Universiteit Utrecht

UMC Utrecht

Assessment Policy Plan

2022-2027

Graduate School of Life Sciences

GRADUATE SCHOOL OF LIFE SCIENCES

For the CROHO Master Degrees Biomedical Sciences, Health Sciences, Neuroscience and Cognition, Biosciences, Science and Business

Version: August 2023
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Photo front page: Utrecht University Materiaalbank

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Abbreviations

ASP	Assessment Support Panel
AI	Artificial Intelligence
AQAP	Assessment Quality Assurance Plan
BoE	Board of Examiners
EER	Education and Examination Regulations
GSLS	Graduate School of life sciences
PDCA	Plan, Do, Check, Act

Introduction

This document states the assessment policy for 2022-2027 of the Graduate School of Life Sciences (GSLS) Utrecht. The policy aligns with the framework provided by the "Wet op het hoger onderwijs" (1). The policy aims to direct the day-to-day assessment-related actions of the Board of Studies, the Board of Examiners, the Assessment Support Panel (ASP), the examiners, and the lecturers of the GSLS. In view of this goal, we prefer to write a concise document, which helps readers to quickly find the desired information. We, therefore, refrain from extensive substantiation of the components of the policy. Background information can be found in addenda and referred literature.

The contents of the GSLS assessment policy are:
1. **Vision** on assessment
2. **Measures and provisions** to enable execution of vision on assessment
3. Required **procedures** for assessment
4. **Quality assurance** programme for assessment
5. **Tasks and responsibilities** of platforms involved in assessment

Vision

In this document the vision of the GSLS on assessment is described. This vision is in line with that of Utrecht University (2) concerning assessment. When applicable for the curriculum of the GSLS, it is also in line with the visions of the faculties of Medicine, Science, and Veterinary Sciences (3, 4, 5).

The GSLS regards assessment as a process that involves assignments, the application of tests, and supply of feedback to the student, either as narrative feedback, or in the shape of marks. The overarching goal of assessment is to ensure that each individual student has reached the learning outcomes and end qualifications of the School.

According to the GSLS, optimal assessment implies that 1) the assessment instruments measure what they are meant to measure, 2) the assessment instruments and procedures contribute to learning outcomes, 3) the measurement and interpretation of the measurement are sound and justifiable, 4) the assessment is effective and efficient, and 5) the quality assurance of assessment contributes to improvement of assessment quality.

The vision of the GSLS on assessment described below aims to support the maintenance of optimal assessment and continuous adaptation of assessment to new developments.

The assessment instrument measures what it is meant to measure

The assessment instruments must allow valid measurement of clearly defined learning goals. Narrative feedback and final grades should reflect student knowledge, skills and/or performance relative to the learning goals of the curriculum components. The assessment of different components of the programme of each individual student must together comprise assessment of the requirements formulated for the entire curriculum. This implies that each student, who has achieved the learning goals of the different parts of the curriculum, will also fulfil the criteria of the curriculum as a whole. This allows the Board of Examiners to safely assume that securing assessment quality of individual components inherently leads to securing assessment quality of the programme.

The assessment instruments and procedures contribute to learning outcomes

Assessment can be used as a tool to drive student learning, as an instrument to measure student achievement, and as a diagnostic tool for the efficacy of teaching. For each of these applications it is recommended to administer assessment regularly, if applicable, throughout a course or a curriculum component. Regular assessment furnished with concrete narrative feedback supports student comprehension of the imposed tasks and enables early diagnosis of weak student performance. Limiting feedback to the final assessment of the curriculum component will have little effect on future student performance. Peer assessment and self-assessment by students can be deployed to familiarize students with the use of assessment criteria and to allow students to gain expertise in the field of assessment themselves. Finally, regular assessment enables timely adjustment of teaching approaches.

The measurement and interpretation of the measurement are sound and justifiable

Assessment procedures must be well documented and should be known to both students and staff. Deviation from procedures by examiners must be soundly based. Ideally, a description of an assessment procedure contains the learning goals and the relationship between mode of assessment and learning goals, the criteria on which the assessment is based and the expected levels of achievement, the qualifications and number of assessors, arrangements for providing feedback to the students, arrangements for students who fail to achieve the required level, and a description of the complaints procedure.

Assessment needs to be administered in a professional way by knowledgeable faculty. Examiners must be staff members and must possess the skills to validly and fairly assess student performance and provide the students with concrete and useful feedback.
Assessment concerns both the use of tests as a measurement tool and the interpretation of the results of these tests by the assessor. When possible, students should be graded anonymously to reduce the potential for assessor bias. If anonymous grading is not possible, examiners should be aware of their influence on assessment outcome. Complex tasks should be assessed by at least two independent examiners, one of which may be the instructor of the examinee and one of which has not been involved in supervising the student. The marks given by the examiners should be substantiated by documented feedback to the student.

The assessment is effective and efficient

Assessment practice should be cost effective and as efficient as possible – for both students and examiners. It is desirable to apply assessment only if appropriate and avoid unnecessary assessment, to obtain a balance between ensuring sufficient measurement points and not overloading students and examiners. Different types of assessment should be in place to be able to assess different kinds of knowledge and skills. New developments in the field of assessment, such as the development of e-assessment tools, online proctoring, and ChatGPT, should be used when appropriate and when they can improve assessment procedures. The GSLS provides examiners the opportunity to stay up to date with these new developments.

The quality assurance of assessment contributes to improvement of assessment quality

Quality assurance procedures for assessment must aim to increase/maintain reliability, validity, fairness and accountability of assessment. There must be an acceptable balance between documentation of assessment data and improvement/maintenance of assessment quality. The quality assurance committee, in case of the GSLS the ASP, should be well informed on scientific data concerning quality assurance of assessment and support their propositions for improvement/maintenance of assessment tools and procedures with sound arguments.

Current developments in the field of assessment within the School

1. **Anonymous grading:** for digital exams from academic year 2023-2024, the standard within the GSLS becomes anonymous grading when possible. Teachers specifically have to request otherwise if they do not wish to make use of this.
2. **Online proctoring:** the ASP and BoE monitored the developments in online proctoring over the past three years, which resulted in a carefully established protocol with clear guidelines to ensure fair assessment. This includes the usage of two cameras by the student and assessment of the videos. There is a streamlined process in place in case of technical issues or an indication of fraud. Indications of fraud are always discussed with the BoE. Furthermore, assessment via online proctoring can always be supplemented by another way of assessing (e.g. an oral examination). For the online Epidemiology Postgraduate programme online proctoring is now used as a standard for all courses with an online examination. For other programmes online proctoring can be requested as a special provision on individual basis in the case of force majeure. These requests go through the academic counsellor. Within a Master's programme as a whole, online proctoring should always be complemented by other ways of assessing students.
3. **Generative artificial intelligence:** the GSLS is continuously monitoring the recent developments on artificial intelligence (AI) and the implications for assessment. In general, the GSLS supports the use of generative AI tools when this contributes to the learning outcomes, but transparency and clear guidelines are key to safeguard assessment. The impact of AI tools on

assessment depends largely on the type of assessment. Both assessment type and assessment instruments (e.g. rubrics) will need to be adapted. The ASP has drafted recommendations regarding the implications of generative AI for the School. The GSLS started a project group to responsibly implement generative AI within the curriculum. This group will draft clear guidelines for the adaptation of assignments and assessments within the GSLS, based on the vision of the School, the recommendations of the ASP, and the initiatives regarding generative AI within the University and its faculties. Furthermore, education will be prepared for both students and teachers, to teach the students and train the teachers in the proper use of AI.

Measures and Provisions

The GSLS has implemented various instruments and taken several measures to execute its vision on assessment. Notably, the GSLS:

- Established a Board of Examiners
- Established an Assessment Support Panel, a subcommittee of the Board of Examiners
- Defined Education and Examination Regulations (6)
- Defined Rules and Regulations of the Board of Examiners (7)
- Described clearly defined aims for the GSLS programme as a whole (6)
- Ensured drafting of learning outcomes for each curriculum component
- Created the opportunity for and actively encouraged teachers to obtain a Basic or Senior Qualification of Education
- Implemented a student evaluation programme comprising evaluation of assessment procedures
- Implemented a teacher evaluation programme comprising evaluation of assessment procedures
- Appointed a research project coordinator who ensures dissemination of assessment procedures for student research projects and writing assignments
- Described assessment criteria and implemented rubrics for feedback substantiating judgment of research projects and writing assignments

The GSLS will take continuous measures to ensure optimal assessment such as:

- Update assessment criteria and rubrics for feedback substantiating judgement of research projects and writing assignments
- Turn assessment into a regular agenda item of various platforms, e.g.:
  - Community of master programme coordinators
  - Education colloquia for teachers
- Support examiners and teachers:
  - Provide best practices
  - Provide help in case of fraud or plagiarism
  - Advise on improvement of assessment methods
  - Advise on alignment of learning goals and assessment
  - Advise on analysis of assessment
- Increase assessment literacy of examiners and teachers:
  - Encourage to obtain a Basic or Senior Qualification of Education
  - Provide the opportunity to attend teach the teacher courses, e.g. Assessment of complex tasks
  - Organize peer feedback sessions for examiners

Procedures

The main procedures for assessment are described in the yearly updated Education and Examination Regulations (EER) (6) and Rules and Regulations of the Board of Examiners of the GSLS (7). Information for students on assessment of individual curriculum components is provided in Osiris.

These procedures and rules concern:

- Organisation of assessment
- Components of assessment
- Responsibilities and rights of examiners
- Required qualifications of examiners
- Assessment-related responsibilities and rights of students
- Organisation of assessment of all individual components
- Measures to be taken in case of fraud or plagiarism
- Exemptions
- Archiving assessment results
- Cum laude

Quality Assurance

The quality assurance of assessment of the GSLS is executed by the ASP of the GSLS. The BoE is responsible for the quality assurance. The ASP reports to the BoE.

The ASP:

- monitors the quality of
  - assessment procedures;
  - written course exams, either by random sampling or upon request;
  - scoring of complex tasks, including scoring of presentations of scientific data, of theses and of research projects (by random sampling).

- collects and analyzes information on
  - cum laude graduates of the School per programme;
  - percentages of passes per course;
  - grades for research projects and writing assignments.

- advises on
  - implementing optimal procedures to ensure valid and reliable assessment of learning outcomes;
  - professional development of examiners/staff with respect to assessment, based on the survey of assessment quality within GSLS programs.

- functions as a think tank. The members of the ASP possess or acquire knowledge of assessment theory and of the applicability of the multiple forms of assessment for the various educational goals set by the GSLS programmes.

Quality assurance will be performed at the level of the programme and at the level of individual components and is directed towards continuous improvement of assessment practices.

Monitoring of assessment quality of the GSLS has the form of a P(lan)-D(o)-C(heck)-A(ct) (PDCA) cycle and is described in the Assessment Quality Assurance Plan (AQAP) of the ASP (Appendix A).

Tasks and Responsibilities

PLATFORM / Components of assessment	ASSESSMENT SUPPORT PANEL	BOARD OF EXAMINERS	EXAMINER	BOARD OF STUDIES	POLICY OFFICER GSLS
Assessment policy/ assessment plan	Provides advice and a concept	Advises	Applies content	Determines policy	Publishes
Quality assessment total programme	Measures performance indicators, analyses data, reports to Board of Examiners	Responsible for quality assurance	Provides information	Defines and implements benchmarks for quality	Publishes
Quality individual assessments	Measures performance indicators, analyses quality, advises on improvements to Board of Examiners	Reports to Board of Studies, asks for improvements	Provides information	Implements quality improvements	Overview of learning goals of all individual modules/ courses within a programme
Improvement assessment literacy examiner	Accumulates knowledge and best practices, answers questions	Monitors	Acquires assessment skills	Determines knowledge required of examiners and provides opportunity for improvement	Makes inventory of wishes of examiners and executes
Description of learning outcomes for the GSLS programme as a whole	Provides theoretical background upon request	Advises	Aligns learning outcomes School with learning outcomes course	Defines learning outcomes and has final responsibility	Executes and publishes
Design of rubrics for research project and writing assignments	Provides a concept	Advises	Uses and prioritizes	Defines and has final responsibility	Executes and publishes
Education and Examination Regulations		Advises	Applies	Determines and has final responsibility	Executes and publishes
Rules and Regulations Board of Examiners		Determines	Applies	Has final responsibility for implementation	Executes and publishes

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Appendix A: Assessment Quality Assurance Plan (AQAP) of the Assessment Support Panel

Version 01-09-2023

Abbreviations

ASP	Assessment Support Panel
BoE	Board of Examiners
EC	Education Committee
GSLS	Graduate School of Life Sciences
NSE	National Student Survey
PDCA	Plan-Do-Check-Act

1. Introduction

The Assessment Support Panel (ASP) aims to secure the quality of assessment of all programmes of the Graduate School of Life Sciences (GSLS). To achieve this aim, the ASP will monitor the quality of the procedures concerning assessment and the assessments themselves.

The standard 120-EC programmes of the GSLS generally consist of one research project (51 EC), a profile (33 EC), a writing assignment (7,5 EC), electives (12 EC), participation in the Life Science Academy (1,5 EC), and programme-specific courses (15 EC).

Assessment of research projects comprises assessment of research performance, of presentation of data, and of the written research report. Assessment of profiles vary per profile. Assessment of writing assignments is based on the end-product. Assessments of courses vary per course.

This document gives an overview of the Plan-Do-Check-Act (PDCA) cycle that will be employed by the ASP. The ASP has categorized the Quality Assurance Plan into four topics and will monitor assessment and judgement of the following components during the Masters' programme:

1. Assessment of the programmes as a whole (section 2)
2. Assessment of courses (section 3)
3. Assessment of research projects (research skills, research reports, presentation) and writing assignments (section 4)
4. Assessment of profiles (section 5)

2. Monitoring the quality of assessment of the programmes as a whole

2.1 General procedures concerning monitoring of assessment

Table 2.1 gives an overview of the general procedures of the GSLS to be monitored, the sources of information, the body responsible for monitoring, the required documents, and the frequency of monitoring.

Table 2.1 Quality assurance plan for general procedures

REQUIRED	SOURCE OF INFORMATION	RESPONSIBLE FOR MONITORING	DOCUMENTS REQUIRED	FREQUENCY OF MONITORING
The GSLS has an *Assessment Policy*	-School (GSLS)	ASP	Assessment Policy[1] GSLS	Once every 5 years or upon adaptation of the policy
The GSLS has an *assessment plan* for all programmes	-School (GSLS)	ASP	Assessment plan[2] or assessment programme	Yearly
Each individual curriculum component has an actual *assessment matrix*	-Examiners -School (GSLS)	ASP	Assessment diagram[3] curriculum components	Linked to monitoring of individual curriculum components

2.2 Quality assurance plan for assessment of learning outcomes of the programmes as a whole

The ASP monitors whether programmes are structured in such manner that all their students, following individual learning paths, will fulfil the end qualifications of the GSLS and whether grading in general is similar for all programmes.

The quality procedures to monitor whether students fulfil the end qualifications is based on several components: 1) the comparison of the sum of all assessments of an individual student with the required learning outcomes of the relevant program is listed in Table 2.2; 2) the analysis of the exit surveys and the outcome of the national student survey of Elsevier (NSE) is listed in Table 2.3; 3) semi-structured interviews with coordinators and graduating students upon request of the BoE, or when additional information is required.

The frequency of the complete monitoring process will depend on requests of the BoE. Each new programme will be monitored in the first year and all programmes will be assessed upon implementation of major changes. The sum of all assessments will be reviewed every 6 years, before visitation. The exit surveys and the National Student Survey (NSE) will be analyzed yearly.

1 Document comprising the vision of the GSLS concerning assessment, the methods and procedures employed to implement the vision, the tasks and responsibilities of the various bodies, and the quality assurance programme for assessment.

2 A document relating all learning outcomes of the GSLS to the curriculum components (see appendix B).

3 A diagram relating learning goals of individual curriculum components to mode and level of assessment and to learning outcomes of the programmes.

Table 2.2 Quality assurance plan for comparison sum of all assessments

ACTION	BY WHOM	REQUIRED
Select core courses, writing assignments, and research projects of the programme	Policy officer ASP	List of all programme-specific curriculum components
Review all assessments from the programme-specific curriculum components in relation to the learning goals and analyze whether all learning outcomes are properly assessed	Member ASP	Assessment diagrams per curriculum component
Report the findings and discuss with all members of the ASP	Member ASP	Dedicated time on the agenda; ASP meeting
Write final report for BoE	Member ASP	Format report

Table 2.3 Quality assurance plan for analysis of the exit surveys and National Student Survey (NSE)

ACTION	BY WHOM	REQUIRED
Upload exit surveys to MS Teams Upload outcome NSE to MS Teams	Policy officer ASP	Surveys with relevant questions to ensure assessment quality
Analyze exit surveys	Member ASP	Exit surveys
Analyze NSE data	Member ASP	NSE surveys
Report the findings from the exit surveys and NSE and formulate potential actions	Member ASP	Format report
Discuss the findings with all members of the ASP	Member ASP	Dedicated time on the agenda; ASP meeting
Write final report for BoE	Member ASP	Format report

3. Monitoring the quality of assessment of courses

3.1 The ASP monitors the assessment of courses.

The courses that are analyzed are:

- New GSLS courses;
- A selection of mandatory (programme-specific) courses on a yearly basis. A total of 5 courses will be selected initially based on the number of ECTS or the number of students that participate;
- Courses selected upon request of the EC or BoE in case of doubts concerning the quality of assessment. These can be based on low average scores on Likert scale questions and / or remarks concerning assessment in open ended questions. The assessment of both the current and, if considered necessary, the subsequent edition of the course will be analyzed;
- Challenge courses are frequently taught only once, but the structure of this type of course is very similar. The ASP will occasionally assess a challenge course.
- Courses related to profiles. These courses should be included in the rotation of general quality assurance.

The general procedures of the quality assurance plan is indicated in table 3.1.

3.2 Support provided by ASP for assessing courses

Coordinators that wish to implement new (forms of) assessments can contact the ASP for help and/or feedback. The ASP can help in designing assessments for, for instance, collaborations on a project, groupwise assessments, proctoring, or developing a rubric for complex assessments.

Table 3.1 Quality assurance plan for course assessments

ACTION	BY WHOM	REQUIRED
New courses and random check: select 5 courses mandatory for individual master programs or profile yearly	Policy officer ASP Members ASP responsible for course assessments	Overview courses and their assessment Course information in Osiris
Upon request EC or BoE: submit request based on remarks or low grading in student evaluations	BoE EC	Students evaluation Clear procedure for handling complaints Collaboration EC Course information in Osiris
Determine if request of EC or BoE is within scope of ASP	Members ASP responsible for course assessments	Students evaluation Course information in Osiris
Re-assessment: monitoring subsequent edition of course if considered necessary	Policy officer ASP Member ASP responsible for course assessments	Course information in Osiris Quality assessment form of previous quality control
Inform course coordinator that course has been selected/ is monitored for quality assessment by the ASP and ask to provide (new) course information	Policy officer ASP	Format text standard letters • Remarks evaluation • Monitoring • Random sample
Collect course information and assessment material	Policy officer ASP	Cooperation course coordinator Materials amongst others: • Course information in Osiris • Number of participants in the course • Assessment matrix • Archiving of assessment • Assignments and/or exam • Assessment analysis • Student evaluation
Distribute workload across ASP members	Member ASP responsible for course assessments	Overview of workload of ASP members
Save assessment material on MS Teams and notify the ASP member assigned to the course, CC member ASP responsible for course assessment	Policy officer ASP	Assessment material
In case of no response by course coordinator send request again with program coordinator in CC	Policy officer ASP CC to Member ASP who will analyze assessment	
In case of persistent nonresponse, notify Board of Examiners and programme director	Member ASP who will analyze assessment	
Analyze assessment and write quality report	Member ASP who will analyze assessment	Assessment material Format quality report
If necessary, discuss quality report with ASP member(s) responsible for course assessments	Member ASP who will analyze assessment Member ASP responsible for course assessments	Format quality report

Send quality report to course coordinator and, if necessary, give oral feedback or feedback via email. Ask for remarks course coordinator.	Member ASP who performed assessment analysis	Format text standard email Contact details course coordinator
Write a final quality report including the remarks of the course coordinator and a letter referring to the quality report.	Member ASP who performed assessment analysis	Feedback course coordinator Format text standard letter Filled out quality report
Send final quality report and letter to Policy officer ASP, with CC to ASP member responsible for course assessments.	Member ASP who performed assessment analysis	Final quality report and letter
Use the official paper of the GSLS to send the letter + final quality report to the course coordinator (cc program coordinator) Archive report on Teams	Policy officer ASP	Final letter to course coordinator Final quality report Official paper for letters GSLS (Check if BoE or EC should be in CC)
In case of request by BoE / EC, inform BoE / EC about results of analysis.	Policy officer ASP	Final quality report & letter to course coordinator

4. Monitoring the quality of research project and writing assignment

Assessment of research projects is based on three components: 1) the research skills 2) the written report, and 3) the presentation of research outcomes. The quality procedures to monitor the quality of research projects and the products from these research projects are based on two out of these three components (research skills and written reports). Currently, there is no plan to monitor the quality of assessment of presentations within the research projects. The main reason is the difficulty to monitor this relatively small proportion of the research project grade. We therefore focus on **the written report (4.1) and research skills (4.2)**.

Monitoring the quality of assessment of the writing assignments is done by looking at the written end-product. The procedure for checking assessment of the written research reports and writing assignments are done in the same way (4.1).

4.1 Quality assurance plan for assessment of the written research report and writing assignment

The overall frequency of monitoring the assessment of research reports and writing assignments is a 3-year cycle:

- In year 1 and year 2 research reports of half of the master programs are re-evaluated (this also includes profile reports of the general research profile). In year 3 writing assignments of all programs are re-evaluated.
- Approximately 28 reports are selected per year, at least 1 report per program. Reports must preferably be handed in in the previous 6 months. The distribution of reports is (more or less) proportional to the number of reports handed in per program.
- Reports are selected from 3 different grading categories (< 6.5; 6.5-8.0; >8.0). In the case of research reports: a balance between research projects and profile projects is aimed for.

At the beginning of each cycle to ASP holds a calibration session in which 1 or 2 reports are read by the full ASP. The aim of the calibration session is to create shared standards and to identify points that can affect differences in grading.

Table 4.1 Quality assurance plan for assessment of procedures for research reports and writing assignments

ACTION	BY WHOM	REQUIRED
Select research reports and writing assignments (number/master based on amount of students/ master and based on grades)	Policy officer ASP	Overview of all research reports and writing assignments of current academic year
Collect research reports, judgment forms of research reports or writing assignments and motivation for grading (often a rubric)	Policy officer ASP	Osiris Research reports Assessment forms including examiners motivation for grade (via administration office)
If selected report turns out to be a multi-author report 1. Fact will be mentioned in evaluation report 2. Check with the examiner to see if this is out of politeness to supervisors or a true multi-author report 3. If out of politeness, report can still be used for the re-evaluation 4. If no clear answer or a true multi-author report, this will be reported to the BoE and a new report from this particular programme with similar criteria is selected When selected report is missing/incomplete at administrations office 1. Fact will be mentioned in evaluation report 2. A new report from this particular programme with similar criteria is selected	Policy officer ASP	Research reports
Anonymize reports	Policy officer ASP	
Assign anonymized research reports or writing assignments to member reading panel (i.e., ASP and BoE members)	Members ASP responsible for research projects and writing assignments	Affirmation for re-assessment from BoE members Information on scientific expertise of ASP / BoE members
Distribute anonymized research reports or writing assignments + related rubric to reading panel	Policy officer ASP	
Assessment of anonymized report	Reading panel	Report, rubric
Compare judgment of reading panel with judgment of examiner (including rubrics)	Policy officer ASP	Assessment form Rubrics examiner (or other justification)
Report preliminary results to ASP (not actual grades!)	Policy officer ASP	
Difference ≤1 point and grade is satisfactory — Email to member reading panel	Policy officer ASP	Format text standard email with overall conclusion

Difference > 1 point or if report is marked unsatisfactory	Second assessment by an independent ASP member (reader 2)	Member ASP	Original report, rubric
	Analysis outcome 2nd judgement. If the average difference of 2 readers is >1 or unsatisfactory ➔ next step. If the average difference ≤ 1 ➔ go to Difference ≤ 1 point	Policy officer ASP, Consultation members ASP responsible for research projects and writing assignments	
	Send report to all members of ASP to determine grade	Policy officer ASP All members ASP	Original report, rubric
	Discussion on quality of report	ASP	Dedicated time on the agenda ASP meeting
	Feedback to examiner and request feedback from examiner	Member ASP who graded the report	Format text standard letter inviting examiner for meeting with an ASP member and reader 2
	Report results of examiner consultation to ASP	Members ASP that consulted the examiner	Dedicated time on the agenda ASP meeting
	Report conclusions of consultation and formulate advice	Members ASP that consulted the examiner	Feedback examiner Archived diagnoses of discrepancies
	Check with examiner for valid interpretation of discussion	Members ASP that consulted the examiner	
Send final report to examiner, cc BoE and program coordinator		Policy officer ASP	Standard letter
Write report on outcome of the whole re-assessment procedure and send to BoE		Policy officer ASP Member ASP responsible for research projects and writing assignments	Overview grades by examiner and reading panel Diagnosis of discrepancies

4.2 Quality assurance plan for assessment of research skills

The monitoring the assessment of research skills during research projects involves:

- Inspection of interim assessment forms and rubrics research skills of selected research reports
- Yearly inspection of research project surveys and exit surveys

Table 4.2 Quality assurance plan for assessment of research skills during research projects

ACTION	BY WHOM	REQUIRED
Obtain research projects surveys and exit surveys	Policy officer ASP	Summary of surveys, if possible, per MSc programme
Obtain internship assessment forms (interim and final) and rubrics research skills (interim and final) or other substantiation	Policy officer ASP	Specified documents from research projects of which the report is selected for re-evaluation
Check surveys on supervision during research project and on quality of project (include open remarks)	Members ASP responsible for Research projects	Survey with questions regarding quality of supervision and quality of research project
Compare interim and final assessment forms with interim and final rubric research skills (or other substantiation	Members ASP responsible for Research projects	
Report the findings and discuss with all members of the ASP	Member ASP responsible for Research projects	Dedicated time on the agenda ASP meeting
Write a final report on the findings	Members ASP responsible for Research projects	Format text standard letter
Send final report to BoE and research project coordinator	Policy officer ASP	Standard letter

4.3 Support provided by ASP for assessing writing assignments, research reports, presentation of research data and research skills

The ASP can provide advice on how to define Go or No-Go decisions related to interim assessment and how to use the various rubrics to provide students with feedback and to assess student performance. Supervisors can ask advice on grading procedures in general and ask for feedback (supervision) on their own assessment behavior. The ASP can give advice on issues with internships abroad.

5. Monitoring of the quality of assessments of the profiles

5.1 Monitoring the quality of profiles

The GSLS offers 9 different profiles from which students can pick, each worth 33 EC. Monitoring of profiles will relate mostly to the monitoring of components discussed previously, since profiles are composed of alternative courses and or internships/research projects in a specific field. Furthermore, in the GSLS exit survey several questions on the profiles are included and this can be used to monitor the profiles overall. For each profile, a concise description and relevant information is provided.

5.1.1 Applied Data Science profile

TThe Applied Data Science profile comprises two mandatory interdisciplinary courses (15 EC), and either one profile related elective course (7.5 EC) plus a research project of 10,5 EC or a research project of 18 EC. The students are allowed to extend their research projects using the 12 EC for the electives. The assessment of the mandatory courses will be monitored as described in table 3.1. The research projects can be assessed as described in table 4.1 and table 4.2. The quality of assessment of the profile as a whole is monitored by the responsible School (Graduate School of Natural Sciences, GSNS).

5.1.2 Bioinformatics profile

The Bioinformatics profile comprises three core courses, and either a combination of a research project of 18 EC plus an additional bioinformatics course, or a research project of 33EC. The assessment of the core courses will be monitored as described in table 3.1. The research projects can be assessed as described in table 4.1 and table 4.2. The quality of assessment of the profile as a whole is monitored by the GSLS profile survey provided by the profile coordinator.

5.1.3 Communication profile

The Communication profile consists of an internship (20EC), a selection of mandatory courses (minimum of 8 EC), and elective courses (5EC). The communication profile is offered by the Graduate School of Teaching (GST) of Utrecht University and the quality of assessment of courses and internships will be monitored by the Board of Examiners of the GST. The quality of assessment of the profile as a whole is also monitored by the GST.

5.1.4 Complex Systems profile

The Complex Systems profile is offered as a standard (core) profile of 33 EC or an extended profile of 45 EC for those students with available electives. The core profile consists of courses (15 EC) and a research project (18 EC). The extended profile consists of courses (12 EC) and a research project (33 EC). The core courses are 7.5-10 EC each. Quality control of assessment of courses will be monitored as described in table 3.1. The research projects can be assessed as described in table 4.1 and table 4.2. The quality of assessment of the profile as a whole is monitored by the responsible School (GSNS).

5.1.5 Education profile

The Education profile is offered by the GST as a 30 EC Profile, consisting of 10 EC mandatory courses and a 20 EC internship. Students either obtain a first, or a second-degree qualification. The courses and internships are in Dutch. Quality of assessment of both courses and internships will be monitored by the Board of Examiners of the GST. The quality of assessment of the profile as a whole is also monitored by the GST.

5.1.6 General Research profile

The General Research profile consists of (a combination of research courses and) a research project of a maximum of 33 EC, that can be extended using credits from the electives. The courses will be assessed as described in table 3.1 and the research project as described in tables 4.1 and 4.2.

5.1.7 Life Sciences and Society profile

The Life Sciences and Society profile consists of several course modules and a capstone project of 12 EC. The course modules can be monitored as described in table 3.1. The capstone project is a group assignment and will be analyzed using student surveys. The quality of assessment of the profile as a whole is monitored by the GSLS profile survey provided by the profile coordinator.

5.1.8 Management profile

The Management profile consists of a half year of courses (33 EC). Quality control of assessment of these courses will be monitored as described in table 3.1. The quality of assessment of the profile as a whole is monitored by the GSLS profile survey provided by the profile coordinator.

5.1.9 Translational Life Sciences profile

The Translational Life Sciences profile consists of a capstone project (20 EC), theoretical components (9 EC), and personal development (4 EC). The courses will be assessed as described in table 3.1. The capstone project is a group assignment and will be analyzed using student surveys. The quality of assessment of the profile as a whole is monitored by the GSLS profile survey provided by the profile coordinator.

Table 5.1 Quality assurance plan for assessment of profiles

ACTION	BY WHOM	REQUIRED
Upload surveys (exit, profile, research projects) to MS Teams	Policy officer ASP	Exit surveys with relevant questions to ensure assessment quality
Analyze surveys	Member ASP responsible for programme as a whole	Surveys
Report the findings from the surveys and formulate potential actions	Member ASP responsible for programme as a whole	Format report
Discuss the findings with all members of the ASP	Member ASP	Dedicated time on the agenda; ASP meeting

5.2 Support provided by ASP for assessing profiles

The ASP can provide advice on how to assess complex skills and how to use the various rubrics to provide students with feedback and to assess student performance within groups. Examiners can ask advice on grading procedures in general and ask for feedback (supervision) on their own assessment behavior.

Appendix B: GSLS learning outcomes related to curriculum components

GSLS LEARNING OUTCOMES	CORE PROGRAMME (60 EC)*			PROFILES (33 EC)*/**									MANDATORY COURSES (15 EC)*	ELECTIVES (0-12 EC)*		
	Life Sciences Academy (1.5 EC)	Major Research Project (51 EC)	Writing Assignment (7.5 EC)	Applied Data Science	Bio-informatics **	Commu-nication	Complex Systems**	Education	General Research**	Life Sciences and Society	Mana-gement	Translational Life Sciences	Each GSLS course has its own assessment matrix linking it to the GSLS learning outcomes	Courses (each GSLS course has its own assessment matrix linking it to the GSLS learning outcomes)	Mini project (learning outcomes dependent on content)	Extension profile (6, 9, 12 EC)**
1. Acquiring knowledge and insights. Graduates of the GSLS:																
1a. will be able, with the knowledge of at least one of the specialized subjects of Life Sciences, to make a substantial contribution to the development and/or application of scientific concepts and methods, often in a research context.		X	X	X	X		X		X	X	X	(X)	See individual matrices	See individual matrices	Dependent on mini project	X
1b. will be able to overview the important, recent developments within the Life Sciences and to point out the implications of these developments on the Life Sciences field and society.	X	X	X	X	X	X	X	X	X	X	X	X	See individual matrices	See individual matrices	Dependent on mini project	X
1c. will be able to adequately use and interpret specialist literature in at least one of the subjects of Life Sciences.	X	X	X	X	X	X	X		X	X		X	See individual matrices	See individual matrices	Dependent on mini project	X
2. Apply knowledge and insights. Graduates of the GSLS:																
2a. will be able to translate a Life Sciences problem into a relevant research question or approach, suitable for research development, product development, education or society.		X	X	X	X	X	X		X	X	X	X	See individual matrices	See individual matrices	Dependent on mini project	X
2b. will be able to design a suitable research plan to test the formulated research questions, according to methodological and scientific standards.		X		X	X		X		X	X	X	(X)	See individual matrices	See individual matrices	Dependent on mini project	X
2c. will be able to independently perform research, with the required accuracy. Graduates are able to handle, analyse, interpret and evaluate the empirically derived data in a correct manner.		X	X	X	X		X	(X)	X	X	X	(X)	See individual matrices	See individual matrices	Dependent on mini project	X
3. Judgement. Graduates of the GSLS:																
3a. will be able to discuss the outcomes of empirical research and to link them with scientific theories.		X	X	X	X		X	(X)	X	X	X	(X)	See individual matrices	See individual matrices	Dependent on mini project	X
3b. will be able to indicate the importance of research activities for solving a biomedical question or problem, if applicable from a social perspective;	X	X	X	X	X		X		X	X		X	See individual matrices	See individual matrices	Dependent on mini project	X
3c. will be able to critically reflect on their own research work in Life Sciences, from a social perspective.		X	X	X	X		X		X	X	X	X	See individual matrices	See individual matrices	Dependent on mini project	X
4. Communication. Graduates of the GSLS:																
4a. will be able to comprehensibly report research results verbally and in writing, to specialized and non-specialized audiences in an international context.	X	X	X	X	X	X	X	(X)	X	X	X	X	See individual matrices	See individual matrices	Dependent on mini project	X
4b. will function effectively in a multidisciplinary research team.	X	X	X	X	X		X		X	X	X	X	See individual matrices	See individual matrices	Dependent on mini project	X
5. Learning skills. Graduates of the GSLS:																
5a. will have the skills to reflect on their own development and study career, and, if necessary, to motivate themselves and make any necessary adjustments.	X	X		X	X	X	X	X	X	X	X	X	See individual matrices	See individual matrices	Dependent on mini project	X
5b. will have the skills to function independently and result-oriented in a competitive labour market.	X	X	X	X	X	X	X	X	X	X	X	X	See individual matrices	See individual matrices	Dependent on mini project	X
5c. will have the qualification to be eligible for a PhD position or a position in another sector of the labour market.		X	X	X	X	X	X	X	X	X	X	X	See individual matrices	See individual matrices	Dependent on mini project	X

Legend

* Some Master programmes deviate from the general programme: (1) Epidemiology has a research project of 65 EC and mandatory courses of 34 EC with no profile (2) Epidemiology Postgraduate has a research project of 56 EC and 34 EC of mandatory courses and has no Life Sciences Academy, profile, or elective component (3) Medical Imaging has a Profile of 20 EC and Mandatory courses of 25 EC (4) Science and Business Management has no writing assignment, a total of 40.5 EC of mandatory courses and a business internship of 27 EC instead of a profile

** Certain profiles can be extended in electives for 6, 9, or 12 EC

(X) (1) Education Profile: only in the EP1 version of the education profile (2) Translational Life Sciences Profile: in hidden curriculum

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