Universiteit Utrecht

UMC Utrecht

Master domain

Annual report 2022-2023

Graduate School of Life Sciences

GRADUATE SCHOOL OF LIFE SCIENCES

Graduate School of Life Sciences
Faculty of Medicine, Faculty of Science, Faculty of Veterinary Medicine
Utrecht University and UMC Utrecht

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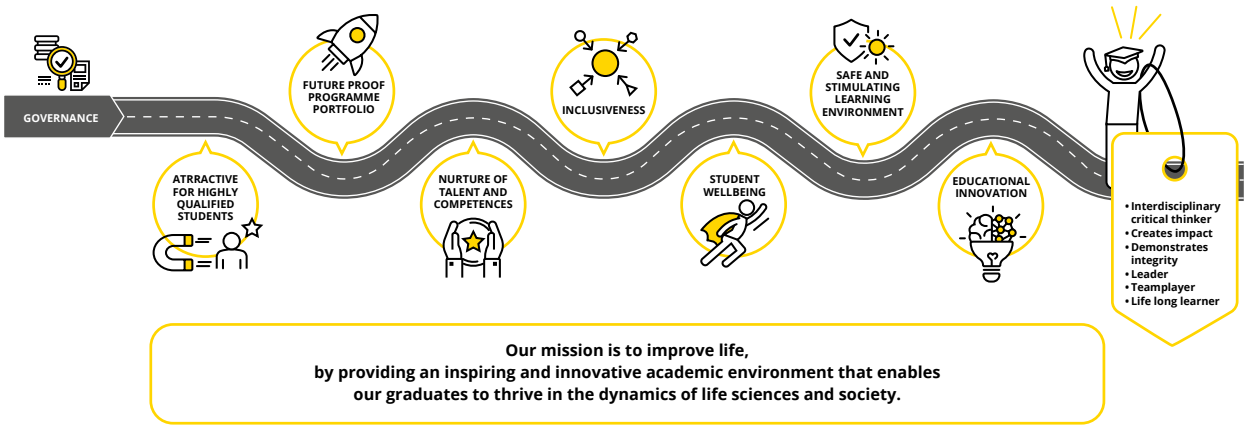
Photo front page: “Moments of Illumination” by Natascha Kwee
I Art My Science exhibition 2023

Preface

The Graduate School of Life Sciences (GSLS) is an interfaculty cooperation between the faculties of Science, Medicine and Veterinary Medicine in cooperation between Utrecht University (UU) and the University Medical Center Utrecht (UMC Utrecht) as well as partners Hubrecht institute and the Princess Maxima Center. The GSLS governs the organization and quality of both Master and PhD education in the field of Life Sciences. The GSLS encompassed 19 Master's and 15 PhD programmes, educating about 1700 master students and 2000 PhD candidates annually. This annual report concerns the Master domain and reports on management data and improvement plans at the level of the School, the underlying Master's programmes and the committees (Board of Admissions, Board of Examiners and the Educational committee). The GSLS has a mission, graduate profile and a vision defined untill 2023, as a framework for educational and policy innovation.



The GSLS vision and goals

The GSLS aims for:

1. Master's and PhD programmes tailored to the needs of science and society, based on Utrecht Life Sciences' research themes and according to the prevailing (inter)national standards. The GSLS:
   - Attracts highly qualified students
   - Upholds a high quality and future-proof portfolio of Master's programmes
2. An academic environment to develop professional competences with a distinct profile and tailored to individual needs and talents. The GSLS:
   - Nurtures talent and competence development
   - Values and facilitates inclusiveness
   - Supports student wellbeing
3. Inspiring and state-of-the-art teaching and supervision by a qualified team that actively and effectively facilitates academic and personal growth. The GSLS:
   - Provides a safe and stimulating learning environment.
   - Invests in continuous educational innovation
4. A governance structure with clear responsibilities, trust and transparency. The GSLS:
   - Has a well-defined and augmented governance structure
   - Has an accurate and efficient quality control system

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Part I: Project highlights

Overview of projects and events related to the strategy of the GSLS

New GSLS course overview page on Students' Site

The GSLS provides a diverse range of courses and offers students a lot of flexibility in tailoring their personal programme. In collaboration with the Life Sciences Representatives, we have created a complete list of all GSLS programme-specific and general elective courses for the Students' Site. This list helps students find suitable courses that align with their interest and is organised chronologically to make it easier to select courses that fit within their time schedule. Furthermore, all courses from all different programmes come together on this one page, stimulating interdisciplinary learning because students can easily find a broad spectrum of courses.

Supervisor of the Year Event

Within our School, we have hundreds of supervisors involved in the daily supervision of Master's research projects. Yearly, we read in evaluations and surveys great comments and practices related to supervision that make us proud. Therefore, the GSLS organised a Supervisor of the Year event, to celebrate and share best practices of supervision with students and supervisors.
Students were asked to nominate their supervisor and we received a total of 64 nominations. A jury closely reviewed all nominations, and several students were interviewed in order to select the Supervisor of the Year.
During the GSLS Master's Supervisor of the Year event on January 26th, 2023, the winning supervisor was announced, and Dr. Renske de Kleijn gave a keynote lecture on effective research supervision and feedback. An infographic with 'the Secrets of a Successful Supervisor' based on all received nominations was shared to spread best practices and inspire both students and supervisors.

I Art My Science – Exploration and Patterns

The second edition of the I Art My Science exhibition opened its doors on the ground floor of the Bestuursgebouw at the Utrecht Science Park (USP) in June 2023. I Art My Science aims to showcase the diversity at the Graduate School of Life Sciences and to inspire scientists to look at their work from a more creative perspective.
For this year's I Art My Science exhibition, patterns and exploration were chosen as themes because they embody the essence of scientific discovery. Find out more about this project, the GSLS artists and their artworks on the IAMS website. As a next step, this exhibition was moved to the Hijmans van den Bergh building in collaboration with the UMCU Research Days in October 2023.

Grand CBL Game

In partnership with the EWUU Alliance (www.ewuu.nl), the Innovation team of the GSLS has created a serious game called the Grand CBL Game. This game is designed to provide educational developers, lecturers, and managers with a better understanding of the design elements and attributes of interdisciplinary and transdisciplinary education, often referred to as Challenge-Based Learning (CBL). It is intended to be played by teams of four players and serves as a catalyst for discussions on how to support the development of a CBL curriculum centred around exceptionally complex problems. The game has undergone playtesting with numerous colleagues from both national and international higher education contexts.

Professional Identity Education

Over 50 students from 3 Biosciences programmes participated in a pilot of Professional Identity Education. This pilot contained monthly sessions in which students improved (soft) skills needed during the masters' and during future work. Each session also consisted of social and support activities, increasing the community feeling amongst students. Students reacted predominantly positive and provided useful suggestions for improvement. Therefore, Professional Identity Education (PIE) will be offered as a 3 EC elective starting in 2023-2024.

GSLS Teachers' Guide

All the information for GSLS Master's teachers and supervisors was transferred to a new website, the GSLS Teachers' Guide (https://teachersguidegsls.nl). Besides transfer and clean-up of all the content, also the look and feel of the site was transformed. The main reason for this transfer was the need for a solid site which would be hosted within the university. We launched the website in January 2023 and held introductory sessions for all parties involved (administration, profile coordinators, programme coordinators, teachers, supervisors/examiners). A group of five (policy officers and web editors) are keeping track of all editorial work.

The SEED tool

The Supervision Expectations and Evaluation Dialogue (SEED) tool was officially launched in January 2023 as a renewed version of the bidirectional assessment initiated by a taskforce of the LSR. The tool aims to facilitate discussion and evaluation of expectations between supervisor and student during a research project. Using this tool, student and supervisor meet at key occasions during the project (at the start, after 2-3 months and later on if required) specifically to discuss expectations, make clear agreements, and evaluate previously set goals. The SEED tool is designed to create an open environment in which both student and supervisor feel comfortable sharing their view on the progress and can adjust to new circumstances or requirements. In short, the SEED tool aims to set the right conditions for a healthy learning environment.

Future plans for 2023-2024

Plans for improvement for the year 2023-2024 include

- BoA: Evaluate the use of Admission Matrices
- BoA: Evaluate the measure using the acceptance form in Osiris Online Application and write an advisory report.
- BoA: Investigate the use of more standardised letters of motivation.
- BoA: Evaluate the numbers of students that applied to the safety net procedure and finalize a step-by-step plan for incoming requests

- BoE: Continue valuating the use of online proctoring by Epidemiology-online.
- BoE: Evaluate the pilot regarding external major research projects outside UU/UMCU/PMC/ Hubrecht Institute.
- BoE: Prepare for the BMS visitation.
- BoE: Continue evaluating the implication of Osiris Case.
- BoE: Monitor the effects of generative artificial intelligence on assessment.

- ASP: Look into the necessity for a full room scan during online proctoring.
- ASP: Follow up on the issue of feedback raised in the NSE.
- ASP: Increase awareness and visibility of the ASP.
- ASP: Utilize the launch of the new rubrics website to promote their intended use as a tool for feedback.
- ASP: Stress the importance of written feedback to compliment the rubrics and further monitor the assessment of the research skills based on written narratives.
- ASP: Continue the professional development within the ASP regarding implication of GenAI for assessment.
- ASP: Continue in the development of content to support educators in adapting assessments for GenAI.
- ASP: Maintain scheduled contact moments with the educational committee and student groups as a standard component of drafting plans and agenda.
- AP: Re-evaluate our procedures as described in the AQAP in order to optimise our procedures.

- EC: Support the GenAI initiative to created guidelines on the use of Gen AI in higher education.
- EC: Monitor course evaluation results and advise on strategies to increase response rates.
- EC: Evaluate the course evaluation process.
- EC: Monitor the development of the new GSLS master.

Part II: Annual reports committees

Annual report Board of Admissions

1. Executive summary

The Board of Admissions (BoA) sees an increase in the number of applications over the years, leading to an increase in the time investment of our selection committees. The curriculum of the Graduate School of Life Sciences (GSLS) is largely based on two research projects of 9 and (optional) 6 months. Our capacity is limited by the availability of internship places in research groups and each applicant needs to be reviewed with great diligence based on the selection criteria. The increase in applications seems to stabilize in recent years but the BoA expects increasing numbers of applications in 2023-2024 again as a result of increasing numbers of Bachelor's students in the Faculty of Science.

The BoA still aims to improve the fairness, transparency, and use of an evidence-based method in the selection process. Ultimately, the BoA wants to select a diverse group of students who are able to complete the Master's programme successfully within 2 years and are compatible on the labour market. The BoA invests time in improvement by running sessions and pilots such as the use of a uniform admission matrix and alternative ways of selecting students.

Each year quite a number of admitted students do not start their programme in September. A set of measures were implemented in the selection and admission process to make sure that the fixed quotum of each Master's programme was filled and to accommodate the largest number of students possible. The BoA hopes to limit the number of requests to the safety net procedure with these measures as well.

2. Committee description

The BoA of the GSLS decides about student applications and enrolments. This is a chain process involving advise by the international admission office (for international students only), advise from the programme selection committees, subsequently followed by a final decision of the BoA.

In this report, the BoA describes the numbers of students who applied, were admitted, and started a Master's programme in the academic year 2022-2023. The procedures and meetings of the BoA during the academic year 2022-2023 have an effect on the following academic year (2023-2024) entry of students.

3. Members and meetings

a. Members

Name	Role
Prof. dr. H.V.M. van Rijen (chair)	Director of the GSLS and degree director of the Master's degrees Biomedical Sciences, Health Sciences, and Neuroscience and Cognition[1]
Prof. dr. R. J. de Boer	Degree director of the Master's degrees Biosciences and Science and Business[2]
S. Goubitz, PhD	Secretary of the GSLS
J. A. Post, PhD	Chair Board of Examiners
A.S.J. Melquiond, PhD	Chair Educational Committee
P. Krijgsheld, PhD	Process coordinator and admission officer of the Master's degrees Biomedical Sciences, Health Sciences, and Neuroscience and Cognition
C. D. N. Maljaars, MSc (secretary)	Process coordinator and admission officer of the Master's degrees Biosciences and Science and Business

b. Frequency of meetings and daily affairs

Meetings take place ten times a year. In 2022-2023 the BoA has met approximately once a month. The admission officers and the chair form the daily board of the BoA and handle daily affairs.

4. Procedures and actions

a. General procedures

The BoA uses uniform process procedures for all Master's programmes. Part of the procedure is embedded in the Utrecht University (UU) admissions policy and procedures (i.e. UU websites, Studielink, OSIRIS Online Application, UU admissions office, and UU deadlines).

For all GSLS Master's programmes, all students (including Bachelor's students from the UU) are required to submit a transcript, letter of motivation, and CV. Students from other universities are required to hand in recommendation letters on top of that. Three programmes take part in a pilot using standardized recommendation letters via Formdesk (Bio Inspired Innovation, Cancer, Stem Cells and Developmental Biology, and Infection and Immunity). In the coming year, all standardized recommendation letters in the international application process are requested using a reference module in OSIRIS Online Application. We will use a similar format for the national application process in the platform Formdesk. In addition to the UU procedures and documents, some programmes hold (online) intake-interviews with applicants.

The BoA provides students with extra information upon admission (contact information, study planning, website referrals).

The BoA yearly adjusts their regulations to safeguard all these procedures and to better inform all those involved in the admission process. The regulations include the UU educational guidelines.

1 The term 'Biomedical Sciences' will be used in this report to refer to all Master's programmes of Biomedical Sciences, Health Sciences, and Neuroscience and Cognition.

2 The term 'Biosciences' will be used in this report to refer to all Master's programmes of Biosciences and Science and Business.

The administration is handled partly by UU Student Services (International Student Admissions), and partly by the Student Affairs departments of the Faculty of Science and Faculty of Medicine. Admissions decisions are signed by the degree directors.

b. Highlighted procedural changes in the admission process 2021-2022 and 2022-2023

In relation to the COVID-19 pandemic, the BoA decided to keep the formal entry requirement of completing the Bachelor's programme before starting the Master's programme (*harde knip*) for the admission process of 2022-2023. Furthermore, students were offered to have a degree dated within the month September 2022, only when the student did not have to follow any additional education after start of their programme. Before the COVID-19 pandemic, the degree had to be dated before the start of the studies (September 1st).

In the selection and admission process for the academic year 2023-2024, the Master's programme Biology of Disease was replaced by Cardiovascular Health and Disease. Cardiovascular Health and Disease has a fixed capacity of 40 students. A total number of 55 applications for 2023-2024 were completed and handled by the BoA, and 41 students were (conditionally) accepted, of which 19 finally started.

5. Description and reflection management information

a. Applications

The applications for the academic year 2022-2023 reached a total number of 2063, which were complete and handled by de BoA (Table 1; Figure 1). Of these applicants, 49% was accepted into a GSLS programmes (n=1006; Table 1). This percentage is slightly higher compared to last year (45% out of 2247 applications). Of the accepted candidates, 56% started the programme which resulted in 560 new first year Master's students (Table 1).

In comparison to 2021-2022, the total number of applications decreased with 8% from 2247 to 2063 (Table 1). The conversion rate total applications to accepted students increased for the first time since 2017-2028 (from 45% in 2021-2022 to 49% in 2022-2023). The final number of starters of 560 is lower compared to 2021-2022 (597 starters) (Table 1).

This year the two Master's programmes One Health and Toxicology and Environmental Health were combined in the new Master's programme Health and Environment. A total number of 81 applications were complete and handled by the BoA, 69 students were (conditionally) accepted, and 44 students started.

The total starters group consisted of 48% students from the UU, 20% students from other Dutch universities, and 27% from abroad (international students). About 3% completed a programme at the University of Applied Sciences (HBO institutes) and 2% from University College Utrecht (UCU) (Table 3).

The number of starters of the Biosciences Master's programmes decreased with 12% from 274 to 241 students (Table 4). The number of starters of the Biomedical Sciences Master's programmes slightly decreased with 1% from 323 to 319 (Table 4).

The Biomedical Sciences Master's programmes make up for 59% of all applications (similar to last two academic years) and shows a rejection rate of 56%. The Biosciences Master's programmes showed a rejection rate of 45%. Both rejection rates are a bit lower compared to last year rates (58% for Biomedical Sciences and 50% for Biosciences).

b. Admissions over the years

Over the years 2016-2017 to 2022-2023, we see a strong increase in the number of applications that seems to stabilize in recent years (Figure 1A). The number of applications increased with 72% from 1199 to 2063 (Figure 1A). The number of accepted students almost doubled from 556 to 1006 (Figure 1), whereas the percentage of accepted students who started their studies is since 2016-2017 decreasing from 94% to 56% (Figure 1; Table 1).

We see a high increase in applications of international students (Figure 1) that shows a similar pattern as the total increase in applications. In 2016-2017 463 international students applied for a Master's programme, while this reached a number of 980 in 2022-2023 (Figure 1; Table 2). This shows that in seven years' time, the number of international applications has more than doubled. The percentage of accepted international students who started their studies is more or less the same fluctuating between 40 – 48% between 2017-2018 and 2022-2023 (with an outlier of 70% in 2016-2017).

The percentage of international students compared to the total number of students fluctuated between 19-30% over the last seven years; with an average of 26% (Table 3).

The percentage of international applications who are admitted compared to complete international applications ranges between to 39-46% over the last seven years, whereas the international percentage of applied vs starters varies between 17-27% (not shown). This means that the conversion of applications to starters is low in international applications, and also much lower than in national applications (31-43%). Because international applications on average take more time to assess, the total workload in applications for ISA, selection committees, and administrative staff has increased over the years.

c. Double applications

Over the years we have experienced an increase in number of applications to more than one programme within the GSLS. The total incidents of 'double applications within UU' in 2022-2023 was 792, whereas this was 838 in 2021-2022, 524 in 2020-2021 and 495 in 2019-2020.

d. Turnaround time from application to decision

The turnaround time (*doorlooptijd*) for rolling admission Master's programmes is calculated by the amount of working days between the day a complete application was received, and the day a decision was send to the applicant. For fixed quotum Master's programmes, the turnaround time is calculated by the amount of working days between the application deadline of April 1st, until the day applicants get a decision. The turnaround time is determined by actions in administration (UU admission office, faculty back office) and the advice of the programme committees. When applicants are rejected, the decision of the central admission committee is included as well (average time 2 days).

For rolling admission and fixed quota Master's programmes the average duration of the turnaround time was 21.1 days and 22.8 days, respectively. The aim of the UU is to strive to give an applicant a decision in 20 days for rolling admission programmes, and 6 weeks (30 working days) for fixed quotum programmes. This means that the average time used to reach a decision for the fixed quotum Master's programmes was within this range.

Between Master's programmes, the average turnaround time varied from 14.3 to 24.9 days for rolling-admission Master's programmes. This number ranged from 16.1 to 32.5 days for fixed quotum programmes. We will contact the programmes that exceeded the turnaround time (the median turnaround time was within the time limits).

e. Internationalisation in admission

International students show an increasing interest for the GSLS Master's programmes over the years (Figure 1; Table 2). In 2022-2023, a total number of 980 international students applied to a GSLS programme, which make up 48% of the total number of complete applications. This percentage is comparable to last two years. 61% (n=602) was not eligible or was not selected for admission because of the limited capacity. In comparison, that is a higher percentage than the 42% of Dutch applicants that were not eligible nor selected (n=455 rejected applications).

There is large variation among programmes in the percentage of accepted international candidates who start the programme (17-79%). A total of 150 out of the 378 accepted international students actually started one of the GSLS programmes (Table 2). This 40% conversion percentage of admitted to enrolled international students is lower than last academic year (43% in 2021-2022 and 45% in 2020-2021). 27% of the total number of students that actually started a GSLS programme has an international background in 2022-2023 (Table 3).

f. Acceptance form

Students can indicate their intention to join Utrecht University and a specific programme using the 'acceptance form' in OSIRIS Online Application. In 2022-2023, 65% (623 out of 963 accepted students, except Epi postgraduate) accepted the offer in OSIRIS Online Application. A percentage of 15% left the question open and 23% declined the offer. These percentages are comparable to 2020-2021 and 2019-2020.

g. Scholarships

In 2022-2023 the BoA was in charge of awarding the Utrecht Excellence Scholarships (UES) among eligible candidates of the GSLS. The UES is available for excellent students from non-EU countries. Based on ten nominations by the programmes, the BoA awarded the UES as three platinum scholarships, which is equal to the total tuition fee plus ±10,000 euro living expenses, and one gold scholarship, which is equal to the total tuition fee. The BoA based their decision on the candidates' applications, CV, GPA and TOEFL/IELTS scores and the nomination letters by the Master's programmes.

Furthermore, the BoA awarded four national Holland Scholarships (HS). This is a one-time 5000 euro grant for non-EU candidates. The scholarships were awarded to two students that applied for the scholarship. We decided to award both students two HS awards reaching a total of 10,000 euro. Since 2018-2019 the UU has allowed stacking of scholarships to a maximum of three HS per student.

h. Tables and Figures

TABLE 1: ABSOLUTE NUMBERS OF APPLICATIONS, THE NUMBER OF STUDENTS (CONDITIONALLY) ACCEPTED, AND THE NUMBER OF STUDENTS ACTUALLY STARTED (REGISTERED) OVER THE LAST SEVEN ACADEMIC YEARS.

Number (n)	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023
Applications	1199	1216	1475	1597	1747	2247	2063
Accepted	556	759	861	883	919	1017	1006
Starters	521	492	568	557	558	597	560
Starters/accepted	94%	65%	66%	63%	61%	59%	56%

TABLE 2: THE NUMBER OF INTERNATIONAL APPLICATIONS, THE NUMBER OF STUDENTS (CONDITIONALLY) ACCEPTED, AND THE NUMBER OF STUDENTS ACTUALLY STARTED (REGISTERED) OVER THE LAST SEVEN ACADEMIC YEARS.

Number (n)	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023
INT Applications	463	517	613	685	774	1019	980
INT Accepted	179	238	291	310	335	415	378
INT Starters	126	99	139	146	151	177	150
Starters/accepted	70%	42%	48%	47%	45%	43%	40%

TABLE 3: THE NUMBER OF STARTERS BASED ON ORIGIN OF BACHELOR DEGREE AND THEIR PROPORTION OF THE TOTAL NUMBER OF STARTERS OVER THE LAST SEVEN ACADEMIC YEARS.

Origin of degree	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023
UU / UMCU	254 (52%)	265 (46%)	262 (48%)	251 (31%)	269 (45%)	268 (48%)
Dutch Univ.	110 (22%)	136 (24%)	112 (20%)	113 (14%)	122 (20%)	114 (20%)
UCU	6 (1%)	10 (2%)	7 (1%)	9 (1%)	4 (0,7%)	12 (2%)
HBO	23 (5%)	18 (3%)	27 (5%)	35 (34%)	25 (4%)	15 (3%)
International	99 (19 %)	139 (24 %)	147 (26%)	151 (27%)	177 (30%)	150 (27%)

TABLE 4: THE NUMBER OF APPLICANTS, ACCEPTED STUDENTS, AND STARTERS SHOWN ON THE BIOSCIENCES PROGRAMMES (BS) AND THE BIOMEDICAL SCIENCES PROGRAMMES (BMS) THE LAST THREE ACADEMIC YEARS. THE PROGRAMMES SCIENCE AND BUSINESS MANAGEMENT (SBM) AND EPIDEMIOLOGY POSTGRADUATE (EPI) AND NEUROSCIENCE AND COGNITION (NSCN) HAVE A SEPARATE CROHO LABEL, BUT ARE INCLUDED IN THE BIOSCIENCES NUMBERS (SBM) AND THE BIOMEDICAL SCIENCES NUMBERS (EPI AND NSCN), RESPECTIVELY.

	Total 2020-2021			Total 2021-2022			Total 2022-2023		
	Total	**BMS**	**BS**	**Total**	**BMS**	**BS**	**Total**	**BMS**	**BS**
Applications	1747	1005	742	2247	1329	918	2063	1218	845
Accepted	919	505	414	1017	556	461	1006	538	468
Starters	558	310	248	597	323	274	560	319	241

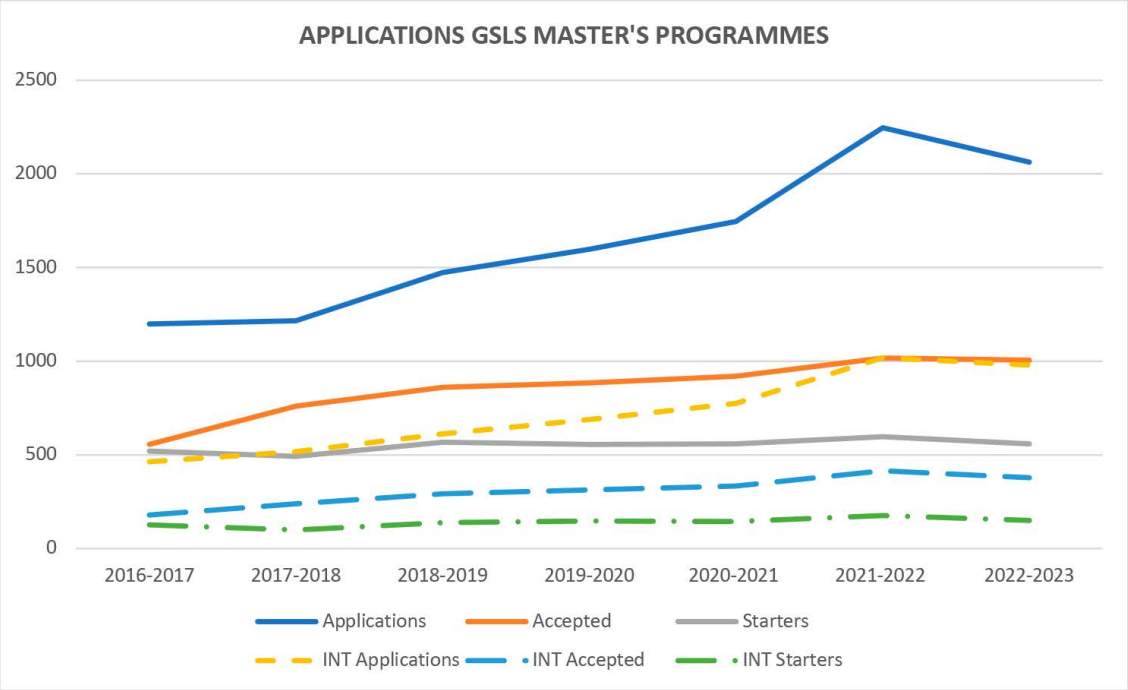

FIGURE 1. THE TOTAL NUMBER OF APPLICATIONS (DARK BLUE), ACCEPTED (ORANGE), AND STARTED (GREY) STUDENTS FOR A GSLS MASTER'S PROGRAMME OVER THE YEARS 2016-2022. DASHED LINES INDICATE THE NUMBER OF INTERNATIONAL (YELLOW), ACCEPTED (LIGHT BLUE) AND STARTED (GREEN) APPLICATIONS.

6. Reflection on plans previous year and future plans

a. Project group Alternative Admissions

A delegation of the BoA has formed the project group Alternative Admissions with the aim to explore alternative ways of selection. Ultimately, the method should be less time-consuming but evidence-based, inclusive, transparent, and lead to the selection of successful students. The project started in 2020 and is intended to end in May 2023 with final deliverables in December 2023.
The project group did not meet in 2022-2023, but items were discussed during meetings of the BoA.

In 2021-2022 we started an in-silico lottery to investigate the effects of this alternative way of selection to the group of study. We collected all required information of two cohorts of applicants (who started in 2019-2020 and 2020-2021) of the programme Molecular and Cellular Life Sciences and decided upon our method of study. We aim to finish the in-silico lottery in 2023-2024.

In the past years we have used the Mastermind Europe matrix for Master's admissions to select students. Together with all GSLS programmes we unified the use of the matrices, as well as the final scoring system and the weight of each criterion in the final ranking. In this matrix, we make sure that programmes are able to select students with the best fit for their programme. We have implemented the matrix in the selection and admission process of 2022-2023 and will evaluate the use of the matrix in 2023-2024.

b. USO project 'Select-UU'

The BoA participates in the USO project 'Select-UU' of Sebastiaan Steenman. Sebastiaan will investigate to what extent the GSLS selection criteria predict study success in the Master's programmes. Information will be used of the selection of two cohorts of the programme Molecular and Cellular Life Sciences. In the project, a postdoctoral researcher of the GSLS is involved. We expect to receive the first results in 2023-2024.

c. How to fill the fixed quotum?

Each year some admitted students do not show up ('no shows') in the Master's programme at the start of the academic year. A set of measures were implemented in the selection and admission process to make sure that the fixed quotum of each Master's programme gets filled as the best way possible. In this way, we can accommodate the largest number of students possible.

Administrative support
Student-assistants were recruited to support a selection of Biosciences programmes with administrative work during the selection and admission process in 2022-2023. The main tasks of the student-assistants involved communicating with the applicants, investigating how many students accepted our offer of admittance, and contacting applicants on the waiting lists. We noticed that the amount of work is not equally spread. The first weeks after the application deadline have the highest workload; we will take this into account and select and instruct our student-assistants about the time investment for coming selection year 2023-2024.

A dedicated colleague on admissions
As of March 2023, a new colleague was hired to invest dedicated time in alternative admission standards and filling the fixed quota. This dedicated colleague supports both the BoA and programme selection committees in the selection and admission process. I.e., conversion rates (ratio of applications to starters) were calculated for each programme, based on the nationality and previous higher education institute of applicants. Data of the last three selection years was used to determine the average conversion rates per group of students and was ultimately used to estimate the number of expected starters for 2023-2024 per programme. This was used to advice programme coordinators on the number of students who could be admitted, with the ultimate goal of filling each programme's fixed quotum as far as possible.

Set a period to the acceptance form
In our letter of admission, admitted applicants are asked to accept (or reject) our offer via OSIRIS Online Application. In 2022-2023, we set a strict deadline to accept our offer and asked students to accept our offer by May 15th at the latest. Students that chose the option 'I haven't decided yet' were asked to inform us about their final decision as soon as possible, but no later than June 30th. Applications were cancelled if applicants did not accept our offer in time. Our intention with this measure is to have more clarity on the number of expected students and to be able to contact candidates on the waiting list at an earlier stage.

Moreover, the BoA requested the programme coordinators to make longer waiting lists for their programme and only reject students that are not admissible. In addition, the period that students could still get admitted from the waiting list was extended until mid September. This allowed us to fill some of the empty seats when students did not show up in the beginning of the academic year.

We will evaluate the set of this measures in 2023-2024 and decide whether additional measures are necessary. The new dedicated colleague will support the BoA in the evaluation by writing an advisory report.

d. OSIRIS referent module and Standardised letters of Recommendation
The BoA emphasized the need of a referent module at university level, and participated in a project group coordinated by SO&O. This module will be implemented for the international applications of the academic year 2024-2025. The form is semi-structured which means standardised questions are asked, and an open field is available for the referee to leave comments and details. Besides university questions, each school can ask their own set of questions. The module is placed before OSIRIS Online Application starts and has automated timekeeping of the process.

The referent module at university level cannot be implemented in the national application process for applications starting 2024-2025, because no distinction can be made between applications from Utrecht University and Dutch universities (of applied sciences).

Standardised Letters of Recommendation (SLoRs) have been used successfully in the international application process since 2018-2019. Based on these experiences, the BoA has decided to implement the SLoRs in the national application process of 2023-2024 and investigate the use of more standardised letters of motivation.

For the selection process of 2023-2024, we explored options for SLoRs using Formdesk and implemented them in the selection and admission process for starters in 2023-2024 (Standardised Letter of Recommendation (formdesk.com)). In the selection process of starting students 2024-2025, we will use a simplified standardized recommendation form via Formdesk for national applications until the referent module can be used in the national application process as well. The BoA will continue participating in the project group to help investigating the possibilities.

e. Safety net procedure

The safety net procedure is an agreement on VSNU-level (Universities of the Netherlands), to ensure that all students with a Dutch bachelor's degree can start a matching Master's programme at a Dutch university. For the start of 2022-2023, two applicants with a Dutch UU Bachelor's degree were rejected (more than) three times for a Master's programme of a Dutch university and applied to the safety net procedure. Being imposed by a fiat of the Rector Magnificus we placed the two applicants in two different GSLS Master's programmes for 2022-2023.

The BoA has expressed their concerns about this in the annual report of 2021-2022 and expects many more requests in the upcoming years. The new dedicated colleague (mentioned above) supports the BoA with investigating how to deal with these requests. We have had several meetings in 2022-2023 with SO&O to investigate our role in the procedure. Based on the outcomes, the new employee made a step-by-step plan for the GSLS describing all actions needed to handle incoming requests. By implementing our set of measures to fill the fixed quotum as described earlier in this report, we hope to accommodate as many eligible students as possible within our Master's programmes and limit the number of requests to the safety net procedure.

We will evaluate the numbers of students that applied to the safety net procedure in 2023-2024 and finalize our step-by-step plan for incoming requests.

7. Recommendations/points of attention to the BoS

Points of attention:

- The BoA still recommends a less time-consuming way of dealing with applications, which is at the same time evidence-based, inclusive, transparent, and results in the selection of students with a good study success chance. We strived for all programmes to use the admission matrix in a similar way to assess the applications.
- Because of the high number of no shows, the BoA implemented a set of measures to fill the fixed quotum in the selection and admission process. The BoA will evaluate the effects of these measures in 2023-2024. E.g. by working on a method or process on how to diminish the workload on double applications.
- The BoA expects an increase of applications in 2023-2024 as a result of increasing student numbers in the bachelor Biology and the new bachelor Biology and Molecular and Biophysical Life Sciences. The BoA hopes that the increase in applications can be partly accommodated by the set of measures implemented to fill the fixed quotum and the new Master's programme that is currently being developed and will start in September 2025. Moreover, the BoA recommends to further explore options to increase the capacity within the GSLS.
- The BoA is concerned about the applications to the safety net procedure and is investigating its role in the procedure and looking for solutions to handle the expected increase in number of requests in the upcoming years.

Annual report Board of Examiners

1. Executive summary

- In contrast to previous years, we have not included information from the year report of the Assessment Support Panel (ASP) as their year report is not available due to unforeseen circumstances. In view of the preparation for the visitation the Board of Examiner (BoE) will hand in their report. In 2022-2023 no alarming situations were reported by the ASP.
- To keep close contact with the School the chair of the BoE participated in monthly meetings of the Master Assembly Life Sciences (MALS) with directors, secretary, and policymakers of the school and the chair of the EC-GSLS. In addition, he and the members of the ASP participated once in the MSc Coordinators meeting and had ad hoc contact when needed.
- The procedure of the appointment of examiners has been optimized and works fine. Course examiners were appointed at the start of academic year 2023-2024.
- The BoE agreed that Epidemiology online MSc uses online proctoring instead of live local proctors, under defined conditions and agreements. This year the procedure was evaluated and found to meet the requirements; thus, the approach and procedure will be continued.
- The BoE took part in a discussion regarding allowing student to do the major research project outside UU/UMCU/PMC/Hubrecht Institute. A pilot has been started with some programmes for which a list with preapproved institutes has been defined. The examiner of such a project will be sent a document (by the programme coordinator) stating the tasks of an examiner of such a project and the examiner will have to accept these. The BoE will closely follow this pilot.
- Guidelines for examiners of external research projects have been sharpened and improved. However, how to assure whether and how the examiners adhere to these guidelines? This question was raised last year and is still relevant. In a recent MALS meeting, the BoE suggested that the task of the examiner of external projects will be actively brought under the attention of the examiner and have the examiner accept this. This is going to be looked at by the school. The BoE urges the school to implement this.
- Examiners are sometimes struggling how to deal with students who perform insufficiently. The BoE decided to compose a document, together with ASP, to aid them and has distributed this to all examiners.
- In collaboration with student counsellors a new procedure "*Bijzondere toetsvoorziening*" has been developed and implemented.
- After the general availability of ChatGPT (and other generative Artificial Intelligence tools) the BoE stressed in the MALS steps had to be taken and a standpoint from the school was needed regarding what is not allowed, but also guidelines of what is allowed. The BoE and ASP followed these matters closely and ASP was actively involved. The BoE also urged that examiners should be made aware of what this means for their assessment. Is it compromised? And if yes, how to deal with this. This process is still on its way and will be followed closely by the BoE.
- There are no alarming findings regarding graduation numbers, numbers of cum laude, and the percentage of discontinuation.
- Response rates of students to surveys are low and this should be improved. This because they are needed for instance to analyse the quality of assessment.
- The Rules and Regulations of the BoE have been updated.

2. Committee description

The Board of Examiners (BoE) of the Graduate School of Life Sciences (GSLS) ensures the quality of the exams and examinees of all programmes within the School under the degrees Biomedical Sciences, Biosciences, Health Sciences, Science and Business, and Neuroscience and Cognition. Members are appointed in such a way that all Master's degrees and programmes in the GSLS are appropriately represented in the BoE.

In addition, the Board has an external member. Two secretaries safeguard the administrative processes in the Faculty of Science as well as in the Faculty of Medicine. Both organizations are involved in the student administration (with a Master's administrations office at each location), and coordination of the programmes of the GSLS.

The Assessment Support Panel (ASP) is part of the Board of Examiners (BoE) and responsible for the quality of assessment and provides its own report. The chair of the ASP is also vice-chair of the BoE.

Daily affairs are run by the Daily Board, consisting of the chair, vice-chair, and both secretaries.

3. Members and meetings

Role	Name
Chair	J.A. Post, PhD (Faculty of Science, dept. of Biology)
Vice-chair	I.E.T. van den Berg, MD, PhD (Faculty of Medicine)
Secretaries	K. Boersma-van Nierop (Faculty of Medicine) L.F.J. Huiskamp, MSc (Science Faculty)
Members	K. Denzer, PhD (Faculty of Medicine) Ir. T. van Haeften, PhD (Faculty of Veterinary Sciences) Prof. J.L. Kenemans, PhD (Faculty of Social and Behavioural Sciences) A.I.P.M. de Kroon, PhD (Faculty of Science, dept. of Chemistry) H.J. Kuijf, PhD (Faculty of Medicine) (until dec 2022) Prof. R. Sasidharan, PhD (Faculty of Science, dept. of Biology) F.A.M. Redegeld, PhD (Faculty of Science, dept. of Pharmaceutical Sciences)
External member	Prof. G.F. Houben, PhD (TNO)
Support	L.M. Batist-de Vos (Faculty of Medicine)

This academic year Dr Kuijff stepped down as member of the BoE and this vacancy is recently filled for 2023-2024. Prof dr G.F. Houben (TNO) joined the BoE as external member.

No changes in the positions of the secretaries occurred, which benefitted the continuity of the work.
The BoE meets three times a year. The Daily Board (DB) meets twice a month due to the large number of student requests and other matters. If needed ad hoc meetings are arranged. The secretaries check requests addressed to the BoE weekly.

The documents and files of the Board of Examiners are stored on Surfdrive and are updated regularly. Minutes of meetings, correspondence, decisions, and other important information and documents are archived on iBabs.

To keep close contact with the School and to inform each other about ongoing and future affairs, the chair of the BoE participates in monthly meetings of the Master Assembly Life Sciences (MALS) with directors, secretary, and policymakers of the School and the chair of the EC-GSLS.

The DB has regular meetings (3 times a year) with the two administration offices (Bioscience and Biomedical Sciences). The goals of these meetings are, for instance, to synchronize procedures, tackle problems at an early stage, and exchange good practices between the offices. The DB and the Assessment Support Panel (ASP) also participate once a year in the MSc Coordinators meeting to present/discuss new developments and explain changes in the Education and Examination Regulations, which proves to be useful.

4. Reflection on plans previous year

The solid bullet points represent the plans of last year, the open bullet points refer to the current status

- Evaluate the use of online proctoring by Epidemiology-online
  - Together with the MSc programme we evaluated the use of online proctoring for the online variant of Epidemiology. The procedures work well, the BoE checks the summaries of the proctoring reports and, if needed, makes a decision. Analysis of the grades obtained by the students showed no difference between average current grades (with online proctoring) and former grades (live local proctoring)
- Evaluate the exception of SBM regarding external major research projects, although it involves a limited number of cases
  - There is no specific exception for SBM anymore. The School had decided to start a pilot in which under certain circumstances students from some MSc programmes are allowed to do the major research project at defined institutions outside UU/UMCU. The BoE advised to have examiners of these projects declare that they will adhere to a protocol, thereby assuring the quality of the project and the institution where the project is done, quality of testing etc. Clearly this will be evaluated next academic year.
- Prepare for the visitation of Biomedical Sciences programmes
  - Still going on
- Fill vacancies in the BoE and ASP
  - Done, except for ASP-member from Epidemiology.
- Evaluate the implication of Osiris Case
  - Osiris Case was implemented for most types of student requests (except courses) and for the Biomedical Sciences programmes, and thus the application and assessment for profiles, research projects and writing assignments for all GSLS master programmes is now done via Osiris Case. Although it is an improvement that application and assessment of student requests are done in one central location, there are still problems with for example login of examiners and second reviewers (Solis/Osiris ID) and technical issues within Osiris Case. The process of approving applications in Osiris Case works good and efficient, but the technical problems remain a point of concern.
  - All subgrades for project/internships should be sufficient (minimal 5.5). At the moment neither the digital assessment form nor Osiris flags it when this requirement is not met and thus its recognition relies on the examiner, student desk and at the end, BoE. The BoE advises to automate this, to prevent mistakes or disappointments at the time of examination.
- Improve the appointment process of examiners
  - Done, all course examiners were appointed at the start of the academic year. Thanks to all involved.

5. Procedures and actions

5.1 Online proctoring

All examination took place under normal conditions, on location. For individual students online proctoring was available as provision for testing in special cases. Initial requests go via the study counsellor, in case of not pre-determined situations the counsellor contacts the BoE, and the BoE decides. If online proctoring is used, two cameras are required. As mentioned earlier, online proctoring is used as a standard in courses of the online Epidemiology programme.

5.2 Graduation ceremonies

Graduation ceremonies are held at least six times a year. In 2022-2023, ceremonies were held in September, October, November, December, February, April, June and July.

In total 504 graduates received their MSc degree, an increase by 75 graduates compared to 2021-2022.

5.3 Professionalization Board of Examiners

The BoE is part of three networks ("*network ambtelijk secretarissen UU, network voorzitters UU, overleg examencommissies UMCU*") and these network meetings are used to discuss changes in policy, rules, tasks, etc., to exchange experiences and procedures related to the work and responsibilities of Boards of Examiners, and to reflect upon the Boards' own functioning. Several board members were present at the "*Themabijeenkomst examencommissies over ChatGTP*". One of the secretaries followed the "*UU leergang Borging toetskwaliteit en eindniveau voor examencommissies*."

The professional development of the chair is further supported by the (external) membership in other Boards of Examiners.

5.4 Appointment of examiners

At the beginning of every academic year, the BoE must appoint the examiners as required by the EER and Rules and Regulations. Examiners of research projects, business internships, and writing assignments are appointed for the duration of the project, internship, or assignment in the mail that is sent automatically by Osiris Case. Also, examiners for profiles, tracks, and honours programme were appointed.

The DB continues updating the lists of examiners for research projects and writing assignments. This list is partially incorporated in Osiris Case and in the future should be optimized for use in Osiris Case.

The BoE and the ASP continued to focus especially on examiners of projects performed externally, because of remarks during the accreditation of BMS in 2017/2018, because of some specific situations and the plans to allow under certain conditions the major research project to be performed outside UU/UMCU/PMC/Hubrecht Institute. For the pilot regarding the latter: the tasks of an examiner of these projects will now be explicitly pointed out to the examiner and the examiner will have to accept these. Clearly the BoE will closely monitor this pilot. In addition, recently, the BoE urged that a comparable procedure will be developed for other external projects as it became more clear this is needed.

5.5 EER, Rules and Regulations

Tasks and authorizations of the BoE are laid down in the '*Wet op het Hoger onderwijs en Wetenschappelijk onderzoek* (WHW)' and the Education and Examination Regulations (EER) of the Graduate School of Life Sciences. The EER is presented to the BoE each year for advice. In the Rules and Regulations (R&R) of the BoE the regulations pertaining to the proper procedures during the assessment and the guidelines for assessment are written down.

The Regulations of the BoE follow the EER and cannot be viewed separately from the EER. The BoE updates these regulations yearly in June/July, and they enter into force every new academic year. Both the EER and the Regulations of the BoE are included on the GSLS students' site and can be found online (https://students.uu.nl/en/gsls).
Specific points that were discussed and worked on:

- Allocation of educational facilities for students with chronical illness is not performed by the Board of Examiners but the BoE can provide advice (article 1.2)
- End terms based on English proficiency were discussed but not added in the final version of the EER (article 3.1)
- An additional article on promoting language proficiency was added (article 3.3)
- The BoE questioned the need for extensions of profiles in the electives (article 3.7)
- The maximum duration of research projects was removed from the EER (article 5.3)
- The BoE advised the School to mathematically round of all grades and remove exceptions from this article (article 5.4)
- A specification of fraudulent use of generative AI was added (article 5.14)
- Tracks for three master programmes were removed from the exam programmes (appendix)

5.6 Quality control of Assessment

The Assessment Support Panel (ASP), as a subcommittee of the BoE, addresses quality control of assessment.
In general, no major problems were encountered regarding the assessment and for more detailed information one is referred to the year report of the ASP, which is presented separately.

5.7 Research Projects/Business Internships and Writing Assignments

The Research Projects/Business Internships and Writing Assignments are the major parts of the two-year Master's programme. To monitor the students and to facilitate timely graduation, several measures are in place:

- pre-approval by the Board of Examiners
- compulsory interim assessment after 2-3 months (not for the writing assignment)
- permission needs to be given by the research project coordinator to postpone the end date in case of delay.

These measures are laid down in the EER and R&R. Regarding the quality of assessment one is referred to above and the report of the ASP.

5.8 Check on justification of grades of projects, writing assignments, and business internships

All grades are handed in via Osiris Case and further processed by the Administration Offices and need to be accompanied by the results of a plagiarism check and substantiation of the grades (rubrics or narrative). In 2022-2023 the explanation of the grades was given in writing; in most cases the Rubrics were used for this purpose.

5.9 Examination

After the student has fulfilled the requirements of the examination programme, the Board of Examiners determines the result of the examination. Each file is prepared by the administration offices and checked by two members of the DB. Students from the programmes of the Faculty of Science are checked by the chair and the Science Secretary, and students from the programmes of the Faculty of Medicine are checked by the vice-chair and the BMS secretary. At the same time the judicia are determined. In case of doubt or complications, the latter is done by the complete DB-BoE. The check is performed electronically and works well.

As more profiles are developed and these are specifically mentioned on the International Diploma Supplement (IDS), the Board of Examiners has decided to also print the General Research Profile specifically on the IDS.
Most likely due to the complexity of some of the MSc programmes in Biosciences and SBM, it seems difficult to have the examination programmes correctly in Osiris, leading to a situation where Osiris frequently states that the student did not meet the requirements at the examination, resulting in extra work for BoE and administration office as the student did meet the requirements. This has been addresses in the MALS and will hopefully be resolved.

5.10 Accreditation and audits

Not applicable.

5.11 Special requests

The BoE decides upon all requests from students for approval of Research Projects, Writing Assignments, Profiles, extensions of projects, exemptions of electives, and courses outside the UU / UMC Utrecht. The increasing number of GSLS students also leads to an increased number of requests, as can be seen in table 1 and figure 1. Additionally, the BoE approved 14 requests for online proctoring which were approved through the academic counsellors.
Since it became clear that academic counsellors treated requests for "*bijzonder toetsmoment*" differently, a discussion with them was started, leading to a new procedure which was implemented.

TABLE 1: NUMBER OF REQUESTS FOR BIOMEDICAL SCIENCES AND BIOSCIENCE IN 2022-2023

	BMS	Bioscience	total
Exemptions / Changes in standard programme[3]	14	6	20
Credit transfers	6	2	8
Extension Research Project with Electives-credits (requested for after start)	7	7	14
Fraud/plagiarism in exam/test	6	1	7
Irregularities in exam/test (online proctoring)	10	0	10
Admission advice for academic promotions	11	0	11
Additional (oral) exam	30	9	39
Request cum laude	0	3	3
Courses outside UU	8	6	12
Major Research project outside UU/UMCU/PMC/ Hubrecht Institute	0	4	4
Other (e.g. conversion major into profile project, allocation extended bioinformatics profile, extracurricular elements, writing assignment, rejected, corona)	3	8	11
Total	95	46	141

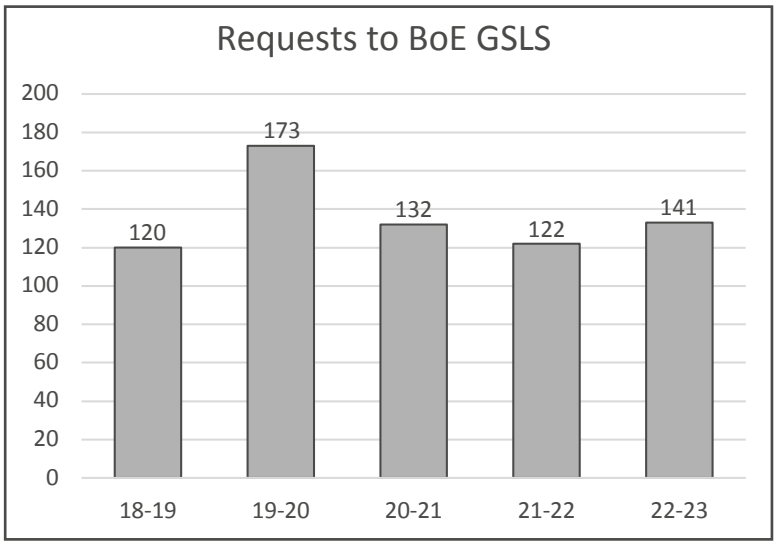

FIGURE 1: NUMBER OF REQUESTS TO THE BOARD OF EXAMINERS OF THE GSLS PER ACADEMIC YEAR

3 Non-standard elements as mandatory programme component, including courses outside UU/UMC and exemptions

5.12 Fraud and plagiarism and irregularities

In case of suspected fraud or plagiarism, teachers/supervisors contact the BoE. The BoE responds within a period of 20 working days maximum, according to the regulations. In 2022- 2023, the BoE has dealt with 6 cases of suspected plagiarism. All cases were judged positive, i.e. plagiarism was demonstrated. Measures were taken in accordance with the EER, which included the following sanctions: invalidation of the work; a note of plagiarism in Osiris; denial of graduation with the judicium cum laude; students found guilty wrote a summary and personal reflection of the article 'On being a scientist'.

Regarding online proctoring: a member of the BoE judges the reports from the online proctoring by both an UMCU online proctoring collaborator and the MSc programme Epidemiology online. Based on the reports a decision is made and, if needed, communicated to the student.

The BoE held a discussion on whether there should be a cap on the grade to be obtained after plagiarism was established, but a repair possibility was offered. It was concluded that no cap will be installed, but the examiner can take the plagiarism into consideration when grading the product. In some cases of plagiarism, no repair option might be granted.

5.13 CBE - Examinations Appeals Board

There was one appeal case by a student who disagreed with the grade for a major research project. The attempt for amicable settlement was unsuccessful. The Examinations Appeals Board found the appeal to be unfounded. Despite of being unfounded, the appeal made the examiner realize that application of the GSLS procedures can be improved by the examiners institute and this will be implemented.

5.14 Online proctoring Epidemiology online

During the Covid-19 pandemic, the School and the BoE gained a lot of experience with online proctoring (OLP), which was also used in the online Epidemiology master (ol-Epi-MSc). Already before the pandemic the BoE and the Epi-MSc started discussing the potential use of OLP instead of using proctors on location. After the experience with OLP during the pandemic, discussion within the BoE, discussion with the School, and consultation of the legal representative, the BoE agreed on conditional use of OLP for the tests of ol-Epi-MSc. Conditions were that no end qualification of the MSc will be tested only by OLP; the BoE will receive a detailed report of each OLP-test and will decide on the validity of the test; the rules for OLP will be made crystal clear to the students and the BoE will strongly adhere to these rules. Together with the MSc programme we evaluated this year the use of online proctoring for the online variant of Epidemiology. The procedures work well, the BoE checks the summaries of the proctoring reports and, if needed, makes a decision. Analysis of the grades obtained by the students showed not difference between average current grades (with online proctoring) and former grades (live local proctoring). Therefore, we will continue using this approach.

5.15 ChatGPT

After ChatGPT (and other generative Artificial Intelligence tools) had been made publicly available the BoE advised the MALS, that steps had to be taken and that a standpoint from the school was needed regarding what is and is not allowed. The BoE and ASP followed these matters closely and the ASP was actively involved. The BoE also urged that examiners should be made aware of what this means for their assessment. Is it compromised? And if yes, how to deal with this. Procedures are being developed and the process will be followed closely by the BoE. Representatives from the BoE and ASP are also involved in the Generative Education initiative which is working on guidelines for students and teachers.

6. Description and reflection management information

Number of graduates, cum laude and study success.

TABLE 2: NUMBER OF GRADUATES LAST 5 ACADEMIC YEARS.

	Number of graduates					
	18-19	**19-20**	**20-21**	**21-22**	**22-23**	total last 5 years
BIDM	22	23	36	33	24	138
BIFM	5	4	9	8	2	28
BINF			0	3	15	18
BINN	15	22	26	21	22	106
CSDB	37	38	33	34	39	181
DINN	48	28	37	37	45	195
ENVB	55	50	56	43	41	245
EPIM	8	24	27	22	32	113
EPMM	32	39	56	21	22	170
IMIF	27	18	27	26	34	132
MCLS	43	42	45	64	46	240
MIMG	0	2	7	13	11	33
NSCN	46	56	48	32	46	228
ONEH	2	2	8	4	20	36
RMTM	22	14	20	18	27	101
SPMM	65	55	46	39	67	272
TXEH	16	15	20	11	11	73
GSLS	**443**	**432**	**501**	**429**	**504**	**2309**

In 2022-2023, the number of graduates strongly increased compared to last year and is at a level comparable to 2020-2021, which was considered an outlier, however it might also be that 2021-2022 was the outlier.

TABLE 3: NUMBER OF STUDENTS THAT DISCONTINUED THEIR MSC THE LAST 5 YEARS AND THE AVERAGE % OF THE LAST FIVE YEARS.

	Number of discontinued						
	18-19	**19-20**	**20-21**	**21-22**	**22-23**	total last 5 years	*total last 5 years (% of graduates + discontinued)*
BIDM	4	5	4	6	7	26	*16*
BIFM	1	1	4	1	0	7	*20*
BINF			4	5	2	11	*38*
BINN	4	5	0	2	7	18	*15*
CSDB	1	2	3	6	4	16	*8*
DINN	3	3	4	6	3	19	*9*
ENVB	12	6	10	14	9	51	*17*
EPIM	7	5	2	6	6	26	*19*
EPMM	12	6	8	3	8	37	*18*
IMIF	2	2	2	3	0	9	*6*
MCLS	12	7	5	7	10	41	*15*
MIMG	2	4	3	5	6	20	*38*
NSCN	2	3	6	4	8	23	*9*
ONEH	1	1	1	1	2	6	*14*
RMTM	2	1	3	3	4	13	*11*
SPMM	6	5	6	8	10	35	*11*
TXEH	4	4	1	1	4	14	*16*
GSLS	**75**	**60**	**66**	**81**	**90**	**372**	***14***

TABLE 4: % OF STUDENTS THAT DISCONTINUED THEIR MSC THE LAST 5 YEARS AND THE AVERAGE % OF THE LAST FIVE YEARS.

	Discontinued (% of (graduates + discontinued))					
	18-19	**19-20**	**20-21**	**21-22**	**22-23**	last 5 years
BIDM	15	18	10	15	23	16
BIFM	20	20	31	11	0	20
BINF			100	63	12	38
BINN	15	19	0	9	24	15
CSDB	3	5	8	15	9	8
DINN	10	10	10	14	6	9
ENVB	19	11	15	25	18	17
EPIM	23	17	7	21	16	19
EPMM	24	13	13	13	27	18
IMIF	10	10	7	10	0	6
MCLS	22	14	10	10	18	15
MIMG	50	67	30	28	35	38
NSCN	3	5	11	11	15	9
ONEH	33	33	11	20	9	14
RMTM	13	7	13	16	13	11
SPMM	10	8	12	15	13	11
TXEH	21	21	5	15	27	16
GSLS	**14**	**12**	**12**	**16**	**15**	**14**

The number of students that discontinue their education before graduating has increased slightly compared to the previous two years (Tables 3 and 4). Since the number of graduates also increased this year, the percentage of students that discontinued is comparable to last year.

For the entire GSLS, the average percentage of discontinuation over the last five years is 14% and there might be a small increasing trend. Also, as mentioned last year, differences between the programmes are apparent. It would be good for the School to look into the reasons for discontinuation and find out whether indications or signals for imminent discontinuation can be identified early on. Next to that, the differences between master programmes with average discontinuation percentages ranging from 6% to 38%, which might be worthwhile to look into to find out what might be the cause of the discontinuations.

TABLE 5: NUMBER OF CUM LAUDE GRADUATES LAST 5 YEARS.

	Cum Laude						
	N						%
	18-19	**19-20**	**20-21**	**21-22**	**22-23**	last 5 years	*last 5 years (%)*
BIDM	0	1	0	1	0	2	*1*
BIFM	1	0	0	0	0	1	*4*
BINF			0	0	1	1	*6*
BINN	0	0	0	0	0	0	*0*
CSDB	3	5	3	4	3	18	*10*
DINN	4	1	3	6	3	17	*9*
ENVB	3	2	2	5	2	14	*6*
EPIM	0	1	1	3	2	7	*6*
EPMM	0	1	7	1	3	12	*7*
IMIF	2	1	6	5	8	22	*17*
MCLS	0	8	5	5	5	23	*10*
MIMG	0	0	0	1	0	1	*3*
NSCN	2	10	4	7	3	26	*11*
ONEH	0	0	0	0	0	0	*0*
RMTM	0	0	3	1	4	8	*8*
SPMM	5	4	1	1	1	12	*4*
TXEH	0	0	0	0	1	1	*1*
GSLS	20	34	35	40	36	165	*7*
% GSLS	**5**	**8**	**7**	**9**	**7**	**7**	

TABLE 6: PERCENTAGE OF CUM LAUDE GRADUATES LAST 5 YEARS.

	Cum Laude %					
	N					
	18-19	**19-20**	**20-21**	**21-22**	**22-23**	Average last 5 years
BIDM	0	4	0	3	0	1
BIFM	20	0	0	0	0	4
BINF			0	0	7	2
BINN	0	0	0	0	0	0
CSDB	8	13	9	12	8	10
DINN	8	4	8	16	7	9
ENVB	5	4	4	12	5	6
EPIM	0	4	4	14	6	6
EPMM	0	3	13	5	14	7
IMIF	7	6	22	19	24	16
MCLS	0	19	11	8	11	10
MIMG	0	0	0	8	0	2
NSCN	4	18	8	22	7	12
ONEH	0	0	0	0	0	0
RMTM	0	0	15	6	15	7
SPMM	8	7	2	3	1	4
TXEH	0	0	0	0	9	2
GSLS	**5**	**8**	**7**	**9**	**7**	**7**

As can be seen in Tables 6, the % of cum laude graduates for the entire GSLS is rather steady and around 10%. Differences are observed between the Master's programmes. The school should continue to monitor this. The Board of Examiners does not see any alarming changes.

TABLE 7: STUDENTS GRADUATING WITHIN 2 YEARS

	Graduation < 2 years					
	%					*N*
	18-19	**19-20**	**20-21**	**21-22**	**22-23**	***22-23***
BIDM	27	30	25	27	21	5
BIFM	100	25	22	0	0	0
BINF				100	13	2
BINN	33	14	27	19	5	1
CSDB	24	16	6	9	15	6
DINN	31	32	24	16	9	4
ENVB	11	20	14	7	7	3
EPIM	38	67	63	73	56	18
EPMM	25	13	7	24	18	4
IMIF	33	22	22	23	35	12
MCLS	12	14	27	6	15	7
MIMG	0	0	14	69	27	3
NSCN	26	30	33	19	26	12
ONEH	100	0	0	25	25	5
RMTM	18	50	35	6	26	7
SPMM	34	47	39	23	27	18
TXEH	19	13	10	45	0	0
GSLS	**26**	**28**	**24**	**21**	**21**	**107**

TABLE 8: STUDENTS GRADUATING WITHIN 2.5 YEARS

	Graduation < 2.5 years					
	%					N
	18-19	19-20	20-21	21-22	22-23	22-23
BIDM	77	78	67	52	58	*14*
BIFM	100	25	56	50	50	*1*
BINF				100	67	*10*
BINN	87	68	77	43	27	*6*
CSDB	81	74	61	50	64	*25*
DINN	67	61	68	51	60	*27*
ENVB	67	52	45	53	41	*17*
EPIM	63	79	85	100	88	*28*
EPMM	28	26	29	43	41	*9*
IMIF	89	72	74	65	74	*25*
MCLS	56	64	53	25	43	*20*
MIMG	0	100	14	85	45	*5*
NSCN	65	70	73	59	54	*25*
ONEH	100	0	88	75	65	*13*
RMTM	82	64	45	56	56	*15*
SPMM	77	78	74	74	67	*45*
TXEH	63	67	45	82	45	*5*
GSLS	**69**	**64**	**59**	**55**	**58**	***290***

Tables 7 and 8 show the number of graduates that obtained their degree within 2 or 2.5 years. In 2022-2023, 107 students graduated within two years, compared to 90 in 2021-2022. However, since the number of graduates also increased no change in the % is observed. A total of 290 students (58%) graduated within 2,5 years, compared to 237 (55%) in 2021-2022, which suggests an increase. The percentage of students graduating within 2,5 years seemed to be declining over the past 4 years, but a slight recovery might have taken place this year. The percentage of students graduating within 3 years has been consistent over the past 5 years, ranging between 82% and 87%, with 84% this year (results not shown).

The results show that it is possible to graduate in 2 years, however, most students do not graduate within 2 years. As last year, the BoE advises that the School to investigate the difference between master's programmes to see if good practices from the programmes with higher graduation rates within 2 years can be transferred to other programmes. Additionally, the BoE advises that the School investigates the cause of delays in graduating. Are these delays caused by choices/ decisions made by students voluntarily or are they caused by the study programme itself and/or non-voluntary decisions of the students? If the delays are not caused by voluntary decisions of the students, measures for improvement should be taken.

7. Future plans

- Continue valuating the use of online proctoring by Epidemiology online
- Evaluate the pilot regarding external major research projects outside UU/UMCU/PMC/ Hubrecht Institute
- Prepare for the BMS visitation
- Continue evaluating the implication of Osiris Case
- Monitor the effects of generative artificial intelligence on assessment

8. Recommendations/points of attention to the BoS

We advise the BoS to:

- Monitor how in the pilot examiners of external major research projects fulfil their examiner's tasks. Do they adhere to the task, and can the quality of the projects and the grading be guaranteed?
- Implement the by the BoE suggested approach that the task of the examiner of external projects will be actively brought under the attention of the examiners of all external projects and have the examiner actively accept these tasks.
- Investigate the reason for the number of discontinuations and the difference therein between the programmes.
- Investigate the possibility of simplifying and unifying the exam programmes at GSLS level and implement the exam programmes in Osiris in such a way that the majority of Study Progress Overviews of students that meet the criteria indeed shows that they do.
- Provide help with finding members for the Assessment Support Panel, especially in the field of Epidemiology.
- Deal with generative artificial intelligence in all its facets and make examiners aware of what this means for their assessment. Is it compromised? And if yes, how to deal with this.

Annual report Assessment Support Panel

1. Executive Summary

- The ASP has appointed three new members in January 2023 and said farewell to one of its members. Thanks to the new members the ASP will be able to continue its tasks in coming year.
- The ASP still requires a member working in the field of Epidemiology. The vacancy has been open for nearly three years now.
- Course evaluations: the ASP succeeded in eliminating the backlog from previous years, as we had decided to not include the usual 5 randomly selected courses. This year the ASP fully analysed 8 courses.
- Quality of assessment of written assignments (research reports): The ASP re-assessed 25 research reports in collaboration with the Board of Examiners, and one guest reader. Of those research reports, 76% received marks equivalent to the marks provided by the supervisor and UU-examiner. This proportion matches the findings of the previous year. The ASP again recommends that examiners grade the research reports solely based on criteria for writing research reports. The ASP proposes the use of a feedback flow chart to help avoid 'mercy passes'.
- Quality of assessment of research projects: students have evaluated most aspects (very) positively, especially since we are in a post-covid era. However, some points for improvement are feedback (in time and especially encompassing the grading) and the search for suitable projects. Furthermore, the number of students with a significant delay (>4 weeks) is too high: over 25% of all projects. This deserves attention from both students and their supervisors.
- Quality of assessment of the programme as a whole: the National Student Survey (NSE) revealed that GSLS-students experience a paucity of feedback during their courses/internships. The ASP will address this topic in the coming year, by drawing more attention to the SEED tool.

2. Committee Description

The Assessment Support Panel (ASP) is part of the Board of Examiners (BoE) and responsible for the quality of assessment. See also our page on the GSLS Students' Site (https://students.uu.nl/en/gsls/about-the-gsls/organisation/assessment-support-panel) .

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).

The ASP collects and assesses information on:

- cum laude graduates of the School per program;
- Percentages of passes per course;
- grades for research projects and writing assignments.

The ASP 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.

The ASP functions as a think tank: the members of the assessment support panel 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.

3. Members and Meetings

Members of the Assessment Support Panel during the academic year 2022-2023 were:

Role	Name
Chair	I.E.T. van den Berg, PhD (IvdB; Faculty of Medicine, DLAB)
Members	A. Heersche (AH; Department of Pharmacy), until december 2022 M.W.H.C. Bol-Schoenmakers, PhD (MBS; IRAS) E. de Graaff, PhD (EdG; Dept of Cell Biology, Neurobiology and Biophysics) K.L. Vincken, PhD (KV; Faculty of Medicine, Imaging Division) A.S.J. Melquiond (AM; DLAB, CMM) M.L. Boes (MBo; Pediatrics Dept and Center for Translational Immunology dLAB) K.P. Kenna (KK; Translational Neuroscience) Vacancy (Epidemiology)
Policy maker	K.J. Koymans, PhD (KJK; Biomedical Sciences)

The ASP had 11 meetings in this academic year.

4. Reflection on Plans Previous Year

The ASP formulated several plans for the academic year of 2022-2023 in the annual report of 2021-2022. The progress of these plans will be discussed per topic.

4.1 Actualize the assessment policy of the GSLS, considering the assessment policies of the faculties participating in the GSLS

The ASP has written a concept for the assessment policy for 2022-2027 of the GSLS. The policy contains the vision of the GSLS on assessment and describes the organisation of and the procedures concerning assessment. The vision on assessment is specific for the GSLS, but is in line with the visions of the faculties of Medicine, Science, and Veterinary Sciences, if applicable. The main changes in comparison with the previous assessment policy are the urge to grade student work anonymously and to implement new developments in the field of, or that have consequences for, assessment, e.g. the use of generative AI. The assessment policy has been approved by the GSLS.

4.2 Continue to monitor the consequences of online proctoring for the Epidemiology programme after recruiting an ASP member from the Epidemiology department

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. The online Epidemiology programme uses online proctoring as a regular means of safeguarding their exams. Although the UU has abandoned the full room scans as requirement for online proctoring, the GSLS maintained this measure for the Epidemiology programme for safety reasons. The ASP will look into the necessity for a full room scan in the coming year.

4.3 Monitor the quality of assessment of course component of research profiles, of TLS and LSS

GSLS-students have the opportunity to choose various profiles that consist of a combination of courses and a research project. Two relatively new profiles are the Life Sciences and Society (LSS) profile and the Translational Life Sciences (TLS) profile. The ASP is currently evaluating these profiles together with the course coordinators. In general, students are positive about the profiles, and are satisfied with the assessment procedures.

4.4 Follow up on the issue of feedback raised in the NSE

The main assessment-related topic of both the NSE 2021-2022 and again in 2022-2023 was lack of useful feedback and especially lack of feedback on exam performance. Providing insight into exam performance to students is already obligatory and the ASP sees it as a task of the GSLS to safeguard this practice.

An e-module with clear instructions on how to optimize feedback on performance during internships and writing assignments, using the rubrics provided by the GSLS, has been constructed and is ready to be implemented. The ASP noted that the GSLS rubrics for providing feedback on writing assignments and research projects are used frequently during the interim assessment and the final assessment, but hardly at the start of the assignment. The ASP will further induce examiners and students to use the rubrics as advised and monitor whether this results in improvement of the perceived usefulness of the received feedback.

4.5 Help to optimize all rubrics of the GSLS

The ASP has provided adaptations for the GSLS rubrics. The descriptions of the levels of performance are optimized, accompanied by slide bars and opportunities to add written narratives and grey-out non-relevant points, to allow fine tuning of feedback. An additional open field allows for remarks to further explain the choices. Clear instructions for rubric users have been formulated to improve the use of the rubric as a feedback tool.

4.6 Further monitor the assessment of the research skills

The ASP has developed a new online rubric system (see 4.5), where supervisors are asked to use a flexible scrollbar to indicate the level of performance (score) for a specific item, rather than indicating 1 of 3 boxes (insufficient / sufficient / good). Furthermore, an additional edit box is added to allow specific comments for that item. Finally, a closing comments box has been added for general comments or feedback that could not be added at the individual items. A more extensive instruction at the start of the rubric will hopefully lead to an increased and more effective use of the rubrics, with more written explanations. We will try to make addition of a written narrative compulsory before rubrics can be downloaded, to ensure that rubrics are not used alone but accompany written advice. Monitoring of this added narrative will be done by checking the written feedback for both interim and final assessments during standard re-evaluation process. The ASP will determine whether this is a good way to monitor the assessment of research skills.

5. Procedures and Actions

5.1 Courses

The aim of the ASP is to monitor five randomly selected or new courses each year. In addition, the ASP looks at the quality of courses that are flagged by the Educational Committee (EC) or Board of Examiners (BoE). Besides this, the ASP advises examiners with new courses or when examiners want to change the assessment within their course.

This year a total of 12 courses were to be looked at. Analysis was finished for seven courses (see tables below), five are still ongoing. Documents for three of these courses were only received in summer of 2023 and will be looked at in 2023-2024. Of three courses that were to be monitored from previous years, the requested information was not complete.

Fully analysed randomly selected or new courses

Name course	Result
NSCN: Essentials of Neuroscience (BMB416005)	The assignments are presented by the students on the learning platform. Progress is followed. Very well designed and organized course, assessment corresponds well to the learning objectives.
BII: Integrative Bioinspired Design (B-MIBID)	Suggested to make 'knowing what to expect' a learning outcome. A new rubric will be implemented to make assessment more transparent.
HENV: Exposure (BMB4705022)	Excellent assessment, learning goals are covered by both the exam and assignment
Public Procurement (B-MSBFUFO)	Course was adjusted as compared to previous years and assessment
Elective: Thematic interdisciplinary challenge B-MTIC20	The assessment is of good quality, minor suggestion: make the rubric more descriptive instead of only giving insuff./suff./good. The open field for comment is used frequently however, and students receive enough feedback.

Fully analysed courses upon request by EC or BoE

Name course	Result
I&I: Bacterial Pathogenesis (BMB404506)	Changes based on previous year have been implemented. The assessment is of good quality, minor suggestions of improvement were given.

Follow up from last year

Name course	Result
Elective: Better science with less animal experimentation (DOVP-BSLAE)	The examiner indicated that they did not see the necessity to include an additional procedure. Although the situation of not having individual grading is not ideal, the grading as it is now, is sufficiently fair and transparent to students, and no further action needs to be taken.

The ASP is still analysing

- Neurocognition of Memory and Attention (BMB501603)
- Metabolic Pathways: From Cell to Disease (BMB501314)
- Ecology and Natural Resources (B-MNER19)
- Nanomedicines (FA-MA218, Monitoring)
- Introduction to Programming Using Matlab (BMB530420, Monitoring)

The ASP also gave advice on assessment of a newly developed course Professional Identity Education (BMB4812023).

5.2 Re-evaluation of written reports

Monitoring of quality of written reports occurs in a 3-year cycle. In this year (2022-2023), a selection of 25 written assignment of 8 different Master's programmes were re-evaluated by members of the Assessment Support Panel and the Board of Examiners. This selection involved research reports from 17 major and 8 profile internships. One report from the SBM programme was judged by a guest reader as this specific report deviated too much from the expertise present within the ASP and BoE members.

The grades for 19 out of 25 reports (76%) were comparable to the final grades of the examiner and second reviewer, meaning that the grades provided by the members of the reading panel do not deviate more than 1.0 on a scale from 1 to 10. Six reports showed more than 1.0 difference and in half (3) of the cases the grade provided by the reading panel was more than 1.0 lower compared to the grading by the examiners and second reviewer and in the other half more than 1.0 higher. One report out of six was marked insufficient by the reader.

For all the reports with discrepancies a second reader (ASP member) was introduced. In three of the cases the second reader judged similar to the original examiner and the average of both grades did not differ more than 1.0 – so no further action was taken on these reports. For one report there was still a bigger difference than 1.0 and this report was subsequently read by the full ASP. The average grade of the full ASP differed less than 1.0 so also no further action was taken on this report. The last two reports were graded in the calibration session of the ASP and after discussion the full ASP agreed on the discrepancies here. Therefore, conversations with these two examiners took place. The results from these conversations revealed similar circumstances contributing to the discrepancies as seen in previous years. This includes mitigating circumstances (e.g. difficult topic, personal situation student, performance in the lab) that were considered by the examiner. Furthermore, additional criteria were included, which played a role in assessing the report. Discrepancies were also thought to arise from the fact that the reading panel does not always have full expertise of the topics, as compared to the examiner. This lack of full expertise of the reading panel is a problem. This underscores the importance of having a reading panel with broad expertise. This year, we were able to ask for a specialist to serve as a guest reader to help with one report. Clear instructions should be given to a guest reader as this person is not familiar with the ASP procedure, which is something to keep in mind for future consultation of guest readers. A full analysis of the circumstances contributing to the discrepancies is not yet finished, and the full report will be available at the end of January 2023.

Calibration session

Two out of the 25 reports have been read by the full Assessment Support Panel prior to starting the yearly re-evaluation cycle. Both these reports were found to have a discrepancy of more than 1.0 with the original examiner and conversations were held with both examiners. Similar to the previous year, the most important conclusion is that evaluation can, at least in part, be performed by paying attention to objective details listed in the rubrics, even if the reader lacks content expertise. However, the reader will have to indicate which parts should be checked by an external expert, because of the lack of expertise of the panel member. A report on the calibration session will be included in the full report of the reassessment.

Advice to BoE: how to deal with insufficient grades

The ASP advised the BoE with a flow chart, which should help supervisors of research projects and/or writing assignments dealing with insufficient grades.

5.3 Online proctoring

Online proctoring has been regularly applied by the Epidemiology Postgraduate Programme in 2022-2023 and has been continuously monitored by the BoE and the ASP. The BoE has given permission to use online proctoring when students were not able to sit the exam on campus due to Corona and for the exams of the online Epidemiology programme. The BoE did not encounter major problems during online proctoring (see also 4.2).

5.4 Profiles

The assessment of the profiles Translational Life Sciences (TLS) and Life Sciences and Society (LSS) is being monitored closely, because of the recent implementation of the profiles. Based on the filled-out surveys, the ASP concludes that assessment of the profiles is regarded as satisfactory by the students.

5.5 Professional development of the ASP

Topic of interest: Generative AI Tools – risks and opportunities for assessment practices

The increased capacity and adoption of generative AI tools has significant implications for the design, implementation, and evaluation of assessment in higher level education. This creates risks and opportunities. Significant risks include a potential loss of validity, reliability, fairness, and/or transparency within existing assessment procedures where readily available GenAI tools such as ChatGPT may be used by students and/or teachers. In certain instances, further privacy and/or ethical considerations can also arise. Significant opportunities to enhance assessment include new support for educators in designing, performing, and evaluating assessment, and new support for students in self-assessment, out of class learning and personalization of feedback. If used correctly, these opportunities could potentially enable the targeting of more ambitious learning goals, a more personalized / effective learning experience and increased opportunities for student-student or student-teacher engagement.

Members of the ASP took the initiative to write a memo highlighting the threats and opportunities posed by GenAI to assessment and examination and to stress the importance for training both teachers and students on how to use these tools. To increase our knowledge on these risks and opportunities, the ASP has participated in reviewing emerging guidelines from other universities and think tanks (e.g. UNESCO's "Guidance for generative AI in education and research", guidelines from universities in the US, UK and Netherlands), supporting the work of efforts to establish relevant guidelines and tutorials within the GSLS (within the "GEI" or Generative AI in Education Initiative), evaluating publications and surveys on the use of GenAI in academic contexts (e.g. van Noorden & Perkel, Nature, 2023; Extance, Nature, 2023) and conducting debates/ discussions to survey usage patterns / opinions within the campus (community debate in UMC Utrecht with 3 invited speakers on December 4th).

6. Description and Reflection Management Information

6.1 Outcome NSE

The ASP has analysed the results relating to assessment of the NSE 2023. The overall score per CROHO-label for the topic "assessment" did not differ from the scores in previous years.
Upon analysis of the scores on the subtopics of assessment per programme, the ASP noticed that student perception of assessment varies considerably per programme. The overall mean assessment scores on a 1-5 scale range from 3.25 to 4.36, and the scores on the subtopics range from 3.05 to 4.55 (The ASP is aware that taking a mean of categorical data is not scientifically sound, but applies with the general practice when analysing student evaluations). The ASP will discuss the outcomes of the NSE with the individual programme coordinators and encourage exchange of best practices between programmes, if appropriate.

The main topic of the open remarks again concerned lack of feedback on assignments and exams. The ASP will draw the attention of the School to the obligation to provide students with proper feedback. In addition, approximately two percent of the students who filled out the survey complained that grading of individual assignments was unfair and largely dependent on departmental culture. The ASP has been working to optimize procedures for assessment of individual assignments and will continue to do so, but the ASP realizes that it will be impossible to achieve absolute objective grading of these assignments.

6.2 Outcome exit questionnaire

The exit survey 2022-2023 has been filled out by 177 students. The survey did not contain specific questions concerning assessment. The ASP concentrated on the student experience regarding the achievement of the end qualifications. In general, students have a mean score (see the remark above) of 3.9 or higher on a scale of 5 for their achievement of each of the fourteen end qualifications, indicating that they acquired their diploma justly. Despite this, 9,1% of the students did not feel prepared to work in the Life Sciences field, 5,1% did not feel confident to design a research plan in accordance with scientific standards or to perform and correctly interpret scientific experiments, 9,1 % did not feel confident to work effectively and independently in a competitive labour market and 11,9% did not feel confident to qualify for a position as a PhD-student or another relevant function in the Life Sciences field. The ASP will discuss these outcomes with the Board of Examiners and will in close consultancy with the Board of Examiners advise the School to improve their education in such a way that the topics mentioned are specifically addressed in the curriculum.

In the open remarks, three students addressed the problems they encountered when they experienced a conflict with their supervisor. They felt insufficiently supported by the School to handle these problems.

6.3 Evaluation research skills

This period, the ASP received 191 responses on evaluation of the research projects. The number of questionnaires per programme ranged from 0 to 14. The majority of the 18 programmes only had a few respondents (on average 5 ± 4), which forces the ASP to interpret the results only globally for the entire GSLS. Over 60% of all projects were Major Research Projects, the remaining part mainly reflected General Research Profile Projects. About 2/3 of all projects were carried out internally (UMCU, UU, PMC, Hubrecht), 1/3 was executed externally.

Finding a suitable project is easy for most students. However, some remarks are made that it was hard to find potential groups that take students for projects, especially if they wanted to go abroad. A suggestion was to have a central place for project descriptions, as well as a market place where students and supervisors can easily find/contact each other. Furthermore, it could help to make more use of Konjoin in this matter and stimulate that research groups actively contribute with new projects and keep information up-to-date.

Some students experienced errors and/or long response times when using Osiris Case. This seems to be due to the system being relatively new. It is expected that Osiris stabilizes in 2024 and becomes more user-friendly, which will diminish these annoyances.

Of all the comments on the atmosphere in the research group, only 1 comment was slightly negative. It seems that we are continuing in the post-corona era, where people find it stimulating and positive again to physically meet other people and work together in a pleasant, safe environment.

In addition, the working schedule and expectations sometimes gave a little stress, but this was almost never considered negative. As regards the total project length, over 50% of all students indicated their project had a delay of at least 1 week; about 25% of all the projects has a delay of 4 weeks or more, which is a more serious point of concern. The delay was sometimes caused by covid-related issues, but in most cases personal or caused by long response times from the supervisor.

Students with an external research project almost all felt they received sufficient and useful supervision from the UU/UMCU side.

As regards assessment, a limited number of students complained that feedback was lacking after the grade was given. That is something that should improve, since the ASP strongly believes that feedback in this matter can help a student to understand what can be improved in doing a project (performing research, writing skills and presenting work).

Almost all participants indicated they learned a lot from their research project, especially the aspect of working in a group and collaborate. They enjoined the project in general, although feedback of – and proper communication with – their supervisor can still be improved.

6.4 Evaluation writing assignment

There were 78 responses to the evaluation of writing assignments using Caracal. Most MSc programmes were included, the only three that were not were Biofabrication, Toxicology and Environmental Health, and Health and Environment.

The start of the WA was difficult for the minority of students, who mentioned that they did receive several negative responses from professors before finding one who agreed to be a supervisor. Most positive responses came from students who contacted professors with whom they had some kind of personal connection (from an earlier course, or by being referred by a former teacher).

About supervisors, most responses were positive, with more than 80% agreeing that supervisors were inspiring and motivating, were open and approachable; more than 90% of students (38 out of 42) were satisfied with the quality of supervision. About examiners (when different from the daily supervisor) the students are less positive, but it reflects that they had less contact with examiners than with the daily supervisors. Overall, more than 75% of students were positive about the amount of contact, about the amount of guidance and feedback from the examiners.

Duration of the WA was on average much more than the 5 weeks that should be spent on a WA, with some WA's having taken many months as well, but on average taking perhaps 7 or 8 weeks. Many students mention that they worked on it part-time which delayed the time allotted to the WA, and some mention a delay due to illness (both physical and mental).
Regarding the level of independence after the WA, by far most students now know how to create an outline independently and consider themselves able to prepare a high-quality literature review independently. The final assessment was usually sufficiently motivated by the examiner (88.1%, or 37/42 respondents).

There was a tip, to provide more information on how to write a Layman's Summary. Perhaps this should be considered as more project-grades may start to rely more heavily on having written well-shaped Layman's Summaries.

7. Future Plans

In the upcoming year, the ASP will:

- Look into the necessity for a full room scan during online proctoring;
- Follow up on the issue of feedback raised in the NSE;
- Increase awareness and visibility of the ASP;
- Utilize the launch of the new rubrics website to promote their intended use as a tool for feedback;
- Stress the importance of written feedback to compliment the rubrics and further monitor the assessment of the research skills based on written narratives;
- Continue the professional development within the ASP regarding implication of GenAI for assessment;
- Continue in the development of content to support educators in adapting assessments for GenAI;
- Maintain scheduled contact moments with the educational committee and student groups as a standard component of drafting plans and agenda;
- Re-evaluate our procedures as described in the AQAP in order to optimise our procedures.

8. Recommendations and Points of Attention to the Board of Studies

- The vacancy for an ASP member from Epidemiology is still open. This additional member is highly necessary to 1) make up for the lack of experience in our current reading panel related to Epidemiological studies and 2) to take up the portfolio on online proctoring, which is mainly used in the (online) Master's Epidemiology. This recommendation is exactly the same as given in the previous report.
- Response rates to the Exit, WA, and RP surveys improved significantly compared to last year. Responses per programme are still too low for useful analysis per programme. Alternative procedures to collect feedback and/or incentive response rates are required to perform the analysis on the programme level.
- Guidelines on the expected length of the end-product of the writing assignment and research project report should be improved based on the feedback provided by the ASP.
- Written (narrative) feedback on research projects is important and it should be stressed that both the interim and the final assessment should be accompanied with such feedback.
- A platform (like Konjoin) is not used efficiently. The ASP would like to see more efforts to keep information of potential research projects up-to-date and visible.
- A delay of more than 4 weeks in research projects is undesirable, especially for a general research profile project. This should be monitored more closely. Progress of all research projects should be discussed with the student at an early stage, at least during the interim assessment. This may prevent such a large number of delayed projects (25%).
- Clear guidelines on adding a paragraph for the Research Project report, on what the examiner considers the most important parts for grading (for example, for more fundamental projects the results and discussion section are most important, for more applied projects more emphasis may be given to the laymen summary).
- Course coordinators should be supported with standardized procedures that help them to evaluate whether and how their assessment mechanisms need to be adapted to cater for increased use of generative AI tools such as ChatGPT.
- Students require transparent guidelines that describe what usage of generative AI tools is and is not permitted during assessment exercises, as well as any conditions that have been implemented to ensure ethical, responsible and effective use of these tools.
- A new rubrics website has been prepared, this includes new instructional guidelines to support correct and effective use of the rubrics as feedback tools. Examiners and supervisors should be encouraged to review these updated guidelines during their first use of the new website.
- The ASP encourages exchange of best practices regarding assessment between programmes.

Annual report Educational Committee

1. Executive summary

The year started with a new Chair and Secretary. There had to be a new search for how the EC worked together. The secretary fell ill at the beginning of year, so the EC was not running at full strength until December.

- The EC-LS has assessed approximately 70 courses. The assessment is discussed with all the members in the monthly meeting. The EC-LS could not assess most courses due to low response rates.

- There was a new course evaluation process since September 2022. This process was not yet working optimally, and the EC-LS advised the BoS and the Caracal team to improve the process.

- The EC-LS has reviewed the Research Projects/Writing Assignment/Exit evaluation results from all the Master programmes. The response rates were sometimes very low, but the results were positive. However, the EC-LS has three general concerns. Most students find it difficult to complete the programme in two years. Also, students find it difficult to finish their writing assignment in five weeks and 85% of the student do not use bi-directional feedback (a.k.a SEED tool) during their research project.

- The EC-LS teacher-student delegation scheduled their yearly visit to the Master programmes coordinator. The annual reports of the Master's programmes and the results of the Research Projects/Writing Assignment/Exit evaluations are the major source of input for these meetings see chapter 5.2.4.

- Progress report quality resources (*voortgangsrapportage Kwaliteitsmiddelen*). The EC-LS has approved the spending of the quality resources in 2022-2023 of the Faculties of Medicine and Science.

- The EC-LS received three complaints regarding the Science and Business Management programme. Agreements have been made to improve the quality of teaching that the EC-LS will monitor. (see chapter 5.2.7)

- The EC-LS and the LSR could not select the best course due to several reasons, including the low Caracal responses. A new procedure is being prepared for next year.

- To maintain contact and communication between the EC-LS, the School and the Faculty of Medicine, the chair of the EC-LS participates in monthly meetings with the directors of the School, two-degree coordinators and the chair of the BoE in the Master Assembly Life Sciences meeting. The chair also participates in a monthly meeting with the chairs of the ECs of the Faculty of Medicine and the Vice-Dean of Education of the Faculty of Medicine regularly participates in these meetings as well.

- The EC-LS closed the Teacher Survey 2021-2022. In total, we received 64 responses. This is substantially lower than previous surveys which had respectively 153 (2020) and 123 (2018) respondents. This response rate was obtained after numerous efforts of the EC-LS, GSLS and directors to stimulate teachers to fill out the survey and multiple extension of the deadline to fill out the survey. An easy way to contact all GSLS teachers at once is missing. Overall, teachers are familiar with the GSLS as an organization, and are satisfied with how the programs and courses are organized. Points of improvement lay with administrative inefficiencies and better IT facilities.

2. Committee description

The Educational Committee of the Graduate School of Life Sciences, abbreviated as EC-LS ("*Opleidingscommissie Life Sciences*"), has the task of organizing staff and student participation ("*medezeggenschap*") and of quality control in education and teaching within the Graduate School of Life Sciences (GSLS). This involves 16 Master's programmes of the Master's degrees in the Biological Sciences, Biomedical Sciences, and Science and Business.

3. Members and meetings

In 2022-2023, the EC-LS consisted of the following members:

Teaching members	
A. Melquiond, PhD	*Medicine, chair*
R. De Vries, PhD	*Pharmaceutical Sciences*
A.M. de Bekker	Biology
A.L. Zomer	*Veterinary Medicine*
T.B. Dansen	*Medicine*
T. Zeev Ben Mordehai, PhD	*Chemistry*
M.M.J. Veeneman-Rijkens	*Medicine*

Student members	
W.A.G. Bout	*CSDB (until December '22)*
N. Scheer	*Mebiose vice Praeses*
S. Marinus	*SBM Vice chair*
D.C.N. van der Heijden	*ENVB (until January '23)*
D. van Gurp	*HENV*
C.J. Pachocki	*DINN*
S. Jaya Prakason	*EPI (As of April '23)*
A. Pernice	*BII (As of May '23)*

Consultants	
S.D. Wiercx	*Biosciences*
T. Morán Luengo	*BMS*

Secretary	
S.D. Wiercx	*Biosciences*

The EC-LS held 10 meetings in-person in 2022-2023 (from September to June). The chair, vice-chair and secretary met a week before each official meeting to discuss ongoing affairs and prepare the agenda for the next meeting.

To get further acquainted and to inform the EC-LS members of the strategy of the GSLS, in November 2022 the chair of the Board of Studies (BoS)/director Biomedical Sciences and the director Biosciences attended the EC-LS meeting. This was well received by the EC-LS and will be continued yearly. Also, a delegation of the EC-LS attended the GSLS Education and Strategy Day to provide input for the new GSLS strategy.

In addition, there are monthly meetings between the chair of the EC-LS, the chair of the Board of Examiners, the degree coordinators of BMS and Biosciences and the directors of Biosciences and Biomedical Sciences ('MALS meeting').

The chairs of the ECs of the Faculty of Medicine (Bachelor's Medicine, Bachelor's Biomedical Sciences, Clinical Health sciences and the GSLS) met every two months to discuss EC-related subjects. The chairs of the ECs of the Faculty of Medicine and O&O council representatives have also met regularly with the Vice-Dean of Education of the Faculty of Medicine to discuss ongoing and business.

4. Reflection on plans and accomplishments previous year

Topic	Action	Status	Next step	Responsible
Monitoring of course evaluation results	Evaluate course evaluation results and provide advice to the GSLS regarding corrective actions, where applicable	V	Recurring action yearly	EC-LS
Evaluation forms 2022-2023 format	Updating the forms together with the Quality department	V	Recurring action yearly	EC-LS
Evaluate the new evaluation process from the GSLS CQA work group	Evaluate the new evaluation process within the GSLS. Also participate in the workgroups Digital Evaluations of the Faculty of Medicine and in the Thermometer project from the Science faculty.	V	Ongoing	EC-LS and Adrien Melquiond
EER 2023-2024	Involved in the realization of the EER.	V	Recurring action yearly	EC-LS
Quality funds 2022-2023 and new plan for 2023-2024	Advice on the spending of the quality funds for the faculty of Medicine and the Faculty of Science.	V	Recurring action yearly	Chair EC-LS and EC-LS
Yearly meeting teacher-student members with programme coordinators	Various topics were discussed, e.g., the RP/WA/Exit survey results and the annual reports. The outcome of these meetings was reported to the BoS.	V	Recurring action yearly	EC-LS
Teacher survey	Conduct a bi-annual teacher survey and analyse the results.	V	Finished December 22	Adrien Melquiond, Tania Morán Luengo
New master GSLS	Monitor developments of the new master programme.	V	Ongoing	Adrien Melquiond and EC-LS
Bi-directional interim assessment, a.k.a. SEED tool	Monitoring the follow-up after the pilot in two Master programmes concluded	V	Ongoing	EC-LS

5. Procedures and actions

The EC-LS has yearly actions and procedures. Besides this, there are other activities depending on the portfolios and focus point of that year. The EC-LS informed the Board of Studies (BoS) by written communication about the recommendations of the EC-LS and other ongoing business.

Rules of Procedure EC-LS

The Rules of procedure were not drawn up this academic year. The document was reviewed by the secretary and a few changes needed to be made. The Roles of Procedure will be discussed at the first meeting of the academic year 23-24.

5.1 Education and Examination Regulations

Each year, the Education and Examination Regulations (EER or '*Onderwijs- en Examenregeling*': OER in Dutch) of the GSLS is sent to the EC-LS for advice. The EC-LS has thoroughly reviewed the draft EER 2023-2024 - as well as the errata - and provided feedback/advice. The Faculty Council of the Faculty of Science and the O&O Council were invited to attend the EC-LS meetings where the EER was reviewed and discussed.

Last year, one focus of the EC-LS was on the culture regarding student holidays. The EC-LS has been working with a policy adviser to come up with a rule that encourages students to take holidays. Such a rule was added to the EER 23-24.

5.2 Quality control

5.2.1 Evaluation of theoretical courses

In 2022-2023, the EC-LS assessed approximately 70 Master's courses. Each evaluation is thoroughly reviewed by two EC-members, a teacher and a student, in preparation of the EC-LS meeting. Their findings have been discussed with all members in the meeting. Unfortunately, the response rates we very low, so the EC-LS could not advise the BoS or the ASP properly.

In 2022-2023 the School introduced a new course evaluation process. This process was not yet working optimally, and the EC-LS reported back its findings to the GSLS. The Caracal team came to the EC-LS meeting twice and presented an improved process for the course evaluations. The EC-LS and the Caracal team will evaluate the process next year.

5.2.2 Research projects/writing assignment/exit questionnaires

The surveys had sometimes a low response. The responses are as follows:

- Exit: 177 (total 510 = 35%)
- WA: 42 (total 414 = 10%)
- RP: 83 (total 438 = 19%)

All the surveys had a few mentions of Osiris Case. Some students had difficulties using Osiris Case and examiners do not always understand the programme either. However, students point out that the GSLS helped with fixing these problems manually.

Exit: 98% of all students who filled in the Exit survey, give their programme a sufficient grade. More than half of the students rate their programme an eight or higher. The EC-LS is glad to see such high rates for our programmes. Besides this, most students find it difficult to complete the programme in two years.

Writing Assignment: 75% of all students who filled in the WA survey, experienced stress in order to deliver good quality work. Besides this, most students do not finish their writing assignments within 5 weeks. Also, 40% did not work fulltime on their assignment.

Research Project: Most students are positive about the research project. The EC-LS has one overall concern: 85% of the students who filled in the survey said they do not use the bi-directional feedback.

5.2.3 Bi-annual Teacher Survey

From the survey analysis, it appears that teachers are moderately familiar with the learning objectives of the GSLS (69%). Most of them do not look at the EER throughout the year (63%). GSLS assessment criteria are discussed with the students at the start of the project by about 62% of respondents. This probably reflects that the majority of our respondents are experienced teachers who do not require extra information or support to run their courses.
Our respondents rank their courses high on interdisciplinarity and are not interested in support to increase this further. However, it could be interesting to clearly define interdisciplinarity in the context of GSLS, and set goals for interdisciplinarity if the graduate school wants to encourage more development along this line.

Most teachers feel well equipped for supervision and teaching, and do not feel the need for more mentoring programs or courses. However, some complain that the administrative load has increased due to things like Osiris Case and other tasks that were done by the administration before. Getting to know all the different apps (with their two-factor authentication and sometimes unavailability at the UMC/UU networks) seems not efficient. This concern is also recurringly reported by programme coordinators during the programme visitations conducted by the Educational Committee.

Facilities that could be improved to benefit the quality of respondent's courses are the Rooms and Administrative support. In particular, teachers struggle with UMC/UU ICT facilities, and it starts to hinder teaching and impacting the quality of education. Some examples are:

- not being able to login to WIFI in UU-buildings with your UMC-account
- not being able to access MS Teams meetings
- not being able to record lecture in MS Teams as UMC/UU teacher (depending on who "owns" the MS Teams workspace)

The most often mentioned suggestions to improve educational quality were: more administrative support, more and continuous trainings for teachers, and making filling out the course evaluations mandatory.
When asked whether they want to keep any changes made to adjust to online teaching, the respondents varied in their answers. Some have a strong preference for only face-to-face teaching, others see the advantages of flexibility online teaching provides.

5.2.4 Visits programme coordinators

A visit with programme coordinators is organised annually which aims to discuss the overall well-being of students and teachers as well as the quality of the education provided in the programme. A student and teacher delegation of the EC-LS meets face-to-face, or a questionnaire is sent to programme coordinator. Programme leaders are invited and, on most occasions, present during the meeting.

The annual reports of the Master's programmes as well as a questionnaire which comprises of admission numbers, selection procedure, quality of the education, teacher and student wellbeing and role of programme coordinator are discussed in these meetings.

Based on these meetings which discussed issues from the 2022-2023 academic year, we would like to highlight achievements as well as several recurring observations. In short, the most prominent remarks concern:

- The selection process with the use of rubrics (matrix) has been useful in ensuring a fair selection process for the master programmes. Inclusivity and diversity is uniformly practiced in all programmes. Programme coordinators appraise the GSLS standardized selection rubrics but would like for programme specific criteria to be included as well.
- Emphasis have been made by some programme coordinators to students regarding the importance of holidays.
- The use of Osiris for course registration has led to students feeling uncertain if they will secure a seat for a course due to the waiting list.
- Some programme coordinators have discussed that it is difficult for students to complete the master programme within 2 years, and this may be due to delay in internship commencement, difficulty in securing an internship or delay in attaining approval from Osiris Case.
- Caracal digital course evaluations still have low responses, and this makes it difficult for teachers to cater to the needs of students. Subsequently, one or two programmes have organised their own evaluations during the course period.
- Students and teachers feel that the duration given for completing the writing assignment is too short and generally students require at least 7 weeks for this.
- Programme coordinators do not necessarily feel well-trained to conduct NTPE workshops for students.

5.2.5 Input to/approval of various plans and meetings regarding quality control

- Guide internal quality control Education (*Interne Kwaliteitszorg Onderwijs*) Faculty of Medicine, Utrecht University
- *Voortgangsrapportage kwaliteitsmiddelen/studievoorschotmiddelen* Medicine
- Attending task force remaining quality funds Faculty of Science.

5.2.6 Quality funds

The EC-LS has discussed the progress reports regarding the quality funds. The EC-LS was in general positive about the plans introduced. However, sometimes the reports were difficult to read, because of the layout. The EC-LS asked all parties if they could use another format and highlight changes.

Also, in the last EC-LS meeting of the academic year, the committee reviewed new plans for the MCLS master. The EC-LS is glad they are involved before the plans are implemented and they endorse the plan to develop three new courses.

5.2.7 Complains quality programmes

The EC-LS received three complaints from students about the Science and Business Management programme. The EC-LS takes these complaints seriously and has organised a meeting with the programme management. Agreements have been made to improve the quality of teaching that the EC-LS will monitor.

5.3 Additional activities

5.3.1 Course of the year

The course of the year could not be selected this year. Normally, the Life Sciences Representatives (LSR) make a short list, after which the EC-LS selects the winning course, based on the Caracal evaluations. The EC-LS could not select a course based on the Caracal evaluations, because the response rates were very low. Also, the whole process was not impartial. In 2023-2024, the EC-LS and the LSR draw up a new process.

5.3.2 Election/selection procedures educational committee

Every year, the participation bodies can decide how educational committees select new members. The O&O council would like all EC's from the faculty of Medicine to hold elections. The EC-LS did not agree and wrote a letter with their point of view on selecting members. Also, the chair of the EC-LS attended several meetings regarding this subject. The EC-LS has an exception and can select its members through an application/selection procedure.

5.3.3 Team activity

Unfortunately, the EC-LS did not have a team activity last year. The secretary and chair were new in their roles and did not know a team activity was common since this was not possible last years due to covid-19.

6. Description and reflection management information

The EC-LS looked at the admission number and noticed the following points:

- Most programmes still have difficulties to fill their fixus, mostly because of last-minute no-shows. The EC-LS sees the Board of Admissions' efforts and is glad to see the number of starting students rising.
- The Biofabrication programme has very little starting students. The EC-LS questions whether small programmes are profitable and how many students there are needed for an optimal performance.

7. Future plans

Topic	Action	Stakeholders	Status
Course of the year	The EC-LS and the LSR will draw up a new process for the course of the year.	LSR	All year
Generative AI	The EC-LS invited Dr. Christine Fox to reflect on the new guidelines issued by GSLS on the use of GenAI in Higher-Education. The chair of the EC-LS is an active member of the GenAI Initiative spearheaded by Dr. Fox		All Year
ICT alignment UMC and UU	The EC-LS will monitor the developments.		All year
Course evaluation results	The EC-LS will continue to monitor the course evaluation results, advise corrective actions where applicable and advise the GSLS regarding the given education.		All year
Evaluation forms 24-25 formats	Updating the forms together with the Caracal Team		June '24
Course evaluations process	The EC-LS will evaluate the improved course evaluation process. This also includes evaluating the response rates.	Caracal team	December '23
EER 2024-2025	The EC-LS will be involved in the realization of the EER 2024-2025		December 23-March '24
Quality funds	The EC-LS will be giving advice on the spending of the quality funds for the faculty of Medicine and the Faculty of Science.		All year
Yearly meeting with master programme coordinators	The EC-LS will continue to schedule a yearly meeting with the programme coordinators.		Summer 2024
New master GSLS	The EC-LS will continue to monitor the developments and provide feedback.	New master team	All year

8. Recommendations/points of attention to the BoS

Topic	Recommendation / Point of attention	Support/assistance needed from BoS
Visits programme coordinators	The current timeline for programme visits is not feasible for the EC-LS.	The EC-LS discussed the possibilities with the management team and there are new arrangements.
Digital evaluation process	To improve the digital evaluations process, the GSLS implemented a new process for the evaluations. Unfortunately, the response rates remained low. This means the EC-LS cannot do her job and assess the quality of the education. The EC-LS advised the School to improve the process once more.	
ICT issues UU and UMC	The EC-LS reiterated that the IT facilities between the UU and UMC are not working.	The GSLS director raised this issue with the deans.
Teacher survey?	Reduce the administrative burden on course coordinators and teachers (sending email and reminders to fill in course evaluations should be automated) Improve cooperation between IT facilities across faculties Offer more training (for instance on GenAI tools for Education)	The EC-LS and the teaching community would appreciate to see how the survey resulted in actions at the school level. Could you please communicate how the concerns raised by the teachers have been addressed?

Part II: Appendices

Appendix 1: Year Report LSR 2022-2023

By Kees van de Sanden, Sebastian Bok, and Demian van Gurp

Introduction

The academic year 2022-2023 has been an extraordinary year for the LSR. The previous LSR signed off with addressing the high workload of the representatives, and called for a restructuring of the LSR, this was reconfirmed by the LSR of 2022-2023. Somewhat due to this high workload, the LSR saw a drawback in the number of students willing to participate in the committees. With students leaving for their minor internship abroad in the second semester, the LSR was starved of new members and diminished to a group of up to 8 students. This led to a different attitude towards tasks, and a better focus on the introduction and recruitment of new members.

LSR members during 2022-2023

In an online file* you can find the LSR members and their time of joining/time of leaving the LSR. This tab 'previous members' gives a list of members which have left recently. Because the document was created in this year, it does not harbour all details of previous members yet. We hope it will be used and updated for the coming period.
*(https://docs.google.com/spreadsheets/d/125zRkRCh7aMIMUNrCJTw58NWhBAdp--oNEEd4IvkOGo/edit#gid=107258528)

Tasks of the LSR conducted this year

This year we had several structural changes which need addressing in this report. After consulting with the GSLS, we decided to appoint a treasurer and incorporate this person into the core group. The GSLS has asked us to be more aware of our budget and therefore this treasurer will take care of the overview of our finances. During the year 2022-2023, Demian van Gurp has taken up the role of treasurer. He is responsible for creating an estimation of the costs and creating an end-overview of the year. It was also decided to include more study associations that are active in the GSLS. This included the board members responsible for education from Amino and UBV.

In the second semester of the academic year, we evaluated the wellbeing of students, as is normal for the LSR. This survey was conducted in spring and the results were shared with the GSLS, showing a similar trend compared to recent years.

Furthermore, the LSR meetings were often joined by GSLS staff to discuss a range of topics. We helped design the new student website and gave input on new-to-develop courses. These LSR meetings, which were joined by the staff for about an hour, were very informal and hands-on, which made them have a direct impact on the output of the GSLS.

Lastly, a large part of the LSR joined the GSLS strategy day, where we could give direct input to GSLS staff and help shape the new strategic document for the graduate school.

Recruitment of new LSR members

Because of the low number of students involved in the LSR, we aimed to better introduce the committee and attract new members during the introduction week in September 2023. To achieve this, we made LSR specific gadgets, which we handed out at the opening of the GSLS introduction week. The webcam-covers with our LSR logo on it reached a lot of students and students came by to have a chat with the LSR members handing them out at the event.

Moreover, we gave a presentation during the opening, explaining about the LSR and its work. This was followed by a call for applications to the LSR email, which led to some applications coming in. The selection process was open for applications until September 20th, to give the EC-LS the opportunity to first process its applications. After that, we had more than 10 applicants, of which most were incorporated into the LSR after interviews. It showed that the extra focus on the selection process paid off and more students were interested in joining this year. We can continue the 2023-2024 academic year with a full and viable LSR again.

Finances

Each year the LSR has a set budget of €1500,- and the three GSLS associations M.B.V. Mebiose, U.B.V., and U.L.S.V. Amino have a set budget of €1000,-. This money can be used for pizzas during the meetings, promotional material, activities, and a LSR outing.
This year the LSR ordered, with extra money, high quality vests to wear during GSLS activities, seminars, and meetings to increase visibility of the LSR.

Appendix 2: Programme specific Tables

Biofabrication (BIFM)

Biofabrication (BIFM)	2022-2023
Number applicants (n)	35
Number admitted (n)	18
Number starters (n)	11
Percentage internationals (% of starters)	45%
Number graduated (n)	2
Percentage cum laude (%)	0%
Number discontinued (n)	0
Avg. time to degree (months)	33
Yields in 2 / 2.5 / 3 years (% graduates)	0/50/50%

Courses 2022-2023

Osiris code	Title	EC	# participants	Avg. grade (SD)	% passed	NVD
BMB502415	Introduction to Biofabrication	15	11	7,8 ± 0.7	100	0
BMB502816	Fundamentals of Biofabrication	3	17	7,4 ±0.5	88,2	2

Projects 2022-2023

Project BIFM	EC	# participants	Avg. grade ±SD	% passed	NVD
Major	51	2	8.1 ± 0	100	0
Writing assignment	7.5	2	8.8 ± 0.4	100	0
Profile project	33	7	7.9 ± 0.6	100	0
Mini project		0			

Bioinformatics and Biocomplexity (BINF)

Bioinformatics and biocomplexity (BIBC/BINF)	2022-2023
Number applicants (n)	92
Number admitted (n)	52
Number starters (n)	32
Percentage internationals (% of starters)	19%
Number graduated (n)	15
Percentage cum laude (%)	7%
Number discontinued (n)	2
Avg. time to degree (months)	28.5
Yields in 2 / 2.5 / 3 years (% graduates)	13/67/100%

Courses 2022-2023

Osiris code	Title	EC	# participants	Avg. grade (SD)	% passed	NVD
B-MBIOCES	BIBC Essentials	4,5	34	7,3 ± 0.8	97,1	1
B-MBIOINBM	Introduction to Biological Modelling	5	30	7,5 ± 1.2	93,3	1
B-MBIOGEN	Bioinformatics and Genomics	5	1	8,2	100	0
B-MBIOBMLB	Basic machine learning	3	29	7,5 ± 1.0	93,1	2
B-MBIEG06	Bioinformatics and evolutionary genomics	3	29	7.3 ±1.5	86,2	2
B-MCOBI17	Computational Biology	7,5	8	6,6 ± 1.5	62,5	2
B-MBIMOD	Biological Modelling	5	7	8,2 ± 2.1	71,4	2

Projects 2022-2023

Project BINF	EC	# participants	Avg. grade ±SD	% passed	NVD
Major	51	24	7,9 ± 0.9	100	0
Writing assignment	7,5	16	7,8 ± 0.7	100	0
Profile project	31,5-39	14	8,2 ± 0.8	100	0
Mini project	3	1	8,0	100	0

Bio Inspired Innovation (BINN)

Bio Inspired Innovation (BINN)	2022-2023
Number applicants (n)	56
Number admitted (n)	39
Number starters (n)	25
Percentage internationals (% of starters)	44%
Number graduated (n)	22
Percentage cum laude (%)	0%
Number discontinued (n)	3
Avg. time to degree (months)	34.9
Yields in 2 / 2.5 / 3 years (% graduates)	5/27/77%

Courses 2022-2023

Osiris code	Title	EC	# participants	Avg. grade (SD)	% passed	NVD
B-MBIVA	Bioinspiration & Value Creation	7,5	25	7,8 ±0.4	100	0
B-MIBID	Integrative Bio-Inspired Design: the systems level	7,5	6	7,8 ± 0.2	83,3	1
B-MBIBIDC	Bio inspired design challenge	9	26	7,7 ± 0.4	100	0
B-MBIES	Bio-Inspiration Essentials	3	17	8,1 ± 0.4	76,5	4

Projects 2022-2023

Project BINN	EC	# participants	Avg. grade ±SD	% passed	NVD
Major	51	20	7,8 ± 0.4	95,0	1
Writing assignment	7,5	16	7.8 ± 0.7	100	0
Profile project	33	19	7.7 ± 0.9	94,7	1
Mini project	4,5-12	5	7.6 ± 0.6	100	0

Biology of Disease (BIDM)

Biology of Disease (BIDM)	2022-2023
Number applicants (n)	127
Number admitted (n)	66
Number starters (n)	36
Percentage internationals (% of starters)	11%
Number graduated (n)	24
Percentage cum laude (%)	0%
Number discontinued (n)	4
Avg. time to degree (months)	29.2
Yields in 2 / 2.5 / 3 years (% graduates)	21/58/100%

Courses 2022-2023

Osiris code	Title	EC	# participants	Avg. grade (SD)	% passed	NVD
BMB510817	Kick off Biology of Disease	3	38	-	97,4	1
BMB403905	Biomolecular and Cellular Cardiology	3	35	7,8 ± 0.4	91,4	3
BMB508212	Thrombosis and Haemostasis	3	33	7,1 ± 0.7	90,9	3
BMB509113	Cardiovascular Immunology	3	25	7,5 ± 0.7	100	0
BMB580117	Cardiac Regenerative Medicine	3	29	7,3 ± 0.5	89,7	3
BMB416005	Essentials of Neuroscience	3	33	7,8 ± 0.3	87,9	4
BMB501314	Metabolic Pathways	3	21	7,6 ± 0.5	90,5	4
BMB506213	Medical Physiology	3	5	7,0 ± 1.6	60,0	2
BMB507310	Pathology	3	15	6,6 ± 0.7	86,7	2

Projects 2022-2023

Project BIDM	EC	# participants	Avg. grade ±SD	% passed	NVD
Major	51	32	7.8 ± 0.8	96,7	1
Writing assignment	7.5	41	7.9 ± 0.6	100	0
Profile project	33-45	12	8.2 ± 0.8	91,7	1
Mini project	3-12	7	8.4 ±0.5	100	0

Cancer, Stem Cells and Developmental Biology (CSDB)

Cancer, Stem Cells and Developmental Biology (CSDB)	2022-2023
Number applicants (n)	204
Number admitted (n)	62
Number starters (n)	38
Percentage internationals (% of starters)	18%
Number graduated (n)	39
Percentage cum laude (%)	8%
Number discontinued (n)	3
Avg. time to degree (months)	33.6
Yields in 2 / 2.5 / 3 years (% graduates)	15/64/79%

Courses 2022-2023

Osiris code	Title	EC	# participants	Avg. grade (SD)	% passed	NVD
BMB505416	Introducing Cancer, Stem Cells & Developmental Biology	3	38	7,5 ± 0.5	100	0
BMB502114	Advanced Bioinformatics: Data Mining and Data Integration for LS	1,5	24	8,2 ± 1.0	79,2	5
BMB502316	Advanced Omics for Life Sciences	1,5	27	7,1 ± 0.8	92,6	2
BMB508219	Analytics and Algorithms for Omics Data	3	18	7,5 ± 0.7	66,7	6
BMB521219	Cancer Genomics	3	16	7,7 ± 0.6	87,5	2
BMB436006	Cell Organisation in Health and Disease	1,5	20	7,5 ± 0.7	90,0	2
BMB404107	Chromosome Instability in Cancer	1,5	31	8,4 ± 1.0	90,3	3
BMB400306	Concepts in Cancer Biology	1,5	36	7,8 ± 0.4	91,7	3
BMB506508	Developmental Genetics	1,5	19	7,9 ± 1.0	100	0
BMB507009	Digital pictures: Data Integrity and Display	1	11	8,6 ± 0.4	81,8	2
BMB509413	Gene Expression, Epigenetics and Disease	3	45	7,5 ± 0.5	93,3	3
BMB465019	Introduction to Python for Life Sciences	3	62	7,7 ± 1.8	77,4	9
BMB502219	Introduction to R for Life Sciences	3	96	6,9 ± 1.4	70,8	17
BMB509018	Introduction to Stem Cells	3	59	7,9 ± 0.8	93,2	4

Projects 2022-2023

Project CSDB	EC	# participants	Avg. grade ±SD	% passed	NVD
Major	51	36	8,0 ± 0.6	94,4	2
Writing assignment	7,5	35	8.2 ± 0.7	100	0
Profile project	33-45	30	8.3 ± 0.8	93,3	2
Mini project	12	3	8.3 ± 0.8	100	0

Drug Innovation (DINN)

Drug Innovation (DINN)	2022-2023
Number applicants (n)	205
Number admitted (n)	83
Number starters (n)	34
Percentage internationals (% of starters)	24%
Number graduated (n)	45
Percentage cum laude (%)	7%
Number discontinued (n)	2
Avg. time to degree (months)	35.9
Yields in 2 / 2.5 / 3 years (% graduates)	9/60/76%

Courses 2022-2023

Osiris code	Title	EC	# participants	Avg. grade (SD)	% passed	NVD
DI-408-09	Drug Discovery	7,5	34	7.8 ± 0.2	100	0
DI-409-09	Drug Development and Regulation	7,5	35	7.6 ± 0.3	94,3	2
DI-407	Understanding Drugs	3	21	7.2 ± 0.9	90,5	2
FA-450	Chemical Biology	7,5	6	8 ± 0.7	83,3	1
Di-FA-442	Design of anti-infective drugs	6	10	8.4 ± 0.3	70,0	3
FA-MA210	Pharma-epidemiology	7,5	10	8.0 ± 0.4	90,0	1
FA-MA213	Pharmacoeconomics	7,5	22	7.6 ± 0.7	86.4	3
FA-MA216	Pharmaceutical policy analysis	7,5	19	7.5 ± 0.6	73.7	5
FA-MA215	Immuno-pharmacology	7,5	16	7.2 ± 0.5	100	0
FA-MA218	Nanomedicine	7,5	18	8.2 ± 0.3	77.8	4
SK-MOSS	Advanced Organic Synthesis	7,5	18	6.7 ± 1.5	61,1	6

Projects 2022-2023

Project DINN	EC	# participants	Avg. grade ±SD	% passed	NVD
Major	51	42	7,9 ± 0.7	95,2	2
Writing assignment	7,5	37	8,1 ± 0.6	97,2	1
Profile project	33-45	37	8,2 ± 0.8	100	0
Mini project	0,5	1	n.a.	100	0

Environmental Biology (ENVB)

Environmental Biology (ENVB)	2022-2023
Number applicants (n)	138
Number admitted (n)	94
Number starters (n)	49
Percentage internationals (% of starters)	22%
Number graduated (n)	41
Percentage cum laude (%)	5%
Number discontinued (n)	9
Avg. time to degree (months)	33.6
Yields in 2 / 2.5 / 3 years (% graduates)	7/41/78%

Courses 2022-2023

Osiris code	Title	EC	# participants	Avg. grade (SD)	% passed	NVD
B-MEBSDG	Exploring your research impact	1,5	54	n.a.	90,7	5
B-MENR19	Ecology of Natural Resources	7	12	7,3 ± 0.5	91,7	1
B-MNMAN19	Management of Natural Resources in Context	6,5	18	8,0 ± 0.4	94,4	1
B-MMBE07	Measuring behaviour	1,5	17	7,5 ± 1.0	88,2	2
B-MEPSB	Evolutionary perspectives on sexual behaviour	6	16	7,3 ± 0.5	100	0
B-MPEI	Plant Environment Interactions	3	17	8,0 ± 0.3	100	0
B-MEBIFB19	Fungal biology	9	9	7,9 ± 0.3	88,9	1
B-MZCB	Zoo conservation biology	6	12	7,5 ± 0.9	100	0
B-MPCEMD	Primate Social Behaviour	2,5	45	7,4 ± 1.0	68,9	14
B-MINBI19	intro bioinformatics for LS	4,5	52	7,7 ± 0.9	88,5	6
B-MBITEC	Biotechnology	5	29	8,0 ± 0.3	100	0
B-MTAB17	Theory of animal behaviour	3	6	7,0 ± 1.0	100	0

Projects 2022-2023

Project ENVB	EC	# participants	Avg. grade ±SD	% passed	NVD
Major	51	41	7,8 ± 0.7	100	0
Writing assignment	7,5	35	7,8 ± 0.7	100	0
Profile project	33-45	31	8,0 ± 0.7	100	0
Mini project	1-12	8	8,1 ± 0.6	100	0

Epidemiology (EPIM)

Epidemiology (EPIM)	2022-2023
Number applicants (n)	93
Number admitted (n)	74
Number starters (n)	26
Percentage internationals (% of starters)	54%
Number graduated (n)	32
Percentage cum laude (%)	6%
Number discontinued (n)	6
Avg. time to degree (months)	27.5
Yields in 2 / 2.5 / 3 years (% graduates)	56/88/97%

Courses 2022-2023

Osiris code	Title Track courses	EC	# participants	Avg. grade (SD)	% passed	NVD
BMB509818	Clinical epidemiology	1,5	55	7,0 ± 0.7	92,7	4
BMB510818	Clinical Trials and Drug Risk Assessment	1,5	40	8,1 ± 0.7	100	0
BMB532818	Systematic reviews in intervention research	1,5	56	7,5 ± 1.2	78,5	12
BMB513818	Epidemiology of infectious diseases	1,5	16	7,2 ± 0.5	93,8	1
BMB524817	Mathematical modelling of infectious diseases	3	13	7,3 ± 0.6	84,6	2
BMB515818	Generalized Linear Models	1,5	30	7,5 ± 0.8	100	0
BMB520818	Mixed Models	1,5	46	7,9 ± 0.6	93,5	3
BMB511818	Computational Statistics	1,5	15	8,7 ± 0.8	100	0
BMB536818	Pharmacoepidemiology and drug safety	1,5	15	7,6 ± 0.6	86,7	2
BMB537818	Pharmaceutical Policy Analysis	1,5	10	7,1 ± 0.3	80,0	2
BMB512818	Economic Principles for the Veterinary Sciences	2,5	9	8,1 ± 1.0	100	0
BMB535818	Study Design in Veterinary Epidemiological Research	1,5	5	7,9 ± 1.1	80,0	1
BMB538818	Epidemiology of Animal Infectious Diseases	3	10	7,6 ± 0.5	100	0
BMB534818	Hands-on Veterinary Sciences	1,5	9	8,1 ± 0.4	88,9	1

Courses continued

Osiris code	Title Primary theoretical courses	EC	# participants	Avg. grade (SD)	% passed	NVD
BMB501818	Advanced diagnostic research	1,5	36	7,5 ± 1.0	77,8	8
BMB524818	Prognostic research	1,5	36	7,5 ± 0.9	91,6	3
BMB502818	Advanced topics in causal research	1,5	51	7,1 ± 1.1	86,3	7
BMB530818	Systematic review in diagnostic studies	1,5	12	7,6 ± 0.7	75,0	3
BMB531818	Systematic review and meta- analysis of prognostic research	1,5	18	7,2 ± 0.6	77,8	4
BMB505818	Applied Economic Modelling for the Veterinary Sciences	3	7	7,7 ± 1.1	85,7	1
BMB506818	Big Data	2	8	9,3 ± 0.7	100	0
BMB507818	Cardiovascular epidemiology	1,5	10	7,5 ± 0.7	80,0	2
BMB508818	Challenges in global health	1,5	5	7,5 ± 0.3	100	0
BMB514818	Fundamentals of Global health	1,5	7	7,8 ± 0.3	85,7	1
BMB518818	Machine learning & Application in Medicine	1,5	11	7,8 ± 1.1	100	0
BMB519818	Methodology in Health Economic Evaluation	1,5	9	8,2 ± 1.4	77,8	2
BMB526819	Missing data	1,5	31	7,8 ± 1.1	90,3	3
BMB522818	Molecular Epidemiology of Infectious Diseases	3	15	8,0 ± 0.2	100	0
BMB523818	Nutritional Epidemiology	1,5	15	7,5 ± 0.3	100	0
BMB525818	Public Health Epidemiology	1,5	24	8.0 ± 1.0	79,2	5
BMB528818	Survival Analysis	1,5	39	8,1 ± 0.5	92,3	3
BMB529818	Systematic reviews and meta-analysis of individual participant data (IPD)	1,5	9	7,9 ± 0.8	100	0

Projects 2022-2023

Project EPIM	EC	# participants	Avg. grade ±SD	% passed	NVD
Major	65	34	7,6 ± 0.8	100	0
Writing assignment	7,5	32	7,6 ± 0.9	100	0
Mini project	3-12	4	8,0 ± 0.8	100	0

Epidemiology Postgraduate (EPMM)

Epidemiology Postgraduate (EPMM)	2022-2023
Number applicants (n)	66
Number admitted (n)	44
Number starters (n)	41
Percentage internationals (% of starters)	27%
Number graduated (n)	22
Percentage cum laude (%)	14%
Number discontinued (n)	1
Avg. time to degree (months)	39
Yields in 2 / 2.5 / 3 years (% graduates)	18/41/59%

Courses 2022-2023

Osiris code	Title	EC	# participants	Avg. grade (SD)	% passed	NVD
BMB402914	Introduction to Epidemiology	1,5	41	7,4 ± 1.1	100	0
BMB404014	Introduction to Statistics	1,5	72	7,8 ± 1.3	93,1	5
BMB403314	Classical Methods in Data Analysis	6	81	6,7 ± 1.7	71,6	6
BMB417014	Modern Methods in Data Analysis	4,5	97	6,7 ± 1.6	83,5	4
BMB505915	Presenting Your Research Confidently - e	?	22	7,0 ± 0.6	86,4	3
BMB422116	Writing Research Proposals	1,5	32	7,6 ± 0.6	75,0	8
BMB500916	Research Ethics an Introduction E-learn		20	7,6 ± 0.5	95,0	1
BMB506714	Research Ethics and Society	1	45	7,2 ± 0.7	91,1	4
BMB507711	Intro to Epidemiology - E-learning		29	7,3 ± 1.1	93,1	1

Projects 2022-2023

Project EPMM	EC	# participants	Avg. grade ±SD	% passed	NVD
Major	56	20	7,9 ± 0.6	100	0

Health and Environment (HENV)

Health and Environment (HENV)	2022-2023
Number applicants (n)	81
Number admitted (n)	68
Number starters (n)	44
Percentage internationals (% of starters)	47%
Number graduated (n)	n.a.
Percentage cum laude (%)	
Number discontinued (n)	4
Avg. time to degree (months)	n.a.
Yields in 2 / 2.5 / 3 years (% graduates)	

Courses 2022-2023

Osiris code	Title	EC	# participants	Avg. grade (SD)	% passed	NVD
BMB4706022	Fundamentals of Health and Environment	1,5	48	7,9 ± 0.4	93,8	3
BMB4705022	Exposure	3	53	7,2 ± 0.9	92,5	4
BMB4707022	Planetary health effects	3	49	7,7 ± 0.3	93,9	3
BMB4704022	Capstone project	3	51	7,7 ± 0.3	90,2	5
BMB4703022	Advanced toxicology	4,5	47	7,5 ± 0.2	38,3	29
BMB4701022	Advanced exposure and environmental epidemiology	4,5	50	7,9 ± 0.9	28,0	36
BMB4702022	Advanced One Health research	4,5	19	8,0 ± 0.4	100	0
BMB504006	Environmental Epidemiology	3	18	7,8 ± 0.6	94,4	1

Projects 2022-2023

Project HENV	EC	# participants	Avg. grade ±SD	% passed	NVD
Major	51	2	n.a.	0,0	2
Writing assignment	7,5	2	7.5	100	0
Profile project	33	1	7.4	100	0
Mini project	12	2	6.0	50	1

Infection and Immunity (IMIF)

Infection and Immunity (IMIF)	2022-2023
Number applicants (n)	145
Number admitted (n)	46
Number starters (n)	30
Percentage internationals (% of starters)	20%
Number graduated (n)	34
Percentage cum laude (%)	24%
Number discontinued (n)	0
Avg. time to degree (months)	29.2
Yields in 2 / 2.5 / 3 years (% graduates)	35/74/91%

Courses 2022-2023

Osiris code	Title	EC	# participants	Avg. grade (SD)	% passed	NVD
BMB401905	Symposium I&I	1,5	25	8,0 ± 0.5	100	0
BMB404506	Bacterial Pathogenesis	3	30	7,4 ± 0.7	100	0
BMB459007	Signalling and techniques in I&I	4,5	31	8,3± 0.3	100	0
BMB507410	Vaccines	3	28	8,6 ± 0.5	100	0
BMB404707	Clinical Immunology	3	23	8,2 ± 0.7	100	0
BMB430006	Virology	3	38	7,9 ± 1.3	97,4	1
BMB401920	Organization Symposium I&I	1,5	7	n.a	100	0
BMB513321	Computational Immunology	4,5	19	7,4 ± 0.9	100	0
BMB501103	Biology of Disease – Infection and Immunity	3	25	7,2 ± 0.5	92,0	2

Projects 2022-2023

Project IMIF	EC	# participants	Avg. grade ±SD	% passed	NVD
Major	51	26	8.1 ± 0.6	100	0
Writing assignment	7,5	30	8.1 ± 0.7	100	0
Profile project	33-45	27	8.5 ± 0.7	100	0
Mini project	3-12	8	8.4 ± 0.6	100	0

Medical Imaging (MIMG)

Medical Imaging (MIMG)	2022-2023
Number applicants (n)	37
Number admitted (n)	21
Number starters (n)	16
Percentage internationals (% of starters)	28%
Number graduated (n)	11
Percentage cum laude (%)	7%
Number discontinued (n)	5
Avg. time to degree (months)	31.2
Yields in 2 / 2.5 / 3 years (% graduates)	27/45/64%

Courses 2022-2023

Osiris code	Title	EC	# participants	Avg. grade (SD)	% passed	NVD
BMB501717	Medical Image Formation	5	16	7,2 ± 0.9	100	0
BMB502317	Team Challenge	5	14	7,9 ± 0.6	100	0
BMB502417	Programming for Medical Imaging	5	36	7,1 ± 0.8	72,2	10
BMB502817	Image Processing	5	17	7,2 ± 0.7	82,4	3
BMB502717	Advanced MR Physics 1	5	20	6,9 ± 1.0	70,0	6
BMB503317	Advanced MR Physics 2	5	14	6,6 ± 0.6	50,0	7
BMB502217	Capita Selecta in Med Image Analysis TU/e	5	11	7,4 ± 0.5	90,9	1
BMB502617	Radiotherapy Physics	5	11	6,8 ± 0.5	90,9	1
BMB503121	Electromagnetic fields in MRI TU/e	2,5	1	7	100	0
BMB503217	Ultrasound in (Bio)med Engineering TU/e	5	5	7,4 ± 0.5	100	0
BMB4708022	AI for Medical Imaging	2,5	27	8,2 ± 0.6	70,4	8
BMB4709022	Diffusion MRI	2,5	16	7,5 ± 0.9	93,8	1

Projects 2022-2023

Project MIMG	EC	# participants	Avg. grade ±SD	% passed	NVD
Major	51	16	7.9 ± 0.8	100	0
Writing assignment	7,5	12	7.4 ± 0.7	100	0
Profile project	20-32	7	8.5 ± 0.7	100	0
Mini project	2	1	6	100	0

Molecular and Cellular Life Sciences (MCLS)

Molecular and Cellular Life Sciences (MCLS/BMOL)	2022-2023
Number applicants (n)	193
Number admitted (n)	109
Number starters (n)	51
Percentage internationals (% of starters)	31%
Number graduated (n)	46
Percentage cum laude (%)	11%
Number discontinued (n)	9
Avg. time to degree (months)	34.1
Yields in 2 / 2.5 / 3 years (% graduates)	15/43/72%

Courses 2022-2023

Osiris code	Title	EC	# participants	Avg. grade (SD)	% passed	NVD
B-MCG20	Genes to Organisms	3	44	7.2 ± 0.9	95,5	1
SK-MCMC	Molecules & Cells	3	54	7.5 ± 0.7	98,1	1
SK-MCBMI	Biophysics & Molecular Imaging	3	16	7.9 ± 0.7	100	0
B-MLMIC19	Light Microscopy	3	14	8.0 ± 0.8	85,7	2
SK-MBPPC	Applied Protein Crystallography	3	3	7.1 ± 0.6	66,7	1
SK-INTRAPR	Research in Intracellular Processes and Cell Organisation	3	27	8.2 ± 0.3	81,5	5
SK-MCACEM	Applied Cryo Electron Microscopy	3	4	8,1 ± 0.4	100	0
SK-MADPBMS	Advanced Biomolecular Mass Spectrometry	3	4	7.8 ± 0.9	75,0	1
NS-EX423M	Advanced microscopy	7,5	27	7.1 ± 1.5	85,2	3
SK-MCABNMR	Advanced biomolecular NMR	4,5	4	7.3 ± 0.7	100	0
SK-MCSL	Concepts in Science for Life	2	51	n.a.	98,0	1
SK-MIBMI	Introduction to biophysics and molecular imaging	1	48	n.a.	100	0

Projects 2022-2023

Project MCLS	EC	# participants	Avg. grade ±SD	% passed	NVD
Major	51	47	7,9 ± 0.7	97,9	1
Writing assignment	7,5	35	7,9 ± 0.6	100	0
Profile project	33 - 45	31	8,2 ± 0.7	100	0
Mini project	1-12	3	9	100	0

Neuroscience and Cognition (NSCN)

Neuroscience and Cognition (NSCN)	2022-2023
Number applicants (n)	333
Number admitted (n)	93
Number starters (n)	50
Percentage internationals (% of starters)	16%
Number graduated (n)	46
Percentage cum laude (%)	7%
Number discontinued (n)	6
Avg. time to degree (months)	30.3
Yields in 2 / 2.5 / 3 years (% graduates)	26/54/91%

Courses 2022-2023

Osiris code	Title	EC	# participants	Avg. grade (SD)	% passed	NVD
BMB500103	Fundamentals of Neuroscience	15	49	7,3 ± 0.9	100	0
BMB530421	Introduction to Programming using Matlab	3	23	8,4 ± 1.2	100	0
BMB501016	Philosophy of Neuroscience	5	6	8,2 ± 0.6	100	0
BMB501603	Neurocognition of Memory and Attention	7,5	20	7,9 ± 0.6	60,0	8
BMB503905	Ethology and Welfare	6	22	7,8 ± 0.6	100	0
BMB504907	Social and Affective Neuroscience	7,5	20	7,6 ± 0.7	100	0
BMB507110	Communication in Neuroscience	3	22	8,7 ± 0.3	100	0
BMB508117	Bioinformatics in Neuroscience	3	17	7,2 ± 0.6	100	0
BMB509117	Basic fMRI Analysis	3	12	8,0 ± 0.8	100	0
BMB509218	Advanced fMRI Analysis	3	7	8,3 ± 0.7	100	0
BMB518920	Neurophilosophy of Mind and Consciousness	7,5	4	7,5 ± 0.6	100	0
BMB150121	Matlab for Neuroscience	3	22	8,4 ± 1.2	100	0

Projects 2022-2023

Project NSCN	EC	# participants	Avg. grade ±SD	% passed	NVD
Major	51	46	8.2 ± 0.6	91,3	4
Writing assignment	7,5	56	8,0 ± 0.6	100	0
Profile project	33	38	8.4 ± 0.6	97,4	1
Mini project	1.5-9	4	8	75,0	1

One Health (ONEH)

One Health (ONEH)	2022-2023
Number applicants (n)	n.a
Number admitted (n)	
Number starters (n)	
Percentage internationals (% of starters)	
Number graduated (n)	20
Percentage cum laude (%)	0%
Number discontinued (n)	1
Avg. time to degree (months)	28.9
Yields in 2 / 2.5 / 3 years (% graduates)	25/65/95%

Projects 2022-2023

Project ONEH	EC	# participants	Avg. grade ±SD	% passed	NVD
Major	51	7	7.9 ± 0.6	100	0
Writing assignment	7.5	13	7.9 ± 0.5	100	0
Profile project	33-39	6	8.1 ± 0.4	100	0
Mini project	1.5-4.5	3	8,0	100	0

Regenerative Medicine (RMTM)

Regenerative Medicine (RMTM)	2022-2023
Number applicants (n)	97
Number admitted (n)	43
Number starters (n)	26
Percentage internationals (% of starters)	42%
Number graduated (n)	28
Percentage cum laude (%)	14%
Number discontinued (n)	3
Avg. time to degree (months)	31.4
Yields in 2 / 2.5 / 3 years (% graduates)	29/57/79%

Courses 2022-2023

Osiris code	Title	EC	# participants	Avg. grade (SD)	% passed	NVD
BMB508612	Intro to RMT	15	30	7,2 ± 0.5	96,7	1
BMB503515	Orthopaedic soft tissues: biomechanics and mechanobiology	5	1	7.0	100	0
BMB503715	Bone Structure and Function	5	4	7,5 ± 0.6	100	0
BMB503815	Biomaterials	5	1	5.0	100	0
BMB504015	Microfabrication Methods	5	5	7,8 ± 1.4	100	0
BMB504016	Cell Mechanobiology and Engineering	5	12	6,9 ± 0.3	100	0
BMB518519	Nanomedicine	5	7	7,5 ± 0.8	85,7	1

Projects 2022-2023

Project RMTM	EC	# participants	Avg. grade ±SD	% passed	NVD
Major	51	21	8.1 ± 0.6	95,5	1
Writing assignment	7,5	23	8.1 ± 0.7	100	0
Profile project	33-45	25	8.2 ± 0.7	100	0
Mini project	1-7.5	6	7.6 ± 0.5	67	2

Science and Business Management (SPMM)

Science and Business Management (SPMM/SBM)	2022-2023
Number applicants (n)	152
Number admitted (n)	90
Number starters (n)	50
Percentage internationals (% of starters)	22%
Number graduated (n)	67
Percentage cum laude (%)	3%
Number discontinued (n)	10
Avg. time to degree (months)	28.9
Yields in 2 / 2.5 / 3 years (% graduates)	27/67/96%

Courses 2022-2023

Osiris code	Title	EC	# participants	Avg. grade (SD)	% passed	NVD
B-MSBISBC	Intro science-based companies	1,5	37	7.9 ± 0.3	97,3	1
B-MSBOPC	Orientation On Presentation and Career	2	53	7.9 ± 0.3	100	0
B-MSBECO	International business	5	86	7.6 ± 0.6	97,7	2
B-MSBENSH	Science based Entrepreneurship	5	85	7.2 ± 0.7	97.7	2
B-MSBFIMA	Financial management	5	86	7.3 ± 0.7	96,5	4
B-MSBMAR	Marketing	5	88	7.0 ± 0.8	94,3	4
B-MSBOPMA	Operations Management	5	88	7.8 ± 0.6	96,6	3
B-MSBORBE	Strategic Management of innovation	5	87	7.5 ± 0.5	95,4	4
B-MSBFUFO	Public Procurement	3	87	7.9 ± 0.6	94,2	5
B-MSBBSC22	Biotechnology and the Societal Challenge	4	26	7,4 ± 0.4	100	0

Projects 2022-2023

Project SBM	EC	# participants	Avg. grade ±SD	% passed	NVD
Major	51	58	7,9 ± 1.0	98	1
Business Internship	27	55	7,7 ± 0.7	98.2	1

Toxicology and Environmental Health (TXEH)

Toxicology and Environmental Health (TXEH)	2022-2023
Number applicants (n)	n.a.
Number admitted (n)	
Number starters (n)	
Percentage internationals (% of starters)	
Number graduated (n)	11
Percentage cum laude (%)	9%
Number discontinued (n)	2
Avg. time to degree (months)	35.2
Yields in 2 / 2.5 / 3 years (% graduates)	0/45/64%

Projects 2022-2023

Project TXEH	EC	# participants	Avg. grade ±SD	% passed	NVD
Major	51	22	7.2 ± 0.7	95,5	1
Writing assignment	7.5	11	7.5 ± 0.6	100	0
Profile project	25.5-45	9	7.8 ± 0.8	100	0
Mini project	5-12	3	7.3 ± 1.3	100	0

Elective courses (BMS)

Courses 2022-2023

Osiris code	Title	EC	# participants	Avg. grade (SD)	% passed	NVD
BMB426006	Laboratory Animal Sciences	3	12	7,7 ± 0.7	100	0
BMB429020	Online Course Radiation Protection –ELO on Open Sources	1	3	8,0	100	0
BMB427006	English for Academic Purposes	3	79	n.a	86,1	11
BMB507217	Basics of Biostatistics	4,5	26	7,2 ± 0.9	73,1	7
BMB507319	Vascularized Tissue Engineering Online	3	28	7,3 ± 0.3	96,4	1
BMB507611	Communicating Life Sciences	3	27	7,7 ± 0.6	96,5	1
BMB507812	History of Medicine	7,5	9	7,3 ± 0.2	100	0
BMB507912	Science and Society	3	6	7,4 ± 1.0	100	0
BMB508512	Academic Writing	1	69	n.a.	82,6	12
BMB522319	Career Orientation	5	11	7,2 ± 0.8	90,9	1
BMB614319	Engaging Scientists with the Public	3	51	7,6 ± 0.7	78,4	11
BMB529019	Bio-Tech-Med interdisciplinary team training (BITT project)	3	54	7,7 ± 0.5	92,6	4
BMB509214	Life Sciences Seminar Series	0,75	3	n.a	100	0
BMB505320	Logical Argumentation in Science: Publishing, Proposals and Pitching	3	11	7,8 ± 0.2	90,9	1
BMB504321	Adobe Illustrator and InDesign for Scientific purposes	1,5	32	8,3 ± 0.9	93,8	2
BMB502114	Advanced Bioinformatics: Data mining and Data Integration for LS	1,5	24	8,2 ± 1.0	79,2	5
BMB502316	Advanced Omics for Life Sciences	1,5	27	7,1 ± 0.8	92,6	2
BMB508219	Analytics and algorithms for Omics data	3	18	7,5 ± 0.7	66,7	6
BMB503905	Ethology and Welfare	6	22	7,8 ± 0.6	132	0
BMB502219	Introduction to R for Life Sciences	3	96	7,0 ± 1.5	70,7	17
BMB430006	Virology	3	38	7.9 ± 1.3	97,4	1
BMB506508	Developmental Genetics	1,5	19	7.9 ± 1.0	100	0
BMB508219	Analytics and algorithms for omics Data	3	18	7,5 ± 0.7	66,7	6
BMB509413	Gene Expression, Epigenetics & Disease	3	45	7,5± 0.5	93,3	3
BMB501314	Metabolic pathways: from cell to disease	3	21	7.6 ± 0.5	90,5	2

Courses continued

Osiris code	Title	EC	# participants	Avg. grade (SD)	% passed	NVD
BMB416005	Essentials of Clinical Neuroscience	3	33	7.8 ± 0.3	87,9	4
BMB501103	Biology of disease	3	25	7.2 ± 0.5	92,0	2
BMB509018	Introduction to stem cells	3	59	7.9 ± 0.8	93,2	4
BMB465019	Introduction to Python for Life Sciences	3	62	7.7 ± 1.8	77.4	9
BMB502219	Introduction to R for Life Sciences	3	96	7,0 ± 1.5	70.7	17
BMB501917	Societal Challenges for Life Sciences	3			93,8	2

Elective courses (Biosciences)

Courses 2022-2023

Osiris code	Title	EC	# participants	Avg. grade (SD)	% passed	NVD
B-MADR19	Advanced R for Life Sciences	3	63	8,6 ± 0.7	83,4	9
B-MINRDM	Introduction to research data management for life sciences	3	35	8,0 ± 0.7	97,0	1
B-MBITEC	Biotechnology	5	29	8,0 ± 0.3	100	0
B-MEAPB	Applied Plant biology	4,5	20	7,5 ± 0.5	90,0	2
B-MEPMI	Plant microbe interactions	3	19	7,8 ± 0.6	84,2	3
B-MBIMIGE	Microbial Genomics	4,5	42	7,1 ± 1.1	83,3	5
B-MBIEG06	Bioinformatics and evolutionary genomics	3	29	7.3 ± 1.3	86,2	2
B-MBIOINPY	Introduction to Python for Life Sciences	3	52	7,2 ± 1.6	59,6	16
B-MBIOINR	Introduction to R for Life Sciences	3	52	7,1 ± 1.9	46,2	24
B-MEBFFL22	Foreign Field Excursion	6	14	7,4 ± 0.4	100	0
B-MLOOP10	Career Orientation & Professionalisation	5	56	8,1 ± 0.4	90,7	7
B-MINBI19	Introduction to Bioinformatics for Life Sciences	4,5	52	7.6 ± 0.9	88,5	6
B-MPEI	Plant environment interactions	3	17	8,0 ± 0.3	100	0
B-MCOBI17	Master level Computational Biology	7,5	8	6.6 ± 1.5	62,5	2
SK-MBAPBMS	Introduction to Biomolecular Mass Spectrometry	1,5	9	8.2 ± 1.1	77,8	2
SK-MCBIM21	Structural Bioinformatics & Modelling	5	19	7.3 ± 0.7	63,2	7

Profile courses

Applied Data Science

Osiris code	Title	EC	# participants	Avg. grade (SD)	% passed	NVD
INFOMDA1	Data Analytics 1: Supervised Learning and Visualization	7,5	30	8.1 ± 0.6	83.3	5
INFOMDA2	Data Analytics 2: Battling the Curse of Dimensionality	7,5	22	7.9 ± 1.3	86.4	3
GSLS-ADS18	Applied Data Science Project	18	1	7,1	100	0
GSLS-ADS10	Applied Data Science Project	10,5	n.a			

Bioinformatics

Osiris code	Title	EC	# participants	Avg. grade (SD)	% passed	NVD
B-MBIOMLS	Bioinformatics Project	18	3	7,7 ± 0.4	100	0
B-MBIOPR33	Bioinformatics Project	33	10	8.4 ± 0.4	100	0

Communication

Osiris code	Title	EC	# participants	Avg. grade (SD)	% passed	NVD
FI-MSECIPD	Internship Product Development	20	50	8.1± 0.7	94.0	3
FI-MSECCSP	Communicating Science with the Public	5	80	7.1 ± 0.6	92.5	3
FI-MSECITS	Issues and Theories in SEC	5	49	7.7 ± 0.7	93.9	2
FI-MSECPSI	Professional Skills and Identity	5	21	8.2 ± 0.4	90.5	2
FI-MSECDSE	Designing for Science Education in Formal and Informal Settings	5	48	7.4 ± 0.7	100	0
FI-MSECSIS	Science in Society	5	28	8 ± 0.4	85.7	4

Complex Systems

Osiris code	Title	EC	# participants	Avg. grade (SD)	% passed	NVD
GSLS-COSYS	Complex Systems Research Project	18	1	7,5	100	0
GSLS-COS33	GSLS-COS33	33	1	7.2	100	0
WISM484	Introduction to Complex Systems	7,5	35	7.7 ± 1.2	91.4	3
INFOMCRWS	Crowd Simulation	7,5	52	8.3 ± 0.5	75	13
WISM436	Seminar Mathematical Epidemiology	7,5	9	7.9 ± 0.6	88.9	1

Education

Osiris code	Title	EC	# participants	Avg. grade (SD)	% passed	NVD
FI-MSECHP	History and Philosophy of Science for SEC	5	12	7.3 ± 0.7	66.7	4
FI-MSECSIS	Science in Society	5	28	8,0 ± 0.4	85.7	4
FI-MSECTSE	Trends in Education and Communication	2,5	8	8.7	100	0
FI-MSECTSC	Trends in Science Communication	2,5	13	8.3 ± 0.7	92.3	1

General Research

Osiris code	Title	EC	# participants	Avg. grade (SD)	% passed	NVD
BMB500820	Research Profile Project BMS	18-33	162	8.3 ± 0.7	98.1	3
BMB504321	Adobe Illustrator and InDesign for Scientific purposes	1,5	32	8.3 ± 0.9	93.8	2
BMB505320	Logical Argumentation in Science: Publishing, Proposals and Pitching	3	11	7.8 ± 0.2	90.9	1

Life Sciences and Society

Osiris code	Title	EC	# participants	Avg. grade (SD)	% passed	NVD
BMB619221	Introduction - Life science and society	3	13	7.3 ± 0.5	100	0
BMB629221	History and Philosophy of Life Sciences LSS	3	13	7.8 ± 0.6	100	0
BMB639221	Open Science	3	13	n.a	100	0
BMB649221	Diversity Perspectives in LS Research	3	13	8.1 ± 0.3	100	0
BMB659221	Ethics and Research Integrity	3	13	7.2 ± 0.8	100	0
BMB669221	Global Health	3	13	n.a.	100	0
BMB679221	Perspectives of Life Sciences Institutions	3	13	n.a.	100	0
BMB699221	Capstone Project	12	12	7.9 ± 0.3	100	0

Translational Life Sciences

Osiris code	Title	EC	# participants	Avg. grade (SD)	% passed	NVD
BMB632821	Capstone Project	20	20	8.1 ± 0.3	100	0
BMB612821	Theoretical component TLS Profile	6	20	n.a.	100	0
BMB622821	Flexible component TLS Profile	0-3	20	n.a.	100	0
BMB642821	Personal development - TLS	4	20	n.a.	100	0

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