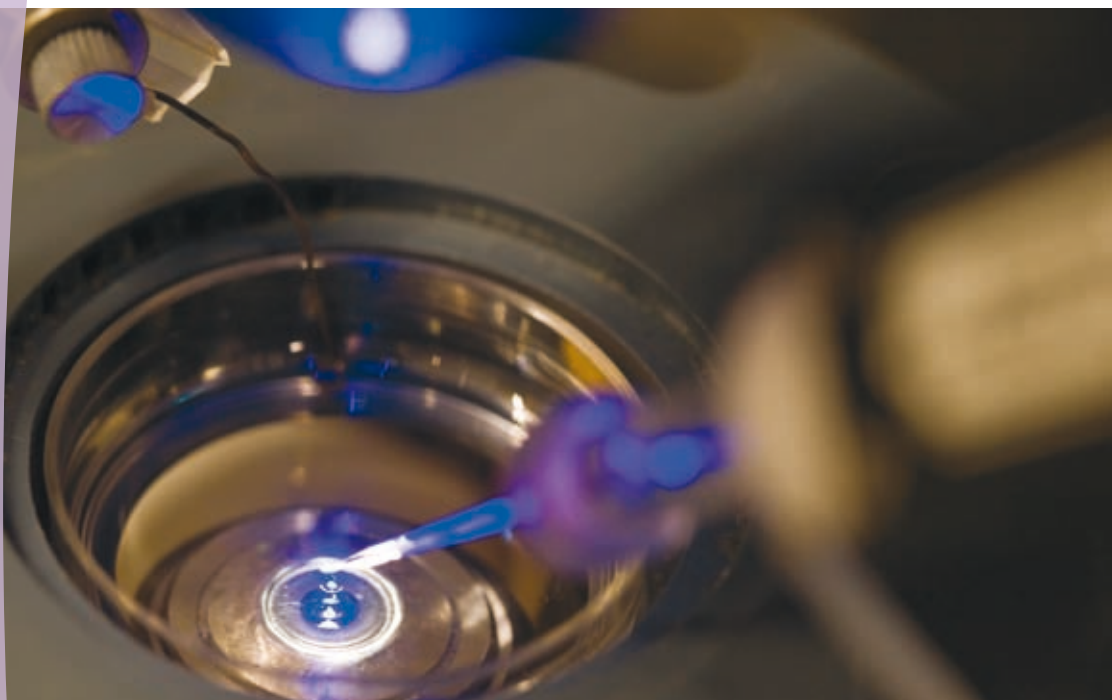




Universiteit Utrecht



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Integrated quality control plan for the masters programmes of the Utrecht University, Graduate School of Life Sciences

Life Sciences Project Group
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Editing: S. Goubitz

Integrated quality control plan for the Master's programmes of the Utrecht University, Graduate School of Life Sciences

Sources:

- *Training Plan, Graduate School of Life Sciences; Research-Intensive Education, a shared educational basis for the Master's programmes of the Utrecht University, Graduate School of Life Sciences. March 2009. G. Dilaver, S. Goubitz, D. van Heuven-Nolsen, H. van Keulen en M. Lumens.*
- *Quality Control Plan Natural Sciences. January 2010. Dr. A. van Keer.*
- *Documents of Board of Examiners, Educational Committee and Board of Admissions of the Graduate School of Life Sciences.*
- *Memorandum of board consultations UU; Quality control responsibilities for education/examinations October 2011.*

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Executive summary

We are pleased to present the quality control plan for the Master’s programmes of the Graduate School of Life Sciences (GS-LS). This plan breaks down into two parts. The first part starts with the reasons for developing our own quality control plan, and continues with a definition of quality factors. How these factors are then included in a cyclical process of quality control in combination with the responsible actors is set out in the plan-do-check-act (PDCA) cycles. The second part, the Annex, covers practical implementation, taking a detailed look at the different forms of evaluation (course evaluation, programme evaluation, research project, traineeship/internship), the annual reports and the process of supplying feedback to the Board of Studies of the GS-LS.

Part I: Background, definitions and quality control as a cyclical process

Section 1 describes why we, as a Graduate School, have established a quality plan. It explains a number of matters, such as the institution-wide accreditation, the administrative hierarchy under which the Graduate School operates and the benefits generated by an overarching quality control system. This plan will then turn to the heart of quality control at the curricular, programme and school levels. The central underlying principle is the adoption of a sound definition of quality education. This is not a definition in a literal sense, but a list of factors that should be an integral part of the education delivered by the Graduate School. These factors can be measured in evaluations or by collating administrative data. When putting together this list, we included the guidelines of the Executive Board and the assessment framework of the QANU. The relevant actors (the people responsible as well as the people who are involved in actual implementation) are listed for each factor.

Section 2 looks at reporting on the quality factors referred to in the section above. This results in annual reports, principally with the aim of facilitating self-study at the curricular level and providing the Board of Studies with the required curricular information about all programmes.

Section 3 addresses the cyclical nature of quality control, describing all the phases of a quality cycle in schedules. Accompanying each phase, there is an actor with operational responsibility, as well as an indication of time. These phases have been elaborated for the main quality factors and they can be found in Table 1. To provide the actors with a clear picture, we have added a second table, table 2, which summarises the tasks for each actor.

Contact details and abbreviations can be found in the concluding sections, sections 4 and 5.

Part II: Practice

This second part provides practical tools. There are criteria for each type of evaluation (covering courses or programmes). Standard, school-wide, evaluation forms are used. In addition, other formats have been drawn up that help the students and the Board of Examiners with applications for research projects, theses and assessments of these areas of the curriculum. The School also supplies formats for the completion of the annual report by programme directors and the various School committees.

Part I:

Background, definitions and quality control as a cyclical process

1. Reasons for a quality control plan

1.1 Introduction

This section explains why a specific quality control plan was developed for the Master's programmes of the Graduate School Life Sciences (GS-LS).

The quality control plan follows the guidelines supplied by the Executive Board (CvB) in its letter "The design of internal quality control" dated 14 February 2008. In short, the CvB wants a system that complies with the following minimum requirements:

- The quality control system is cyclical in nature, and it includes all phases of the quality cycle (plan, do, check, act).
- It requires periodical and systematic academic evaluations
- It requires evaluations of courses and the curriculum as a whole
- It guarantees that students, teachers, graduates and future employers are involved in the evaluations of the curriculum
- It provides all those involved with access to the evaluations.

The above CvB guidelines follow current developments in the field of the establishment of a new accreditation system at the institution level¹. The old system focused exclusively on training. In this new system, each institution will be required to demonstrate that it has control over the quality of the training it provides. The letter from the CvB quoted above fits in with this new approach. The new accreditation system will mainly consist of an audit every six years (these audits were previously known as "visitaties") at the institutional level organised by the Dutch-Flemish Accreditation Organisation (NVAO). This audit will replace the extensive training audit, which does not mean to say that the courses will no longer be evaluated. If the institution audit leads to a positive result, a limited course evaluation will be conducted by a panel of independent experts. They will focus on improving substantive quality and not, as in the past, on the quality control system used by the course. However, if the audit on the institution level is negative, there will be a full course assessment².

Why is there a quality control system at the Graduate School level?

There are various reasons for this.

- a) It is a response to the instructions and guidelines of the CvB as quoted above.
- b) There is an administrative responsibility that we explain below and that is linked to a). The deans of the faculties of Science, Medicine and Veterinary Medicine (the Utrecht Life Sciences deans) are formally responsible for all education in the Graduate School of Life Sciences ("the School"), including quality control in the broad sense. The Utrecht Life Sciences deans delegate their responsibilities to the management of the School. The formal mandate arrangements have been set out in the annex to part I. Together with the quality control plans of other Schools/courses in the different faculties, this plan constitutes the faculty quality control plan required by the CvB. The new-model administrative consultation memorandum for the graduate schools (corsanr 08.30442, November 2008) states that *"The Graduate School has a Board of Studies (BoS) that acts as the academic administrative body... for all Master's programmes in the GS and that is responsible for quality assurance for the Master's programmes and for doctorate supervision and*

¹ When the bill is submitted by the Minister of Education, Culture and Science – this is expected in Autumn 2009 - it will be debated in Parliament.

The frameworks for the assessment of the new system will then be adopted definitively. Until then, the present accreditation arrangements will remain in place.

² *Assessment Frameworks for the purposes of the development of a new accreditation system in the Netherlands and Flanders (draft), 21 April 2009, NVAO.*

training. *The Board of Studies of a GS comprises representatives from the academic Master's, the research Master's and doctorate training.*" The research institutes that make up the Graduate School determine the content of the Master's programme in accordance with the research priorities of the faculties. The BoS of the GS-LS consists of all the directors of both MSc and doctorate programmes, three MSc students, three doctorate members, the School's secretary, two vice-chairs and the chair. The chair, who is also the director of the School, is independent and has a professorial position in one of the faculties. He or she is appointed by the Utrecht Life Sciences deans. The two vice-chairs are appointed in a personal capacity by the Utrecht Life Sciences deans, with one coming from the Faculty of Science and one from the UMC Utrecht. They are competent to decide about all academic matters at the Master's and doctorate levels. The BoS has an Executive Management (DB-BoS) which meets monthly and deals with day-to-day matters. The DB-BoS maintains contacts with the committees and programme directors. The DB-BoS consists of the chair, the two chairs, the secretary, three programme directors, one MSc student and one doctorate member. The student members are also members of the Life Sciences Representatives (MSc) and the Doctorate Council.

c) It facilitates a number of mandatory activities, such as educational "inspections" (i.e. audits) for accreditation purposes. The role of annual reports in preparation for these audits will be discussed in further detail in this document. The BoS of the GS-LS is responsible for the coordination of these annual reports.

d) It facilitates a number of good habits. Examples here are the dissemination of best practices in the field of education, Academic Community activities, coordination of international recruitment, traineeships, admissions, the involvement of students, future employers, etc.

e) Finally, and this hardly needs pointing out, the School believes that its primary task is to provide *and* to safeguard high-quality education. Both elements are embedded in the quality control system. Demonstrating high academic quality requires the support and cooperation of all those involved in the School. Well-defined tasks are established by well-defined bodies so that responsibilities are clear to all.

1.2 Vision of academic quality: a definition

The heart of a quality control system is the definition of what determines academic quality, how this can be legitimately tested and by whom, as well as the description of the cyclical follow-up for the observed quality (section 3 and Annex). This section provides an overview of all academic factors which, as a whole, determine academic quality. We have broken down these factors into two sub-sections: on the one hand, factors specifically associated with the curriculum or programmes and, on the other hand, factors that cover all the curricula and are embedded/are being embedded in the School. All factors are measurable, some using the classic evaluation approaches and others as a result of being embedded in the organisation. These factors can be changed. The list below was drawn up on the basis of the NVAO accreditation arrangements in place and the guidelines of the CvB.

1.3. Quality of the course and the component programmes

1.3.1 Learning Outcomes³ and admission criteria

The School comprises courses and Master's programmes. Each course must meet accreditation requirements. Each course is responsible for making satisfactory arrangements in the following areas:

- the definition of the learning outcomes for the course and the associated programmes, the statement of the learning outcomes in the programme curriculum or components thereof such as the course, research project, thesis, seminars and profiles (research, management, communications and education, drug regulatory sciences) and the approach to assessing how these learning outcomes are achieved. The School will provide standardised School-wide learning outcomes and provide the format for the programme-specific learning outcomes

³ From the Glossary of the Diploma Supplement: Learning Outcomes: the specific intellectual and practical skills gained and tested by the successful completion of a unit, course or whole programme of study.

- the criteria for admission to a course and a programme expressed in terms of knowledge, insight and skills. These criteria are set out in detail in the School-wide training plan, self-study and/or internal certification application.

The School takes steps to ensure that it has the self-study report and the internal certification application for each course in its possession. The training plan is, in principle, amended pursuant to inspection visits but, at the request of the school, it can also be adjusted if evaluations justify such a step or if new quality standards are introduced. Substantive changes to a programme that result in a programme no longer complying with the internal certification requirements must be submitted to the BoS for approval. The procedure for feedback is described in the PDCA cycle.

A number of the elements listed above can be found in the Education and Examinations Regulations (OER). The OER is a public document that can be accessed on the School's website⁴.

Actors involved:

- Project group⁵
- BoS
- Dean
- Programme director and coordinator
- Board of Admissions
- Board of Examiners
- Educational Committee and the Educational Advisory Committees

1.3.2. Periodical evaluations of Master's programmes and their components

The School sets out general criteria that are intended to establish a picture of the quality of academic evaluations. The Educational Committee, working together with policy officers, draws up an evaluation protocol every year for the evaluations of the various programme components: the course, research projects and theses. There are also exit evaluations (covering the programme as a whole) and profile evaluations. Each type of evaluation identifies different substantive factors, which are set out in detail in the Annex. In effect, all evaluations establish a picture of the educational standards and the secondary factors of the educational organisation as perceived by students. As well as students' views, the teaching staff, educational/ educational advisory committees and outside parties also have a role to play. Section 3 and the Annex set out their involvement in the evaluation process for individual programme components, as well as the programme as a whole.

Actors involved:

- Programme directors
- Teaching staff
- Quality control/policy officers
- Educational Committee and the Educational Advisory Committees
- BoS

1.3.3. Assessment and examination

The Board of Examiners safeguards the quality of assessments and examinations. It monitors the quality (and the standard) of the appraisal and assessment of all components of a programme in line with the OER and the Rules and the Guidelines of the School's Board of Examiners. It informs the DN-BoS on a monthly basis and

⁴ <http://www.uu.nl/graduateschools/lifesciences>

⁵ The GS-LS has a project group consisting of two course coordinators /policy officers (one from the Science faculty and one from the UMC Utrecht), the head of Educational Affairs of the Science Faculty, a programme coordinator/teacher and an outside educational expert. This project group is responsible for the School-wide training plan and reports to the BoS.

provides the BoS with annual reports about its activities. The new WHW act places greater emphasis on the responsibility of the Board of Examiners for the examinations process and the quality of that process. The Board of Examiners has established an assessment panel for that purpose which is a part of the Board of Examiners. The task of this assessment panel is to: monitor the quality of assessment and the assessment procedures, as well as to act as a think-tank and an advisory body with respect to the quality of examinations and the professionalisation of examiners. To support the Board of Examiners and the assessment panel, a Testing Advisory Committee was established in 2011 in the Science Faculty for the purpose of drawing up guidelines and instruments for the assessment of tests and examinations. A test expert and a member of the Life Sciences Board of Examiners sits on the Testing Advisory Committee and chairs the assessment panel. This means that optimal use is made of the exchange of knowledge between the bodies referred to here.

Actors involved:

- Board of Examiners
- Assessment panel
- Science/Life Sciences Testing Advisory Committee

1.3.4. Management information

Management information includes key figures that provide direction for policy decisions. This section will be limited to information that can be taken directly from OSIRIS that is important for the Education and Student Affairs (OSZ) departments of both the Faculty of Science and Faculty of Medicine. This information will be included in the annual educational reports for the Master's programmes. The information covers individual Master's programmes and individual academic years and is taken from OSIRIS. It includes figures for students entering individual Master's programmes (in October and December), and/or for each CROHO label, where new students come from (own BSc students, UU BSc students, UCU, HBO, Dutch BSc students, m/f ratio, international students from both EU and elsewhere), average study duration, examination success rates, completion rates, study results (stated as ECTS) after a period still to be determined by the School, etc. The OSZ duties are executive in nature and they are determined in accordance with instructions from the School.

Actors involved:

- Education and Student Affairs
- BoS
- Project group

1.3.5. Staffing

The educational institutions are responsible for the staffing of programmes, courses and the teaching workload. The academic or course director monitors and regulates the academic standard of the staff in their own departments/courses. Teaching staff involved in a research Master's should preferably have an active research background and have completed a doctorate. Teaching staff responsible for designing courses should have at least a BKO certificate or be engaged in the application procedure. A general picture of the quality of the teaching staff is given by student evaluations, and the results of agreed and implemented quality improvement actions at the course level, the number of BKO/SKO certificates, CEUT courses, the structuring of a course in accordance with the objectives of the programme, etc.

Actors involved:

- Academic / course director
- Programme Directors
- Education Committees/Education Advisory Committees

1.3.6. Recruitment and continuation

a) Student standard

The standard of the students entering the school is safeguarded by the work of the School's Board of Admissions. The committee knows the admissions criteria and the contents of each programme and can, on the basis of the application dossier and the recommendations it obtains, decide whether the student has enough prior knowledge so that the student can complete the study within the nominal period of time. During and at the end of the study, the Board of Examiners is in a position to determine in an expert and objective way whether a student has the knowledge, understanding and skills that are required for the Master of Science title.

The programme directors play an important role between the beginning and the end of the study.

Actors involved:

- Board of Admissions
- Board of Examiners

b) Target completion rates

The School defines target completion rates for all its programmes that should be feasible for all students admitted. The goal is that 80% of students who have demonstrated that they want to complete the programme should graduate within 2.5 years. The School expects there to have been a discussion at the programme level at least once between each student and the programme director and/or coordinator about the student's individual study programme. Furthermore, there should be at least two evaluation moments during each research project with the examiner for that component.

Actors involved:

- Programme director, coordinator
- Research supervisors
- Teaching staff
- BoS

1.3.7. Facilities

1.3.7.1. Practical facilities

These are facilities that should be adequate for the implementation of the curriculum, such as: timetables, course enrolment, well equipped rooms (chairs, tables, beamers, projection screens, etc.), ICT facilities, lab facilities, and enough workplaces for students in the research phase. The quality of these facilities is assessed in course and programme evaluations.

Actors involved:

- Educational and Student Affairs
- Programme coordinator
- Research supervisors
- Faculty Board

1.3.7.2. Supervision of student monitoring

The GS-LS provides a study supervision system that is appropriate for the goals of the curriculum. In the Master's programme, the curriculum is based on independent learning and conducting high-quality scientific research. First-line academic counselling is supplied by the research staff of the UU/MC. Second-line support is given by the programme coordinator in terms of the substance and planning of the Master's programme as a whole. Third-line counselling comes from the academic counsellor, who provides help with problems that cross programme boundaries and problems of a personal nature. The academic counsellor can, if necessary, also

refer people to specialist advisers at the UU. The goal of supervision is to allow students to make the most of the opportunities afforded by the curriculum and also to give them the opportunity to complete their studies as efficiently as possible. This means that resources are provided such as traineeships and a thesis handbook for both students and teaching staff/supervisors.

Actors involved:

- Research staff (teachers)
- Programme director, coordinator
- Academic counsellors

1.3.7.3. Rules and guidelines

Rules, guidelines and rights introduce clarity into the complex educational process. The Education and Examinations Regulations (OER) are revised annually by policy officers and recommendations are made by the programme coordinators and Board of Examiners. The Educational Committee produces formal recommendations for the BoS, where applicable after having heard the educational advisory committees. The OER are ultimately adopted by the dean/the Utrecht Life Sciences deans. The Rules and Guidelines of the Board of Examiners are revised annually by the Board of Examiners.

The OER and the Rules and Guidelines of the Board of Examiners are posted on the School's website. The Student Statutes can be found on the site of the Student Service.

Actors involved:

- Policy officers
- Board of Examiners
- Educational Committee
- Faculty Council
- Faculty Board

1.3.7.4. Complaints

Where rules, guidelines and individual discussions between the students and the parties involved prove inadequate, the complaints procedure is available. Students can submit their problems first to the academic counsellor and /or the Board of Examiners. If no solution is reached, there is a School-wide complaints coordinator to whom they can turn. Finally, students can also submit complaints to the Examination Appeals Board.

Actors involved:

- Academic counsellor
- GS-LS complaints coordinator
- UU CVBE

1.4. Quality elements applying to all courses

The sections below go beyond the areas that the Executive Board has asked to be included in a quality plan. Nevertheless, we believe that all these subjects covered below provide, in their own way, an additional impulse to the quality of the education and that is why we have included them here.

1.4.1. Involvement

The following actors all have a role to play in the educational process: the BoS, the OC, the Board of Examiners, the programme directors and coordinators, the teaching staff, students, student associations, former graduates and future employers. Their tasks are set out in section 3 of this paper. Coordination, collaboration and clear regulations are important in terms of arriving at an optimal

result jointly. The GS-LS project group has therefore drafted a School-wide educational plan entitled: "Research-Intensive Education, a shared educational basis for the Master's programmes of the Utrecht University, Graduate School of Life Sciences". This document describes the mission of the School, the administrative structure and the educational philosophy.

Actors involved:

- DB-BoS
- Project group

1.4.2. Internationalisation

Internationalisation is one of the School's priorities. It results in the enrichment of the knowledge of our own students and in the establishment of an international network of students and researchers. It keeps programme directors alert in terms of appraising the content of the programme on the basis of international standards. The School ensures that:

- all Master's programmes are structured as international Master's in English and that they are closely linked thematically to recent international developments.
- the research environments associated with the GS-LS appeal to leading researchers.

The GS-LS aims to recruit 30% foreign students with suitable prior training.

The School encourages internationalisation through exchange programmes, the organisation of summer schools, supporting its own students who want to go abroad, national and international promotional activities and the establishment of joint degree programmes. Involvement in subsidy procedures for educational projects can be a way of furthering international recruitment.

Actors involved:

- DB-BoS
- Project group
- Internationalisation officers

1.4.3. Academic Community

The School is an organisation that is in the full process of development, with a clear task for the educational organisation. It extends beyond the boundaries of the familiar classic organisations. It is the wish of the CvB and the deans to work on the establishment of an "academic community" for students and employees involved in Master's education. Every year, there is a plenary session in which the most important School-wide issues are examined with all members of staff, concluding with a dinner. Furthermore, in 2009, the first steps were taken to establishing an annual Life Sciences Event to which all the teachers and research staff active at the GS-LS are invited. As well as a lunch and drinks, this event also includes several professionalisation workshops. Over a period of two years, students are required to attend ten Life Sciences seminars as a part of their programme. These seminars are organised on a rotating basis by different Master's programmes, which invite reputed speakers to talk about current issues. Another initiative in place is the Master's Introduction in the first week of each term to which students, programme directors and coordinators, student associations and OSZ make active contributions. Furthermore, a start has been made on the establishment of a School-Wide Magazine for our own students and for students of the future.

Actors involved:

- Project group
- Msc Life Sciences Representatives (LSR)
- Programme Directors
- Communications Staff

2. Annual Reports

Academic performance is summarised annually in annual reports. They provide the BoS with the required academic information and provide the courses with the information they need for re-accreditation. We distinguish between the following annual reports:

- the annual academic report consisting of the programme annual reports with the main aim of drafting the self-study report;
- an annual report from the Board of Examiners to inform the BoS about the work done;
- an annual report from the Board of Admissions;
- an annual report from the Educational Committee.

A summary of the above reports is sent annually to all concerned as the School's annual report.

3. Implementation of quality control plan

3.1. Introduction

Quality systems in higher education are generally based on the Plan-Do-Check-Act cycle of W.E. Deming. This model links up to the way traditional scientific research is conducted. A short description taken from Wikipedia:

The PDCA Cycle

PLAN Establish the objectives and processes necessary to deliver results in accordance with the expected output. By making the expected output the focus, it differs from other techniques in that the completeness and accuracy of the specification is also part of the improvement.

DO Implement the new processes. Often on a small scale if possible.

CHECK Measure the new processes and compare the results against the expected results to ascertain any differences.

ACT Analyze the differences to determine their cause. Each will be part of either one or more of the P-D-C-A steps. Determine where to apply changes that will include improvement. When a pass through these four steps does not result in the need to improve, refine the scope to which PDCA is applied until there is a plan that involves improvement.

PDCA was made popular by Dr. W. Edwards Deming, who is considered by many to be the father of modern quality control. The concept of PDCA comes out of the Scientific Method, as developed from the work of Francis Bacon (Novum Organum, 1620). The scientific method can be written as "hypothesis" - "experiment" - "evaluation" or Plan, Do, and Check.

The iteration process is fundamental to the PDCA cycle. Repetition of the full cycle/evaluation cycle should enhance the achievability of the intended objectives (objectives from the cycle "Plan") and the associated process (the cycle "Do").

Section 3.2. provides an elaboration of the Deming cycle (in table 1) for each task (i.e. objective), including the names of the actors and the time when a new task that has not yet been initiated will start and the frequency of the implementation of the tasks. Section 3.3. provides, with the aim of assisting the people responsible for implementation, an overview of tasks for each actor extracted from table 1.

3.2. The Deming cycle

Table 1 lists elements from the quality control plan (under the heading "process to be evaluated") in a PDCA cycle that is part of the area of responsibility of the Graduate School. Abbreviations for actors are listed at the end of this table. Some processes may be repeated annually, some are in the start-up phase and some need not be repeated annually.

Plan = drafting a plan for the implementation of the process. Establishing standards and objectives
Do = implementing the process
Check = checking the process and recording deviations from the standard.
Act = drawing conclusions and formulating areas for improvement

Table 1: the PDCA cycle

Level	Process to be evaluated	PDCA cycle	Details of process	Actor who does what	Time continuous or deadline
Quality control plan	Quality control plan	Plan:	Drafting of quality plan for Master's programmes for the School	PG	April 2010
		Do:	Submit plan for approval to various bodies and implement	PG/MO	May-September 2010
		Check:	Monitor implementation	OC/DB-BoS	annually
		Act:	Revise plan	PG	annually
Course	course evaluation	Plan:	Drafting of a plan with evaluation criteria at course level. Development of questionnaires and establishment of procedures (who does what and when)	BoS MO	annually
		Do:	-Implementation of course evaluations -Assessment of results and feedback	OSZ/Exp OC	continuous
		Check:	Check whether course evaluations are being conducted according to plan.	OC/BoS	monthly
		Act:	Evaluate and revise process.	OC /MO	Annually
	Course adjustment	Plan:	Draft improvement plan/areas for each course and submit to OC	teacher	Maximum of 2 months after course finishes
		Do:	Implement improvements	teacher	Before start of course
		Check:	Check whether improvements are effective. Reporting to BoS	OC/PL	Maximum of one month after course evaluation
		Act:	Submit improvement process to teacher	BoS	continuous
	Staffing	Plan:	Establish which courses are given annually	PL	June annually
		Do:	Assign qualified teachers to courses	OD	from June
		Check:	Evaluate teachers (through course evaluations)	PL	continuous
		Act:	Arrange interview with teacher(s) if course rating is less than 3 (on a 5 point scale).	OD	maximum of 2 months after course finishes

Level	Process to be evaluated	PDCA cycle	Details of process	Actor who does what	Time continuous or deadline
Pro-gramme	Pro-gramme evaluation	Plan:	Drafting of a plan with evaluation criteria at programme level, Development of questionnaires and establishment of procedures (who does what and when)	BoS MO	annually
		Do:	Conduct programme evaluations (exit, research, thesis and profile) with feedback in accordance with plan	OSZ/Exp	annually
		Check:	Checking whether programme evaluations have been conducted in accordance with plan. Feedback to BoS.	OC	November annually
		Act:	Where appropriate, formulation of improvements for the process of evaluations and revisions	OC/MO	annually
	Programme adjustments	Plan	Submit plan with programme changes to BoS	PL	Before 1 April
		Do:	Implement plan and include advisory reports	PL	Before 1 September
		Check:	Check whether changes in programme content have implications for internal certification and the Board of Examiners, Board of Admissions and PR material in respect of admission criteria and learning outcomes	BoS/MO	Before 1 June or 15 December
		Act:	Submit changes to Board of Examiners, Board of Admissions, OC and OER	BoS/MO	ASAP after above dates
	Internal certification	Plan:	Determine which internal certification procedure is necessary, identify submission deadlines and issue instructions for implementation to PL and department	MO	2 months in advance of certification deadline
		Do:	Write and submit plan to BoS and department boards	PL	In these 2 months
		Check:	Check whether the process is proceeding satisfactorily, and give and obtain advice to/from OC	BoS	In these 2 months
		Act:	Submit plan to O&O	Dean	Before 1 June or 15 December

Level	Process to be evaluated	PDCA cycle	Details of process	Actor who does what	Time continuous or deadline
Pro-gramme	Admissions	Plan:	Establish a protocol for regulating admissions on a school-wide basis in collaboration with OSZ	TC	annually
		Do:	Implementation of protocol and report in annual report	TC	Continuous
		Check:	Check whether protocol is adequate	BoS	annually
		Act:	Amend protocol if required	TC	annually
	Admission requirements	Plan:	Initiate procedure to establish transparent admission requirements for each programme and course in accordance with CvB guidelines	TC/MO	annually
		Do:	Define admission requirements in accordance with set criteria (knowledge/understanding/skills) (in OER) and enforce them	TC/PL	January, annually
		Check:	Checking that admission requirements are transparent	TC	April, annually
		Act:	Make changes to admission requirements if required, publish admission requirements in OER annexes, website, folder material, etc.	MO	May, annually
	Learning outcomes	Plan:	Plan for defining learning outcomes for each programme and component	PG	spring 2011
		Do:	Define learning outcomes for each programme and component	PL	2011
		Check:	Check whether learning outcomes are transparent and testable Monitor implementation process	EC BoS	2011
		Act:	Post learning outcomes in Diploma Supplement and education catalogue	OSZ	2011
	Assessment	Plan:	Revise rules, guidelines and procedures for the appraisal and standardisation of examinations, research projects and theses	EC *	2011-2012
		Do:	Random checks on examinations and assessments, as well as research projects	EC *	At least twice* a year
		Check:	Check whether learning targets can be tested, whether assessment criteria are applied and whether the quality of the examinations is adequate	EC *	continuous
		Act:	Evaluation of assessment criteria	EC *	May, annually

Level	Process to be evaluated	PDCA cycle	Details of process	Actor who does what	Time continuous or deadline
Pro-gramme	Involve-ment of future employers/ former gradu-ates	Plan:	Draft plan to involve future employers/former graduates in GS-LS and the quality of the training, determine action required	PG	2011/2012
		Do:	Implement plan and involve future employers/former graduates in far-reaching changes to the curriculum	PG/PL	2011-2012
		Check:	Check involvement of future employers/former graduates	BoS	2011-2012
		Act:	Implement actions to improve efficiency in involvement	PG	2011-2012
	Accredita-tion	Plan:	Plan inspection visits and self-study	OD	The starting date is the expiry date for the current accreditation less a minimum of two years
		Do:	Organise inspection visits in collaboration with a VBI, write self-study	MO	The starting date is the expiry date for the current accreditation less a minimum of two years
		Check:	Check whether self-study complies with the NVAO requirements	BoS /FBW	Expiry date for the current accreditation less a minimum of 18 months
		Act:	Revise self-study plan	OD/MO	Expiry date for the current accreditation less a minimum of 18 months

Level	Process to be evaluated	PDCA cycle	Details of process	Actor who does what	Time continuous or deadline
report for Master's programmes	Annual academic	Plan:	Establish format for annual academic report and forward to PL	BoS	October, annually
		Do:	Draft annual academic report and submit to BoS	PL/PC	November, annually
	Annual report from Board of Examiners	Plan:	Draw up format for annual report and submit to EC	BoS/MO	Draft Sept. 2010
		Do:	Complete annual report	EC	November, annually
		Check:	Check whether information is adequate	BoS / dean	December, annually
		Act:	Make adjustments/additions if required	EC	Annually
	Annual report from OC	Plan:	Draw up format for annual report and submit to OC	BoS	October, annually
		Do:	Draft annual report	OC	November, annually
		Check:	Check whether information is adequate	BoS	December, annually
		Act:	Make adjustments/additions if required	OC	annually
	Organisa- tion of introduc- tory week	Plan:	Plan organisation of introductory week	MO/SV	April, annually
		Do:	Organise and evaluate introductory week	SV	Final week of August
		Check:	Monitor organisation process	MO	continuous
		Act:	Revise organisation of introductory week	SV	Annually after end of introductory week
	Academic community	Plan:	Overhaul plan for academic community activities	PG/BoS	annually
		Do:	Implement plan in different agencies and organise activities	PG/PL	annually
		Check:	Evaluate satisfaction/usefulness of activities	BoS	Annually
		Act:	Revise plan	PG	annually

OSZ	Manage- ment informa- tion	Plan:	Identify data that school requires	BoS/MO	First quarter
		Do:	Supply required information	OSZ	November and March
		Check:	Check whether information is adequate for policy purposes	BoS	continuous
		Act:	Make adjustments/additions	OSZ	continuous

Abbreviations

BoS: Board of Studies Represented by DB-BoS	OD: Academic Director
EC: Board of Examiners	OSZ: Educational and Student Affairs
Exp: Expertise Centre UMC Utrecht	PG: Project Group, Graduate School of Life Sciences
FBW: Faculty of Science	PL/PC: Programme director/programme coordinator
MO: management support (academic coordinators and policy officers)	SV: Student Associations (Mebiose, UBV, PROTON and UP)
OAC: Education Advisory Committee	TC: Board of Admissions
OC: Educational Committee	VBI: Inspection and Assessment Agencies

3.3. Who does what?

Table 2 is based on the actors, with detailed tasks being derived from the PDCA cycle above. In combination with the PDCA cycle from table 1, each actor knows who is involved in the process and at what stage and when components of the process need to be completed.

Table 2:

Actor	Process	Tasks
BoS(DB-BoS)	Quality control plan	-Monitor implementation and revision of plan
	Course evaluations	-Check on a plan with evaluation criteria and procedures -Ensure that the OC monitors the process -Implement OC recommendations if necessary -Feedback to PL if necessary
	Programme evaluations	-Check on a plan with evaluation criteria and procedures -Ensure that the OC monitors the process -Implement OC recommendations if necessary -Feedback to PL if necessary
	Programme adjustments	-Appraise changes at the school level -Check whether there have been changes in internal certification
	Internal certification	-Check on process of internal certification -Grant approval for application through dean
	Admission criteria	-Issue instructions for the drafting and publication of transparent admission requirements
	Learning outcomes	-Issue instructions for the definition of learning outcomes for each programme and monitor implementation process
	Future employers	-Check on plan for former graduates/future employers
	Accreditation	-Monitor accreditation deadlines -Check whether self-study complies with the NVAO requirements -Monitor the process
	Reports	-Draft formats and monitor annual reports from programmes, Board of Examiners, Board of Admissions -Feedback annual report to committee and/or PL -Collation of reports and submission to dean
Project group	Quality control plan	-Draft plan and send to different agencies -Revise plan
	Learning outcomes	-Draft school-wide attainment targets -Provide coordination and format for programme-specific and component-specific learning outcomes
	Future employers/ former graduates	-Draft plan for involvement of former graduates/future employers -Coordinate implementation of plan -Revise plan
	Academic community	-Draft, implement and revise plan and activities

Actor	Process	Tasks
Management support	Quality control plan	-Implementation of plan in own organisation (Science/UMC Utrecht)
	Course evaluations and programme evaluations	-Draft evaluation protocol and regulate implementation with OSZ -Evaluate procedures in collaboration with OC and make revisions if required
	Programme adjustments	-Check adjustments on the basis of/include in rules and guidelines (OER, EC etc.) and other communications
	Internal certification	-Check which procedure is necessary, identify submission deadlines and issue instructions for implementation to PL/ department -Check whether the process is proceeding satisfactorily, and give and obtain advice to/from OC -Submit application to O&O through dean
	Admission requirements	-Initiate procedure to establish transparent admission requirements for each programme and course, and to monitor the process -Check adjustments on the basis of/include in rules and guidelines (OER, TC etc.) and other communications.
	Accreditation	-Write and revise self-study
Programme director and coordinator	Introductory weeks	-Plan and monitor the organisation process
	Course and programme evaluations	-Annual records showing which courses have been evaluated -Interviews with teachers if evaluations are weak -Revise programme content if necessary
	Programme adjustments	-Report on plan to to BoS -Implement adaptation
	Internal certification	-Write certification application
	Admission	-Determine and enforce admission requirements
	Learning Outcomes	Definition of learning outcomes that will be assessed in a programme module and/or course Adapt if necessary
	Future employers	-Maintain links with former graduates/future employers
	Reporting	-Draft annual academic report and send to BoS
	Academic community	-organisation of Life Sciences seminars
Teacher	Course (amendments)	Submit improvement plan/areas for improvement to programme director and implement plan.
Educational/ course director	Supply teachers	Allocation of academically qualified teachers for each course
	Evaluation interviews	Conduct interview with the course coordinator when course evaluations indicate that this is necessary (final rating for course less than 6 on a 10-point scale)
	Accreditation	Plan inspection visits and check on self-study

Actor	Process	Tasks
Educational and Student Affairs	Course and programme evaluations	Send, collect and ask for elaboration of evaluations
	Diploma Supplement	State learning outcomes in Diploma Supplement
	Management information	Generate overviews of key figures requested by GS-LS
Board of Examiners and assessment panel	Assessment	-Determine in an objective and expert way whether a student has the knowledge, insight and skills required to obtain a degree -Establishment of guidelines and instructions (within the context of the OER) for appraising and recording the results of tests and examinations -Safeguarding the quality of tests and examinations: establishing procedures
	Annual reports	Collating annual reports from Examinations Sub-Committees and send to BoS/dean
Board of Admissions	Admissions	-Revise and adjust protocol -General coordination and final responsibility for admissions
	Admission requirements	-Formulate and revise admission requirements -Check that admission requirements are transparent
	Reporting	Annual report to BoS
Educational Committee	Course and programme evaluations	- Monitor process evaluations - Check process improvements - Feedback with findings to BoS
	Advice	-Advise BoS on all quality-related academic issues -Advise on OER -Advise PG about quality control plan
	Reporting	Annual report to BoS
Educational advisory committees	Course and programme evaluations	If necessary, provide OC with substantive advice about evaluations, with feedback to programme director/coordinator
	Advice	Advice from OAC to OC about OER
Student Associations	Organisation	Plan, organise and evaluate introductory week
	Academic community	??Involvement in examination sessions
Students	Participation	Delegates in BoS/OC/OAC and LSR
Former graduates/ Future employers	Advice	Involved in programme

4. Contact details for Graduate School of Life Sciences

Chairman

Professor S.J.L. van den Heuvel
S.J.L. vandenHeuvel@uu.nl

Vice-chair of Biomedical Sciences

Professor P.R. Bär
P.R. Bär@umcutrecht.nl

Vice-chair of Science Courses

Professor L. A.C.J. Voesenek
L. A.C.J. Voesenek@uu.nl

Secretary

Dr. S.B. Ebeling
S.Ebeling@uu.nl

Chairman of Board of Examiners

Dr. M.L. Zonderland
m.l.zonderland@umcutrecht.nl

Chairman of Educational Committee

Professor J. Boonstra
J.Boonstra@uu.nl

Chairman of Board of Admissions

Professor P.R. Bär
P.R. Bär@umcutrecht.nl

Curriculum coordinators

Dr. G. Dilaver (Biomedical Sciences)
G.Dilaver@umcutrecht.nl
and
Dr. S. Goubitz (science courses)
S.Goubitz@uu.nl

Student administration

Student administration for **Biomedical Sciences**
HB1.04, Hijmans van den Berg building

Study Points for **Biology, Chemistry and Pharmacy**

Biology and Chemistry, Buijs ballot building
Pharmacy, David de Wied building

Academic counsellors

Jaco de Fockert-Koefoed
Department of Biomedical Sciences
adviseurs@umcutrecht.nl

Isolde den Tonkelear
Department of Biology
Studieadviseur.bio@uu.nl

Jos Koeckhoven
Department of Chemistry
J.N.C.Koeckhoven@uu.nl

Manon Thijssen
Department of Pharmaceutical Sciences
M.Thijssen@uu.nl

5. Abbreviations

BKO	Basic Teaching Qualification
CEUT	Centre of Excellent University Teaching
CvB	Executive Board
GS-LS	Graduate School of Life Sciences
BoS	Board of Studies
DB-BoS	Executive Management of the Board of Studies
EC	Board of Examiners
NVAO	Dutch-Flemish Accreditation Body
LSR	Msc Life Sciences Representatives
OAC	Educational Advisory Committees
OC	Educational Committee
OER	Education and Examinations Regulations
OSZ	Educational and Student Affairs
PL	Programme director
PC	Programme coordinator
QANU	Quality Assurance Netherlands Universities
SKO	Senior Teaching Qualification
UU	Utrecht University

Annex part I

Mandates and sub-mandates for the Graduate School Life Sciences (the “Graduate School”)

These mandate regulations were approved and adopted by the Executive Board on 13 December 2011. Amendments must be approved and adopted by the Executive Board in response to a proposal from the management of the Graduate School.

N.B. The mandates are granted to job positions. The names listed for the positions are added for information purposes only and may vary during the period of validity of these regulations. The mandate regulations will be updated every year.

For more information about the mandate regulations, please contact Legal Affairs (ext 3075).

Mandates issued by the management of the Graduate School to executive management

MANDATORY	CONTENT OF MANDATE
	<p>Article 9.14 Higher Education Act duties and powers of dean in general; faculty regulations</p> <p>1. The dean is responsible for the general running of the faculty. The dean is also responsible for the management and structuring of the faculty in terms of the curriculum and academic practice.</p> <p>2. The dean is involved in the management of the university through, for example, consultations with the Executive Board about the drafting of the institutional plan and the budget.</p> <p>3. Without prejudice to the provisions of article 9.5, the dean adopts the faculty regulations for the purposes of further arrangements for the management and the structuring of the faculty.</p> <p>4. The faculty regulations require the approval of the Executive Board. That approval may be withheld only if there is a conflict with law or the public good.</p> <p>5. If the faculty regulations have not been adopted or not adopted in full within a period of time to be determined by the Executive Board, the Executive Board will adopt the regulations or the missing part thereof.</p> <p>Article 9.14 Higher Education Act Other duties and powers of dean</p> <p>1.The dean is, notwithstanding article 9.5 [guidelines Executive Board], also responsible for:</p> <p>a. the adoption of the Education and Examinations Regulations [...] as well as the regular appraisal thereof,</p> <p>b. the adoption of general guidelines for academic practice,</p> <p>c. the adoption of the annual research programme of the faculty,</p> <p>d. monitoring the implementation of the Education and Examinations Regulations and the annual research programme, as well as providing the Executive Board with the relevant regular reports,</p> <p>e. installing the Board of Examinerss and the committee referred to in article 7.29 [colloquium doctum], sub-article 1, as well as appointing the members of those committees,</p> <p>f. implementing articles 7.8b and 7.9 [recommendation relating to continuation of study (the “study advice”) and statement of possible courses after introductory year], with the exception of the designation of courses referred to in articles 7.8b, third paragraph [binding recommendation relating to continuation of study], and 7.9, sub-article 1 [statement of possible courses after introductory year],</p> <p>g. the adoption of more detailed regulations relating to the way in which exemption as referred to in articles 7.25, sub-article 4 [lack of correct VWO profile], 7.28, sub-articles 2 to 4 [equivalent diploma and supplementary requirements], and 7.29, sub-article 1 [colloquium doctum] can be obtained,</p> <p>h. the issuing of proof of admission as referred to in article 7.30a, third paragraph, as well as the application of section 7.30a, fifth paragraph [admissions proof for Master’s], and</p> <p>i. establishing joint regulations for one or more courses with one or more deans from other faculties.</p> <p>2. The dean exercises the right to make nominations as referred to in article 7.19, sub-article 2 [doctoraat honoris causa].</p> <p>3. The Management Regulations set out the regulations relating to competence as referred to in the first sub-article under i.</p>

	<p>ADMISSION TO MASTER'S COURSE</p> <p>The issuing of admissions decisions relating to the admission of students to a Master's course provided by the faculty.</p> <p><i>Framework: Education and Examinations Regulations for Master's courses; adopted and published university and faculty policy</i></p>
<p>Day-to-day management</p> <p><i>Professor S.J.L. van den Heuvel</i></p>	<p>EDUCATION</p> <ol style="list-style-type: none"> 1. Competences relating to the organisation and coordination of education and courses housed with the School or the Institute. 2. Decisions about students in accordance with the provisions of the Education and Examinations Regulations. 3. Competences for the purposes of monitoring educational quality⁶ and the quality of the courses housed with the School or the Institute. <p><i>Framework: Education and Examinations Regulations for the courses; adopted and published university and faculty policy.</i></p>

Sub-mandates granted by the executive management to the course director

MANDATORY	CONTENT OF MANDATE
<p>Course director for Biomedical Sciences</p> <p><i>Professor P.R. Bär</i></p>	<p>EDUCATION</p> <ol style="list-style-type: none"> 1. For the biomedical sciences programmes⁷: Competences relating to the organisation and coordination of education and courses housed with the School or the Institute. 2. Decisions about students in accordance with the provisions of the Education and Examinations Regulations. 3. Competences for the purposes of monitoring educational quality⁸ and the quality of the courses housed with the School or the Institute. <p>Framework: Education and Examinations Regulations for the courses; adopted and published university and faculty policy.</p>

Explanatory note:

General

This model register is a limitative indication of who can hold a mandate in the Graduate School.

Education

This mandate gives academic directors the possibility of assuming responsibility for curricular implementation and quality. An academic director can, for example, take decisions about whether or not to include students in timetables and give teaching staff instructions about how to structure their courses.

Decisions targeting students specifically, such as a "binding study advice", are initially taken by the academic director on the basis of the powers granted to him in the Education and Examinations Regulations.

The mandate for quality control means that the mandatee is responsible for:

- a. stating the final qualifications for the study in terms of measurable learning targets for each course. A useful tool here may be: the production of matrices with concrete and measurable final qualifications compared to the learning targets for each component of the programme (including the explicit statement of the skills);
- b. a systematic check to ensure that there is a satisfactory match between the course objective and the attainment targets, that the total learning targets for each course correspond to the final qualifications for the study (the statement of the final qualifications for the study in terms of learning targets for course components and, in turn, of the course testing components);
- c. discussing these matters with the teaching staff involved in the study so that they are aware of the position of their course in the curriculum as a whole, as well as the links with other parts of the curriculum;
- d. ensuring that the final qualifications and learning targets are formulated consistently in the OER, with the final qualifications being linked to separate programme components and clusters thereof;
- e. ensuring that a testing policy/testing plan is in place that is implemented (and evaluated) in a cyclic process (plan, do, check, act);
- f. systematic monitoring to ensure that the assessment corresponds to the objectives of the curriculum (is there a consistent line and structure; do we not test the same skills repeatedly?);
- g. tests being made on the basis of the learning targets and attainment targets for the course;
- h. agreements being in place about the way in which tests are produced (for example: if several teachers are involved in a course, ensuring that they work together on producing an examination and appraising the quality of the examination);
- i. ensuring that the Board of Examiners is informed about the policy, agreements, plans and relevant information referred to above;
- j. ensuring that courses are evaluated; and
- k. ensuring that there are evaluations at the curriculum level (for example: monitoring ongoing educational threads, a structure encompassing the different years of study, looking at how stakeholders see the programme as a whole etc.). National surveys (such as Keuzegids, Elsevier, Arbeidsmarktmonitor...) and UU surveys (First-Year, Third-Year, Master's and Staff Monitor) can be used for this purpose.

⁶ See Education

⁷ As at 1 December 2011: *Biology of Disease, Biomedical Image Sciences, Cancer Genomics & Developmental Biology, Epidemiology, Epidemiology Postgraduate, Infection & Immunity, Neuroscience & Cognition, Toxicology & Environmental Health and Regenerative Medicine & Technology* (as at Sept 2012)

⁸ See Education

Part II:

The quality control plan in practice

1. Introduction

The second part of this plan describes the practical implementation of evaluations at the course and programme level that are important for the programme director/coordinator, OAC, OC and the School. It also looks at quality monitoring by the EC.

2. Course Evaluation

2.1. Protocol for course evaluation

1. The programme coordinator provides a course overview for each academic year, including the title, OSIRIS codes and dates.
2. Courses are evaluated annually with a standard questionnaire using Evasys. The standard questionnaire for courses is revised annually at the initiative of BoS/MO. The course coordinator is given the opportunity in advance to add course-specific questions to this standard questionnaire.
3. A quality control employee ensures that the evaluation forms are produced in adequate numbers and sends them to the course coordinator no later than a week before the end of the course. This is done at the expertise centre for the BMS course, and in the OSZ department for the Science courses.
4. The course coordinator is responsible for the correct distribution, completion, collection and returning of the forms to the quality control employee within one week after the end of the course.
5. The quality control employee is responsible for the processing of the completed forms within two weeks and sends the results of the evaluation, together with a feedback form for completion, to the course coordinator in question.
6. The course coordinator completes the feedback form and sends it back to the quality control employee within two weeks after reception.
7. The quality control employee sends on all the available documents (the results of the evaluation and the feedback form) to the OC-LS.
8. If required by the relevant OACs (only in the case of Sciences), they also receive a copy of the evaluation results and feedback from the quality control employee.
9. At the OC-LS, an assessment is made of the course evaluations by a student/teacher pairing and discussed in the meeting. The OC-LS sends an overview of the course assessments annually to the BoS, the OACs and the programme directors/coordinators.

2.2. Course evaluation criteria

Each course evaluation includes a number of minimum standard criteria that have been adopted by the School. These criteria will continue to be developed and annual revisions will be made of the questionnaires accordingly.

An important area on which to focus is the approach to assessment. The quality of examinations will be one of the most important components of the next accreditation round in terms of the re-accreditation at the course level. The Board of Examiners will play an important role. Student opinions about examinations are a tool that can be used by the Board of Examiners, alongside other data, to make an assessment of whether students match up to the defined learning outcomes for each programme described in the Diploma Supplement. Questions will be checked in the light of this consideration.

Criteria for course evaluations	
1. Learning targets	Were the learning targets clear? Were the learning targets easy to find (website, student guide)?
2. Prior knowledge	Was there a good match between the course and prior knowledge?
3. Didactic factors	Was there adequate feedback and encouragement? Were the presentation techniques clear etc?
4. Learning materials	Were the learning materials, such as books, readers, software etc., adequate?
5. Facilities and organisation	Were there facilities such as classrooms, laboratories, timetables, planning and communications?
6. Study load	Was the study load (study points) appropriate given the time required? How was the time allocated?
7. Examination	What type of testing was used? Did this test/final assignment cover the content of the course? Was the test too easy or difficult?
8. Final score	What was the standard of the course? What did you learn? Final grade on a scale of 1 to 10.

3. Programme evaluation

3.1 Protocol for programme evaluations (research, thesis, exit and profile)

1. Research projects, master thesis and the curriculum are evaluated using standard questionnaires. The standard questionnaires are revised annually.
2. A quality control employee ensures that the evaluation forms are made in sufficient numbers and sends them to the Study Point (where appropriate via the training coordinator) before the start of every academic year. This is done at the expertise centre for the BMS course, and in the OSZ department for the Science courses.
3. The Study Point ensures that the forms are distributed and collected properly and send the forms back to the quality control employee (once a year after the end of the academic year and before 1 November). Research and thesis evaluations are collected when the assessment form is submitted. Exit evaluations are handed out when students initiate the graduation procedure.
4. The quality control employee ensures that the completed forms are processed within a month. The forms are worked out for each Master's programme. The quality control employee sends the results of the evaluation, together with an empty feedback form, to the programme coordinators.
5. The programme coordinators complete the feedback forms and send them back to the quality control employee within two weeks after reception.
6. The quality control employee sends on all the available documents (the results of the evaluation and the feedback form) to the OC-LS.
7. If required by the relevant OACs (only in the case of Sciences), they also receive a copy of the evaluation results and feedback from the quality control employee.
8. At the OC-LS, an assessment is made of the evaluations by a student/teacher pairing and discussed in the meeting.
9. The OC-LS sends an overview of the assessments annually to the BoS, the OACs and the programme coordinators.

3.2 Programme evaluation criteria

Each programme evaluation contains a number of minimum standard criteria that have been adopted by the School. These criteria will continue to be developed and annual revisions will be made of the questionnaires accordingly. The School distinguishes between evaluations of research projects, thesis, profile and exit.

Criteria for research project and thesis evaluations	
1. Learning targets	Were the learning targets for the research project clear? Were the learning targets discussed?
2. Knowledge and skills	Which knowledge and skills have been acquired?
3. Counselling	Who has provided the counselling? Were feedback, encouragement and evaluation opportunities adequate?
4. Facilities and organisation	Were the facilities, such as the workplaces, ICT, laboratories, literature and the community adequate?
5. Study load	Was the study load (study points) appropriate given the time required? How was the time allocated?
6. Examination	Were the assessment criteria known? Do you think the assessment was clear?
7. Final score	What did you learn? Final grade on a scale of 1 to 10.

Criteria for profile evaluations	
1. Learning targets	Were the learning targets for the profile clear?
2. Coordination and usefulness	How coordinated were the study components? Did the profile contribute to employment opportunities?
3. Didactic factors	How was the quality of the teaching?
4. Facilities and organisation	Were the facilities, such as classrooms, laboratories and counselling, adequate?
5. Study load	Was the study load (study points) appropriate given the time required? How was the time allocated?
6. Examination	What type of testing was used? Did this test/final assignment cover the content of the profile?
7. Final score	Final grade on a scale of 1 to 10.

Criteria for Exit Evaluations	
1. Learning objectives	Were the learning objectives for your programme clear?
2. Knowledge and skills	Which knowledge and skills have been acquired?
3. Coherence and structure	How well-linked were the study components? What was the structure like? Were there missing components?
4. Facilities and organisation	Were the facilities adequate? Were the organisation and communications adequate?
5. Study load	Was the study load (study points) appropriate given the time required? How was the time allocated?
6. Continuation	What are you going to do in the future? Do you think you are adequately prepared for future employment?
7. Final score	How was the standard of the programme as a whole? What did you learn? Final grade on a scale of 1 to 10.

4. Assessment of research project and traineeship

For the research projects, which constitute most of the training and which are assessed by a very wide ranging group of supervisors/teachers, standard assessment criteria have been drawn up for all courses at the GS-LS. Alongside technical laboratory and general research skills, they also focus on the professional attitude of the Master's students. These criteria (annex E) can be found in the student guide and they are listed on the website of the GS-LS. This means that teachers and students are informed about the approach to assessment. Marks are always determined by the examiner, who is by definition a member of the permanent staff of the UU/UMC. If day-to-day supervision is provided by a trainee research assistant or, for example, an external supervisor, the mark is determined by the examiner in consultation with this person. A second reviewer, who will not be directly involved with the project, makes a second assessment for the report and the presentation. The Rules and Guidelines describe the weighting of the marks for the various components. The EC monitors implementation here, for example using compulsory assessment forms in which the weightings and a summary of the assessment criteria are clearly stated (see annex for assessment criteria).

Quality monitoring

Teachers, supervisors, and the Programme Board of Examiners of the GS-LS are responsible for monitoring the quality of assessment. They make assessments in consultation with one another of tests and assessments. One of the first items of information that can be used to evaluate the assessments of traineeships and theses is the frequency of the Cum Laude grade. The EC works on the principle that this grade should be granted to between five and a maximum of 10% of graduates. The programme chairs and coordinators have been asked to ensure that high marks are given only to very good students. This philosophy is also reflected in the assessment criteria.

The second way of monitoring assessment quality is to use a second reviewer for the projects and the theses. The independence of this second reviewer is particularly important. This second reviewer should therefore not be involved in the student's project. The various factors are checked when an application is received for the approval of the research projects and theses and when the assessment form is collected. Finally, the EC assessment panel makes annual checks of the quality of the assessment of a random selection of the final reports for research projects and theses.

The forms referred to above can be found on the School's website, with the exception of the assessment forms, which can be obtained from the student administration departments. The procedures are described in the student guide (which can also be found online).

5. Forms

The forms below are in circulation for the purposes of evaluations and quality monitoring.

Evaluation forms

- Course
- Research project
- Thesis
- Profile
- Exit

Board of Examiners forms

- Planning Master's programme
- General Application form
- Assessment study component research project
- Assessment study component thesis
- Graduation application form

Annual reports

- Annual academic report for Master's programmes
- Annual report from OC
- Annual report from EC
- Annual report from TC
- Annual report from School

Annex part II

Assessment criteria for research projects and theses

This information is supplied with the assessment form for projects and theses.

Assessment criteria for research project and thesis

Determined by the Board of Examiners

Examiners

1. Written examinations are to be marked by examiners (i.e. UU staff members) only, where applicable in close consultation with the daily supervisor.
2. A second reviewer should be involved in the assessment. He/she should be an expert in the field and not be directly involved in the supervision of the student and the project the student has been working on. He/she may be from outside Utrecht University.

Examination

In principle, the grade of a research project consists of:

- Research component (practical work): 60%
- Written report: 30% (averaged mark of examiner and 2nd reviewer)
- Oral presentation: 10% (averaged mark of examiner and 2nd expert)

Which are the learning outcomes that students should achieve with the research project?

The student is capable of:

- translating a Life Sciences problem into a relevant research question suitable for research development or product design;
- designing a suitable research plan to test the formulated research questions in accordance with methodological and scientific standards;
- independently performing research with the required accuracy. Graduates are able to handle, analyse, interpret and evaluate the empirically derived data in a correct manner;
- discussing the outcomes of empirical research and linking them with scientific theories;
- indicating the importance of research activities for solving a biomedical question or problem, where applicable from a social perspective;
- critically reflecting on their own research work in Life Sciences from a social perspective;
- comprehensibly reporting research results verbally and in writing to specialised and non-specialised audiences in an international context.

In order to assess whether the student has achieved these learning outcomes, the following list of items for research projects can be used.

List of items for research projects

- I. Research component/practical work:
 - i. Lab skills:
 - Organisation in lab/tidiness
 - Organisation in lab journal
 - Technical skills
 - Use of protocol/instructions

Conscientiousness/reliability

ii. Research skills:

- Participation in discussion
- Creativity (thinks of new/subsequent experiments/new ideas)
- Application of safety regulations
- Initiative
- Interest in his/her work
- Critical attitude
- Data interpretation

iii. Other:

- Professional attitude
- Compliance with appointments
- Communication/sociability/time management/teamwork

II. Written report

i. Process of writing

- Response to suggestions
- Report defence during evaluation
- Initiative/independence
- Compliance to appointments

ii. Final report

- Theoretical background
- Presentation of results: clarity of tables, figures
- Depth and critical analysis
- Structure and line of reasoning
- Foundation of conclusions
- Use of references
- Language: spelling, grammar, not unnecessarily lengthy
- Time management/layout/completeness

III. Oral presentation

i. Composition and design

- Clarity of slides
- Order of components

ii. Professional attitude

- Response to questions and remarks

iii. Presentation technique

- Use of language
- Use of slides
- Use of voice

Which learning outcomes should students achieve by writing a thesis?

The student is capable of independently

- Conducting literature research, using scientifically sound literature databases (e.g. PubMed)
- Using scientific literature and insights in a critical manner;
- Summarising literature using own words;
- Integrating results and models of papers read into new models;
- Formulating hypothesis for future research.

In order to assess whether the student has achieved these learning outcomes, the following list of items for a thesis can be used.

Thesis

i. Process of writing

- Response to suggestions
- Report defence during evaluation
- Initiative/independence
- Compliance with appointments

ii. Final thesis

- Summary of literature search: proper rephrasing
- Presentation of results: clarity of tables, figures
- Depth and critical analysis
- Presentation of new models or hypotheses
- Structure and line of reasoning
- Foundation of conclusions
- Use of references
- Language: spelling, grammar, not unnecessarily lengthy
- Structure and line of reasoning
- The thesis was handed in on time, complete with annexes, figures, tables and references

Definition of marks

Marks are awarded on a scale of 1 to 10 up to one decimal place. The table here compares Dutch marks and Anglo/Saxon grades.

Grade	GP	Dutch mark
A+	4	8.6 - 10
A	4	8.00 - 8.59
A-	3.7	7.70 - 7.99
B+	3.3	7.40 - 7.69
B	3	7.00 - 7.39
B-	2.7	6.70 - 6.99
C+	2.3	6.40 - 6.69
C	2	6.00 - 6.39
C-	1.7	5.60 - 5.99
D+	1.3	5.40 - 5.59
D	1	4.50 - 5.59
F	0.7	0 - 4.49

Indications for grading:

- According to art. 5.3 of the Education and Examination Regulations, marks of 5.5 or higher are satisfactory. Marks of 8.0 or higher indicate **very good to excellent** performance. This level is achieved by the upper 10% of students. These marks should therefore be awarded conservatively and with reticence.