



**LUND**  
UNIVERSITY

# Master's Programme in Biomedicine

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PROGRAMME QUALITY CLOSURE AND QUALITY PLAN 2022

## Summary of programme quality closure

### Results – focus on strengths and weaknesses

1. Student-active learning, mainly Team-based learning (TBL), is implemented as the pedagogy strategy on all courses where applicable. This strategy is overall highly appreciated among both students and teachers. Still, most courses also have traditional lectures, and these are highly valued by the students and therefore seem to serve as an important complement to other student-centered activities.
2. There is lack of alignment between some modules, teaching- and learning activities. Some courses are composed of modules that are not well integrated and instead seen as separate courses.
3. Feedback from teachers is seen as very important and students request more feedback.
4. Some assignments have inadequate assessment criteria and instructions.
5. There is an overall low response rate on course evaluations.

### Possible explanations

1. Experienced course leaders/teachers with both theoretical and practical training in active learning strategies are involved at several courses. This strengthens both the course structure and content and balances the level of activities.
- 2 and 4. New course leaders, in combination with new or just newly developed courses negatively impact on alignment between different activities.
3. Constructive feedback is challenging and time-consuming for teachers. At the end of the programme, students are expected to be more independent and to take more responsibility for their own learning, which could be interpreted as a reduced need for feedback.
4. Especially at elective courses the student groups are very heterogenous, and previous subject knowledge among the students differ.
5. The course evaluations are not mandatory to reply to and therefore not prioritized since the students already completed the course. If students don't see that previous course evaluations have led to changes in the course, the incentive to reply is low.

### Suggestions of measures and further development

1. The course budgets are not increased in line with increased costs for teaching, forcing the programme to cut down on teacher-intense learning activities such as lectures even if they complement active-learning activities. Teachers are encouraged to record key lectures and funds are set aside to support this.
- 2 and 4. Emphasis on course alignment both in terms of learning goal within the course but also between the courses to avoid overlap and that actual knowledge gaps exist that could have been identified/covered. Workshops will be organized with different themes at the program level to: i) improve subject alignment between the courses and ii) assure learning progression within the program. This includes alignment of assessment criteria, scoring rubric et c.
3. Course leaders need to clarify what level of feedback students will receive (from peers, teachers et c) and when. Teacher feedback must be constructive and peer review needs clear instructions. Course managers can also raise awareness that students are expected to take responsibilities for their own learning, especially later in the program. This includes requesting feedback if lacking.
4. Clarification at course start, for example including an initial quiz, to indicate what prerequisite is expected subject-wise.
5. At course start, the course managers address the previous course quality closure and describe how it has impacted the current course. Both teachers and BUR to communicate with students the importance of feedback to assure quality progression.

## The programme in figures

Number of students that applied to the programme 2021:	291
Number of students that applied to the programme 2021 with prio 1:	82
Number of students that applied to the programme 2022:	273
Number of students that applied to the programme 2022 with prio 1:	103
Number of new programme students accepted 2021:	47
Number of new programme students accepted 2022:	44
Number of new programme students that were registered 2021:	27
Number of new programme students that were registered 2022:	32
Funding agreement targets 2021 (MKr)	18.4
Result accounted for 2021 – (HST+HPR)	23.0
Number of full-time equivalent students 2021 (HST):	50
Number of annual performance equivalent 2021 (HPR):	48
Number of degrees awarded 2021:	23
Budget for 2021:	16.5*
Economic result 2021:	-0.7*
Budget for 2022:	18.4*
Number of teachers involved (>2h):	

*\*Both Bachelor and Master programmes.*

## Representatives in committees

Programme director: Maria Swanberg

Programme steering committee:

Karin Stenkula, Mattias Collin, Thomas Hellmark, Viktoria Willenfelt Lumpkins, Sara Holmgren, Susanne Destow, Magnus Hillman, Lene-Marlen Wessel (student)

International committee:

Mattias Collin, Maria Swanberg

Examination committee:

Harry Björkbacka, Magnus Hillman, Oonagh Shannon (until October 2022)

Student welfare committee:

Oonagh Shannon (until October 2022), Bodil Sjögreen, Nicholas Leigh (from 220913), Susanne Destow

Other working groups or committees:

QPS reference group: Magnus Hillman, Harry Björkbacka, Thomas Hellmark

## Appendixes

1. List of courses
2. Quality plan 2022
3. Course quality evaluations

## Appendix 1. List of courses

Course code	Course name	Credits (ECTS)	Semester*	# of students	# passed the course	Course closure available
BIMM01	Experimental design and scientific communication	15	Sem 1	27	27	no
BIMM02	Biomedical methods and experimental animal models	15	Sem 1	27	27	yes
BIMM24	Stem Cell Biology and Regenerative Medicine	7,5	Sem 2	21	19	yes
BIMM22	Molecular and Experimental Neurobiology	7,5	Sem 2	19	19	yes
BIMM23	Metabolic diseases	7,5	Sem 2	14	13	yes
BIMM21	Tumour Biology	7,5	Sem 2	11	10	yes
BIMM03	Innovation and Entrepreneurship	7,5	Sem 3	25	25	yes
BIMM04	Drug Development and Clinical Trials	7,5	Sem 3	8	8	yes
BIMM80	Research Project in Life Science Industry**	45	Sem 4	8	7	yes
BIMM05	Research Project Management	7,5	Sem 3	17	17	yes
BIMM81	Research Project in Academia**	45	Sem 4	17	17	yes
			Sem 1			no
			Sem 1			no
			Sem 1			no
			Sem 1			no
			Sem 1			no
			Sem 1			no
	** Semester 3 & 4		Sem 1			no

\* FS: Free standing

## Appendix 2. Quality plan. Valid for the academic year 22/23

Overall quality criteria	Quality objectives	Activities	Planned to start	Planned to end	Responsible	Status / Follow up	Actions/feedback:
<i>Refers to "Policy för kvalitetssäkring och kvalitetsutveckling av utbildning vid Lunds universitet"</i>		<i>Planned activities to reach the objectives</i>				<i>Annually</i>	<i>What does the program do with the results and how are these disseminated to relevant stakeholders?</i>
The actual study results correspond to learning and programme syllabus outcomes.	<i>To have a complete mapping and blue printing of the programme to obtain alignment and transparency</i>	<i>Curriculum mapping: connect competences and learning outcomes to the programme syllabus in Ortrac (QPS)</i>  <i>Blueprinting: connect learning, teaching and assessment to each learning outcome</i>  <i>Engagement of the PNM examination committee in course development.</i>	<i>Started 2020</i>	<i>Mapping was completed in 2022, and will be continuously updated for new learning activities, outcomes and courses.</i>	<i>Course managers and programme directors</i>	<i>Outcome from course quality closures will be evaluated by course leaders. When needed, adjustments in course syllabi will be made.</i>	<i>Students can individually follow mapping and blueprinting of their activities in Ortrac.</i>  <i>Teachers and programme directors can monitor mapping and blueprinting across courses within the program. When alignment needs improvement, this is discussed with representatives from the involved courses.</i>

The programme has the students' learning in focus.	To have student centered learning throughout the program in order to promote life-long learning and student responsibility for their own development.	<p>Implementation and development of Team Based Learning (TBL) in collaboration with the TBLC.</p> <p>Flipped classroom strategies. Classroom activities focuses on interaction between students.</p> <p>Continuous assessment in QPS to visualize students' development. The same assessment criteria are applied to learning activities in different courses to map students' development.</p>	Ongoing	Ongoing	Course managers, program directors and student representatives.	In course evaluations and some assessments such as student requested feedback in the QPS system	<p>Workshops in TBL for course managers.</p> <p>Emphasize activities of student-centered learning activities in budgets and schedules.</p>
The education is based on scientific basis and best practice.	To have evidence-based learning methods to achieve the best possible conditions for learning.	<p>Education of teachers at MedCUL</p> <p>Engagement of ETPs from the faculty's pedagogic academy.</p>	Ongoing	Ongoing	Programme directors	Programme closure	<p>Map and support teachers' pedagogic development.</p> <p>Workshops held by the examination committee and ETPs for feedback and updated scientific evidence in teaching and course design.</p>

		<i>Recommend teachers that are doing pedagogic projects to include perspectives on their teaching modules.</i>					
Teaching staff have suitable education in subject-specific, pedagogic and didactic competences	<i>To have teachers at the programme that have a keen interest in teaching, relevant pedagogic training and proven subject expertise.</i>	<i>Follow-up on course coordinators' and examiners' pedagogic development.</i>  <i>New assignments are announced in open competition and evaluated in a structured way.</i>	<i>ongoing</i>	<i>ongoing</i>	<i>Programme directors and course managers</i>	<i>Course closures.</i>	<i>Discuss with respective teacher and make a development plan if improvement is needed</i>  <i>Provide collegial support at the programme.</i>
Teacher capacity is sufficient.	<i>To have a good recruitment base of teachers and examiners with appropriate experience, education and long-term employment contracts to cover the programme's needs.</i>	<i>To emphasize the programme's needs of teachers employed in the teacher category (lecturers, professors) to the Faculty management.</i>	<i>ongoing</i>	<i>ongoing</i>	<i>Programme Directors, chairman of the board of master education (PNM), vice dean at the Faculty of Medicine</i>	<i>Quality dialogue and requests for employments to the Faculty board.</i>	<i>Promote and highlight the need for lecturer-/ professorships in underrepresented areas and highlight the consequences of too few faculty-financed teacher positions on the overall teaching quality and continuity.</i>
The education is relevant for the students based on the societal needs.	<i>To offer students relevant and authentic training in skills and applications that are</i>	<i>Authentic cases and examples from both life science industry and academic environments are</i>	<i>ongoing</i>	<i>ongoing</i>	<i>Course managers and programme directors.</i>	<i>Course evaluations, course planning and development. Follow-up on alumni careers.</i>	<i>Communicate with partner universities and life science industry at national fora.</i>

	<i>required for their future profession</i>	<i>implemented in applications and portfolio assessments.</i>  <i>Representatives from areas outside academia are included in the teaching.</i>					
The students have influence over planning, execution and follow up of the education.	<i>To have a good dialogue with, and involvement of, students to engage them in their current and future education.</i>  <i>To improve the programme from a student perspective.</i>	<i>Student representatives are involved in relevant environments, such as working groups, programme workshops, the biomedicine steering committee meetings and course evaluations.</i>  <i>Meetings are held in English when possible and needed.</i>	<i>ongoing</i>	<i>ongoing</i>	<i>Programme directors, course managers, student course representatives and the student educational association (BUR).</i>	<i>Follow-up at bi-weekly programme management meetings.</i>  <i>Annually at programme workshop.</i>  <i>After every course in course quality closures.</i>	<i>Bidirectional communication between students and programme management to ensure understanding and needs from both students and management.</i>
The learning and study environment are suitable and accessible for all students including well functional support activities.	<i>To offer learning activities that support participation and learning for all</i>	<i>Information and workshops held by the academic support center, student welfare committee and study counselor.</i>	<i>ongoing</i>	<i>ongoing</i>	<i>Programme director, student welfare committee and study counselor.</i>	<i>Continuously.</i>	<i>Follow-up through the study counselor, student welfare committee and programme director.</i>



	<i>Students at the programme.</i>	<i>Individual study plans are made if needed.</i>					<i>Surveys to map what works well and what needs improvement regarding learning environments. The outcome is communicated with teachers and course leaders.</i>
There is a continuous follow up and development of the programme	<i>To offer a competitive programme of highest international standards.</i>	<i>Programme and quality development.</i>	<i>ongoing</i>	<i>ongoing</i>	<i>Programme management, student educational organisation and teachers.</i>	<i>Programme closure and quality assessment.</i>	<i>Communication with student organizations at a local and national level and other universities. Information to prospective students (fairs, online etc).</i>
Internationalization and international perspectives are promoted in the programme	<i>Internationalization of the program is reflected in the student cohort, engagement of international teachers and a global perspective of Biomedicine.</i>	<i>International admission of students, student and teacher mobility is encouraged. Applications are designed with a global health perspective. Students can apply for a certificate of international merits (CIM),.</i>	<i>2020</i>		<i>Programme director, international committee and international coordinator.</i>	<i>The number of international students, student exchange and teacher exchange reported in programme closure.</i>	<i>Global perspectives are emphasized in information to prospective students.</i>  <i>As suggested by the quality evaluation group in 2020, map relevant internationalisation in Ortrac under Core-values. Highlight the different perspectives and experiences that students and teachers can contribute with.</i>  <i>Open CIM seminars to promote student exchange and international engagement.</i>

Gender equality and equal treatment are integrated in the programme	<i>All students and teachers are treated equally and with respect.</i>	<i>Through training and assessing group communication from start of the programme. No tolerance for harassment or other unequal treatment.</i>	<i>ongoing</i>		<i>Programme director, course managers, student counselor, students.</i>	<i>Course evaluations, questionnaires (eg Studentbarometern), psychosocial safety inspection..</i>	<i>Student meetings, teacher meetings  Emphasize a professional behavior in course syllabi and highlight the importance of equality and diversity in teams and in learning activities. These should be mapped in QPS in order to follow the progression.</i>
Relevant perspectives in sustainable development is promoted	<i>The programme contributes to sustainable development of academia, working life, studying, health and environment.</i>	<i>The sustainability goals are considered in the educational- and course curricula and tagged in QPS.</i>	<i>2020</i>		<i>Programme management, Course managers,</i>	<i>Course evaluation, QPS tags.</i>	<i>Workshop discussions with teachers and students.  Projects focusing on development in Innovation and entrepreneurship (BIMM03).</i>
Adequate administrative support for students, teachers, course managers and programme management.	<i>The administrative support facilitates students' learning, and allows teachers to focus on education rather than administration.</i>	<i>Discussion with administrative management to convey the programme's needs in terms of services and continuity.</i>			<i>Programme director and administrative manager.</i>	<i>Regularly at programme management meetings in dialogue with students and teachers.</i>	<i>Discussed at the programme board (PNM) and in quality dialogue.</i>

<b>BIMM02</b>	<b>Biomedical methods and experimental animal models</b>		<b>15 ECTS</b>
<b>Year 21/22</b>	<b>Course start:</b> 2021-11-01	<b>Course end:</b> 2022-01-16	<b>Study rate 100%</b>
Course leader(s)	Kinga Gawlik, Mauno Vihinen, Oxana Klementieva		
Examiner	Madeleine Durbeej		

### The course

Number of students	At start: 27	At the end: 27
Examination module (name, credits)	Passed at first attempt	Passed later
Exam, animal module	24	1
Literature assignement, animal module	20	7
Bioinformatics	25	2
Method module	27	0
Number of other teachers involved:	Of which 2 professors, 2 readers (docent), 8 holding PhD, 0 PhD students, 5 other, And non LU or RS employed.  Of which were core course conveners, 3 guest lecturer, assistants, or other minor contributors.	
It was easy to find competent teachers <input checked="" type="checkbox"/> yes <input type="checkbox"/> no	If no, in what field of knowledge was it hard to find teachers? Why?	
Short description of the course:  The course is divided into 3 modules.  Animal module: This module focuses on practical skills in handling research animals and on general knowledge about animal models in biomedical research: biology of rodents, genetic manipulations, law regulations and ethics, animal based experiments, alternatives to animal research.  Method module: Facilitate understanding of why and how the spectroscopic approaches can be used in biomedicine. Get basic knowledge about methods available at MAXIV and ESS.  Bioinformatics module:concepts of central bioinformatic programs and analyses propose, execute, interpret and critically review basic bioinformatics analyses		
Pedagogic model(s) used in the course (exemplify how you work):  Animal models: Lectures, PBL, practicals, ethical permit exercise/discussion, literature assignement, written exam  Method module: Lectures, MAXIV beamline visits (NanoMAX, CoSAXS), project presentations, journal club, hands-on sessions (microscopy), written assignment  Bioinformatics: Lectures, hands-on session		
Major changes from last year:		

Animal models: none

Method module: the program for MAXIV visits will be changed, lectures will be substituted with home reading and follow up seminars, hands on session for sample preparation and hands on session for data analysis will be added

Bioinformatic module: it will be kept as 2 +2 +2 days separated over the course

## Summary of course quality evaluation

### Results – focus on strengths and weaknesses

General complaints: students pointed out that the modules do not have much in common and that the schedule was 'messy' and not clear, to many items in Ortrac made navigation difficult, even if "modules" were introduced, full days of lectures (bioinformatics), expectation from microscopy module was not clear enough for students, the workload, in general, was too high.

•Animal models: students found the course useful well, structured and the practicals were appreciated a lot. Students thought that PBL groups were too big.

### Possible explanations

General: Kinga Gawlik and Oxana Klementieva are new module leaders, some things are learned by experience (communication, new platforms, etc).

Animal models: PBL group size was due to budget limitation

•Method module: despite of all complaints, 100% of students were able to finish written assignment on time, which indicates that provided information and support was sufficient to pass the module. Workload will be reconsidered.

### Suggestions of measures and further development

General: the modules will not overlap. Communication between module leaders will be improved; we will provide a general introduction for the course and will have monthly meetings to discuss the ongoing course.

The course schedule will be presented separately for each module in advance in Ortrac number of learning activities will be reduced, allowing there will be a common platform for the course. There will be a common introductory lecture at the beginning of the course.

Animal models:


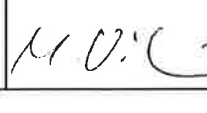
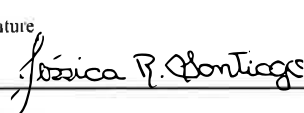

•PBL groups will be smaller.

•PBL will be obligatory.

•Practicals will not be obligatory due to ethical reasons.

•The literature assignment will be individual work (pairing with a colleague will not be allowed).

## Signatures

Date: 21/03/2022			Place:
Course leaders			Student representative
Signatures			Signature 
Elucidation			
Kinga Gawlik / Mauno Vihinen / Oxana Klementieva			Elucidation

Appendix: Course evaluation

<b>BIMM24</b>	<b>Stem Cell Biology and Regenerative Medicine</b>		<b>7.5 ECTS</b>
<b>Year 21/22</b>	<b>Course start:</b> 2022-01-17	<b>Course end:</b> 2022-02-16	<b>Study rate 100%</b>
Course leader(s)	Paul Bourguine and Filipe Pereira		
Examiner	Filipe Pereira		

## The course

Number of students	At start: 21	At the end: 19
Examination module (name, credits)	Passed at first attempt	Passed later
Course portfolio	19	0
Multiple-choice questions (2.5)	19	1
Number of other teachers involved: 14	Of which 9 professors, 4 readers (docent), 1 holding PhD,   Phd students, other, and   non LU or RS employed.  Of which   were core course conveners, 1 guest lecturer, assistants, or other minor contributors.	
It was easy to find competent teachers <input checked="" type="checkbox"/> yes <input type="checkbox"/> no	If no, in what field of knowledge was it hard to find teachers? Why?	
Short description of the course:  The course is comprised of stem cell biology and regenerative medicine, with a focus on the stem cell research areas that are particularly strong at Lund University. The course begins with perspective on cell plasticity and re-programming, and how regeneration functions. During the following weeks, stem cells are studied from different perspectives i.e. focusing on different stem cell niches and their organs. The course covers complications from dysfunctional stem cells in connection with stem cell therapies and tissue engineering, and highlights the legal and ethical questions surrounding stem cell research. The purpose of the course is to prepare students for work in a field that includes stem cells and regenerative medicine, by introducing ongoing research in the area.		
Pedagogic model(s) used in the course (exemplify how you work):  The course follows a Team-Based-Learning model, structured around five week-long modules of chosen subjects around stem cells and regenerative medicine. The majority of learning methods in the course are student active, which requires students to prepare before each teaching component as well as constructive participation in the discussions. Each module contains lectures with experienced stem cell researchers, followed by preparation, analysis and discussion of material in compulsory practical exercises (in the form of team challenges), and concluded by a graded assignment (chalk-talk, MCQ design, journal club, MCQ test, oral and writing ssignment). Students practise extracting relevant information from scientific papers, synthesizing information from different sources, presenting orally in different formats, and writing scientifically.		
Major changes from last year:		



FACULTY OF  
MEDICINE

**Course Quality Closure**

Biomedicine Master's Programme in Biomedicine

New guest lecturer, more communication with students, more time dedicated to students project development, workload was reduced

## Summary of course quality evaluation

### Results – focus on strengths and weaknesses

Feedback from students were collected during the course and after the course.

Strengths:

- 19/21 students passed the course, of which 5 passed with distinction
- Great progression in acquired knowledge in the subject: 41.87 +/- 9.36% at diagnostic MCQ (week 1) and 62.29 +/-10.84% at MCQ examination (week 4)
- Course content (modules) very well evaluated by students
- Lecturers very well evaluated by students
- diversity of teaching activities and examinations: students largely appreciated the activities they were involved in (e.g. chalk-talk, design of an MCQ, writing of a grant proposal, design of a poster). Students acknowledge a positive development of their professional approach thanks to the course
- Through the mentoring aspect proposed in this course, students connected to the PhD and postdocs from the Biomedical center. Thus far, half of them contacted a teacher or mentor to enquire about the possibility to perform an internship
- The students acknowledge that the course was well organized (5.2 +/- 1.6) and written feedback from Bimm24 course evaluation document)
- Some of the activities such as chalk-talk or poster session could be very well implemented virtually. This could become a viable alternative for the future

Weaknesses:

- the level and background of students was very heterogenous; it was hard to provide lectures and tasks suitable to everyone

The workload was pointed out as being heavy, especially with regards to the individual project (final exam). However feedback was discrepant; some students claimed that the workload was perfectly adapted, while others found it being too much

- Some of the mentors assigned were not enough available to help students

### Possible explanations

The positive outcome from the course content may come from the fact that all teachers were active researchers in the course topic and therefore very engaged and motivated to teach on this subject. The uniform structure and organization into defined modules facilitated the communication of information between teachers and students. The creative teaching activities helped students both developing their skills but also enjoying the course. Engaging young researchers in a mentoring-like program to support the development of the students final project.


The workload of the course was designed to be challenging but it was reduced this year. Still, the level of students is too heterogenous, some had never heard about stem cell definition... We adapted the schedule to give students more time for reflection and project development. This was appreciated and reflected in students comments. The field of stem cells and regenerative medicine is large and expanding while being a core research area at the faculty of medicine. Dedicating 4.5 weeks may feel a bit short to comprehensively cover this topic

### Suggestions of measures and further development

We advocate for an extension of the course period and associated credits. We will keep adapting the course content and format according to the students content.

## Signatures



Date: 09-10-2022	Place: Lund
Course leader	Student representative
Signature 	Signature
Elucidation Filipe Pereira	Elucidation

Appendix: Course evaluation

<b>BIMM22</b>	<b>Molecular and Experimental Neurobiology</b>		<b>7.5 ECTS</b>
<b>Year 21/22</b>	<b>Course start:</b> 2022-02-17	<b>Course end:</b> 2022-03-22	<b>Study rate 100%</b>
Course leader(s)	My Andersson/ Jia-Yi Li		
Examiner	Jia-Yi Li		

### The course

Number of students	At start: 19	At the end: 19
Examination module (name, credits)	Passed at first attempt	Passed later
MCQ, 5	19	
Portfolio, 2.5	19	
Number of other teachers involved: 17	Of which 7 professors, 3 readers (docent), 5 holding PhD, 1 Phd students, 0 other, and 0 non LU or RS employed.  Of which 2 were core course conveners, 12 guest lecturer, assistants, or other minor contributors.	
It was easy to find competent teachers <input checked="" type="checkbox"/> yes <input type="checkbox"/> no	If no, in what field of knowledge was it hard to find teachers? Why?	
Short description of the course:  The course of “Molecular and Experimental Neurobiology” in 2022 was carried out as combination of lectures, lab practices (demonstrations) and modified version of the TBL format.  The course consisted of team-based learning sessions, lectures, covering topics from basic neuroanatomy and neurophysiology, to different neurological/psychiatric diseases, and related therapeutic interventions and diagnostic/research approaches. 9 sessions of TBL-like discussions for weekly sessions (Readiness Assurance Tests and Colloquium based on the topic of the week) were held. All the students participated in 3 weekly-based tests (each covers 25% of total exam weight). The 4th week, time was reserved for working on an assignment presented and discussed the final day, were a pass gave 25% of the total exam weight. Two components of lab practice (electrophysiological recording and animal behavioral tests) were performed.		
Pedagogic model(s) used in the course (exemplify how you work):  Team-based learning is used throughout the course with study questions and group case discussions week 1 through 3, finished with MCQ exam. Last week we have an application task were the students write a project proposal, with presentation and peer-review of course colleagues proposals.		
Major changes from last year:  The biggest change from last year was that the whole course was given in person again and that we moved examination to QPS. We also had a lecture in sensory physiology replaced with an application		

## Summary of course quality evaluation

### Results – focus on strengths and weaknesses

The answer count on course evaluation was 7 out of 20 students, which was very low.

Over all the responders scored from agree to completely agree on the questionnaire indicating that overall the course was appreciated and went well. Comments were made that the students like the TBL-format, demonstrations and level of knowledge in lecturers.

Weaknesses identified in evaluation was some confusion around the of different pages for scheduling and examination , some overlap between lectures on the topic of Parkinsons disease and that some of the lectures was a bit superficial.

### Possible explanations

We were using QPS for the first time, so part of this problem was related to us not being use to managing this efficiently


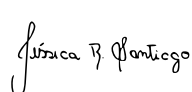
### Suggestions of measures and further development

We will set aside 15 minutes for course evaluation during the final session to have a bigger number of students contributing to the evaluation.

Structure our use of QPS.

Look over lectures and discuss content of lectures with contributing teachers.

## Signatures

Date: 220606	Place: Lund
Course leader	Student representative
Signature 	Signature 
Elucidation My Andersson	Elucidation Jessica Santiago

Appendix: Course evaluation

<b>BIMM23</b>	<b>Biomedicine: Metabolic Diseases</b>		<b>credits ECTS</b>
<b>Year 21/22</b>	<b>Course start:</b> 2022-03-23	<b>Course end:</b> 2022-04-29	<b>Study rate</b> 100%
Course leader(s)	Rashmi B Prasad and João Duarte		
Examiner	Rashmi B Prasad and João Duarte		

## The course

Number of students	At start: 13	At the end: 13		
Examination module (name, credits)	Passed at first attempt	Passed later		
iRAT1	13	0		
iRAT2	10	3		
iRAT3	6	7		
Grant submission and peer review	13	0		
Number of other teachers involved: 11	Of which 3 professors, 6 readers (docent), 2 holding PhD,    Phd students, other, and    non LU or RS employed. Of which 2 were core course conveners, 9 guest lecturer, assistants, or other minor contributors.			
It was easy to find competent teachers	If no, in what field of knowledge was it hard to find teachers? Why?			
<input checked="" type="checkbox"/> yes <input type="checkbox"/> no				
Short description of the course:				
The course consists of an introduction and inspirational lectures on metabolic diseases. A big part of the course is focused on endocrine organs and underlying genetics in relation to the metabolic disorders (special focus on diabetes mellitus), brain metabolism and its role on regulation of endocrine organs (hypothalamic / pituitary adrenal gland and thyroid gland). In week 1, we have an introduction lecture, followed by lectures on grant applications and peer review processes. This is followed by lectures on insulin action / secretion and gut. In week 2, we have lectures on genetics, omics, epigenetic and functional studies- methods to study metabolic and indeed complex diseases. In week 3, we focus on HPA / Brain / Satiety / Mitochondrial Function. Each week, the lectures are followed by readiness-assessment tests (RATs) and implementation exercises in a case format. Course exam consists of a written assignment in the form of a scientific project proposals in the relevant subject areas, and evaluation of the individual RATs. Students must also review and summarize written feedback on each other's applications. Finally, the students present their project proposal in the form of a pitch. Pedagogic model(s) used in the course (exemplify how you work):				

For weeks 1, 2 and 3, the course consists of inspirational lectures on metabolic diseases for day 1 and day 2 of each week. The students also receive 2-3 research or review articles covering the state-of-the-art of these topics. This is followed by 2 days of self studies using lectures, articles and any other relevant other resources.

The first 3 weeks of the course use TBL. The lectures are followed by readiness-assessment tests (RATs) with extensive group discussions and implementation exercises in a case format (often includes addressing a research question).

Week 4 is allocated for grant writing. Anytime up to the grant submission, the students are encouraged to develop their scientific project application in the realm of metabolism and/or metabolic diseases, and discuss their grant ideas together with the course coordinators and, sometimes, experts that are identified within the research topic.

Students must also review (individually and in group) and summarize written feedback on each other's applications.

Finally, the students present their project proposal in the form of a pitch.

Course exam consists of a written assignment in the form of a scientific project proposal in the relevant subject areas, and evaluation of the individual RATs.

Major changes from last year:

This year, the course was conducted in physical classrooms instead of online (due to COVID-19 pandemic last year). This was a welcome change. The challenging 2<sup>nd</sup> week was revised to make it even more interactive with polls and "games" and this seems to have a positive effect with more students passing on the first attempt at iRAT. As before, the scientific proposal and peer/reviewing was seen as a positive and rewarding challenge by the students. The post iRAT discussions were appreciated. Students received valuable individual feedback throughout the course.

## Summary of course quality evaluation

### Results – focus on strengths and weaknesses

Strengths: Organisation, lectures, time-frame, weekly iRATs, grant application and peer review processes were all very well received and appreciated by the students. We are grateful that the students appreciated the co-ordinators as well :)

Weaknesses: We invited the students to read 12 grants (3 pages each) in a whole day, but feedback on only 4 which they should focus on. Some students felt reading 12 grants was a lot of work, however, they did an excellent job of the grant writing and peer review.




### Possible explanations

Given that there were 13 students, we suggested they briefly skim through the other 12 applications to get an idea what their classmates were doing. This will be emphasized even more that they have to thoroughly review only 4 grants, but only get an idea what the other grants were about.

### Suggestions of measures and further development

Main suggestion was to decreased the number of grants that they had to read, which will be taken into consideration. Otherwise, the course was appreciated by the students.

## Signatures

Date: 5 <sup>th</sup> June 2022	Place: Lund
Course leader	Student representative
Signature  	Signature 
Elucidation Rashmi B Prasad and João Duarte	Elucidation Rebecka Cattani

Appendix: Course evaluation

<b>BIMM21</b>	<b>Tumor biology</b>	<b>7.5 ECTS</b>
<b>Year 21/22</b>	<b>Course start:</b> 2021-05-02	<b>Course end:</b> 2020-06-03
<b>Study rate</b>	<b>100%</b>	
Course leader(s)	Alexander Pietras, Sofie Mohlin, Håkan Axelsson	
Examiner	Håkan Axelsson	

## The course

Number of students	At start: 12	At the end: 11
Examination module (name, credits)	Passed at first attempt	Passed later
iRAT	4	7
Portfolio	10	11
Exam	11	11
Number of other teachers involved:	Of which 9 professors, 7 readers (docent), 1 holding PhD, 0 Phd students, other, and 1 non LU or RS employed.  Of which 3 were core course conveners, 18 guest lecturer, assistants, or other minor contributors.	
It was easy to find competent teachers <input checked="" type="checkbox"/> yes <input type="checkbox"/> no	If no, in what field of knowledge was it hard to find teachers? Why?	
Short description of the course:  The course is divided into 4 thematic sections, one theme per week. The first week is about cancer as a genetic disease where the focus is on oncogenes, tumor suppressor genes, heredity, and the cellular changes that characterize cancer, so-called "hallmarks". During the second week, covering tumors as an organ, the focus is on angiogenesis, tumor stroma and immune cells, as well as how oxygen deficiency affects tumor growth. The third week is about tumor progression and the focus is on tumor heterogeneity, cancer stem cells, metastasis and tumor metabolism. The fourth week focuses on cancer therapy. The last week, the students get to do a practical exercise where the idea is to introduce the students to bioinformatics and to give them exercises that are connected to the course's different theme weeks. During each week, lectures are given at the beginning of the week. Depending on the theme, up to 4 lectures are given. Week 1–4 also includes TBL elements and week 2–4 includes journal clubs. After each week, students fill in their portfolios where they summarize how the week had gone, how they performed on the iRAT and reflect on the team application. A group excersise at which the students are challanged with a scientific question and propose a plan how to experimentally adress the question. The portfolio also covers reflections on the Journal clubs. The written exam was in the form of multiple choice questions (MCQs).		
Pedagogic model(s) used in the course (exemplify how you work):  TBL		
Major changes from last year:  Added new group excersise		

## Summary of course quality evaluation

### Results – focus on strengths and weaknesses



Over all the course evaluation was very positive, and based on this result it seems unnecessary to do any major changes of the composition of the course. The group exercise that was introduced this year was highly appreciated by the students and will be kept. We still consider the Journal clubs to be one of the most valuable parts of the course, and we will continue to update selected articles to fully exploit the pedagogic effect if JC. As we perform weekly iRATS with follow up on the results (with a 60% pass grade) the final exam is getting obsolete. As pointed out by the course representatives there are some overlaps between lectures.

### Possible explanations

### Suggestions of measures and further development

As discussed with the course representatives we will rewrite the course plan so that the weekly iRATs will substitute the final exam. We will continue with the group exercise which is made a compulsory part of the course. The overlap between a few lectures will be corrected.

## Signatures

Date: 202200908	Place: Lund
Course leader	Student representative
Signature 	Signature 
Elucidation Håkan Axelsson	Elucidation Cornelia Börjesson Freitag/Tyra Davidsson Bremborg

## Appendix: Course evaluation



<b>BIMM03</b>	<b>Innovation and Entrepreneurship</b>		<b>7.5 ECTS</b>
<b>Year 21/22</b>	<b>Course start:</b> 20210830	<b>Course end:</b> 2021-09-28	<b>Study rate 100%</b>
Course leader(s)	Marco Ledri, Andreas Heuer		
Examiner	Fredrik Leeb-Lundberg		

## The course

Number of students	At start: 25	At the end: 25
Examination module (name, credits)	Passed at first attempt	Passed later
Portfolio (6)	25	.
MCQ	20	5
Number of other teachers involved: 11	Of which 0 professors, 1 readers (docent), 6 holding PhD, 0 Phd students, 0 other, and 5 non LU or RS employed.  Of which 0 were core course conveners, 5 guest lecturer, assistants, or other minor contributors.	
It was easy to find competent teachers <input type="checkbox"/> yes <input checked="" type="checkbox"/> no	If no, in what field of knowledge was it hard to find teachers? Why?  Few expertise available within the LU academic circle on innovation and entrepreneurship	
Short description of the course:  Bridging the gap between biomedical sciences and the innovation industry. Five week course to provide students with a skillset that is relevant for embarking on a career in life science outside academia. The focus was on providing them with entrepreneurial experience that allows them to start their own companies.		
Pedagogic model(s) used in the course (exemplify how you work):  Lectures, iRATs, MCQ, Group work, Team based exercises,		
Major changes from last year:  N/A		

## Summary of course quality evaluation

### Results – focus on strengths and weaknesses

The course was overall well received by the students and teachers alike. The students appreciated the learning activities, the group work, and especially the guest lecturers from outside academia.

The weaknesses were identified after the course evaluation. These included optimisation of scheduling, decreasing the group work on site (students would prefer to do some on their own time/from home), pitch talks were too repetitive (listening to 5 talks 5 times). Another main criticism of the students was the lack of feedback on the reflections and grading (ie why they did not reach distinction).

### Possible explanations

Inexperience of course leaders with Ortrac. This was the first time the course was run.

Inexperience with grading.





### Suggestions of measures and further development

These hiccups were expected in a course that was run for the first time. We will improve the scheduling and Ortrac implementation. Regarding the repetitiveness we will restructure the pitch-talk sessions and will decrease the onsite team work.

Suggestions from the students were to include lectures on Budget and Brainstorming, both these ideas were great and will be implemented in the course next semester.

Next semester we will implement graded MCQs which will make it easier to distinguish students based on "pass" or "pass with distinction".

## Signatures

Date: 20-10-2021	Place:
Course leader	Student representative
Signature  	Signature  
Elucidation Marco Ledri, Andreas Heuer	Elucidation Sofia Thomasson

Appendix: Course evaluation

<b>BIMM05</b>	<b>Research Project Management</b>		<b>7.5 ECTS</b>
<b>Year 20/21</b>	<b>Course start:</b> 2021-09-30	<b>Course end:</b> 2021-11-01	<b>Study rate 100%</b>
Course leader(s)	Nicholas Leigh, Christopher Douse		
Examiner	Nicholas Leigh		

### The course

Number of students	At start: 17	At the end: 17		
Examination module (name, credits)	Passed at first attempt	Passed later		
Course portfolio, 6 credits	17			
MCQs 1.5 credits	17			
Number of other teachers involved: 6	Of which 1 professors, 0 readers (docent), 4 holding PhD, 1 Phd students, 1 other, and non LU or RS employed.  Of which were core course conveners, guest lecturer, assistants, or other minor contributors.			
It was easy to find competent teachers <input checked="" type="checkbox"/> yes <input type="checkbox"/> no	If no, in what field of knowledge was it hard to find teachers? Why?			
Short description of the course:  Aim is to prepare the students for their research projects in academia (BIMM81). This includes modules on: how to conduct a review of the literature, data documentation (wet and dry lab), group dynamics, academic leadership, figure assembly and graphical abstracts, time and cost management, publication ethics, scientific presentation.				
Pedagogic model(s) used in the course (exemplify how you work):  Mostly team-based learning model. Groups are set based on topic of research project (regenerative medicine, neurobiology, cancer and physiology/metabolism). iRAT/tRAT used where appropriate.				
Major changes from last year:  n/a (new course)				

## Summary of course quality evaluation

### Results – focus on strengths and weaknesses

#### Strengths:

- students enjoyed course and its structure, with assignments initially ungraded and then combined into a portfolio incorporating feedback.
- course not too congested which gave students time to dig deep and prepare for starting in their labs immediately at the end of the course.
- most lectures gave students new, useful information that they would recommend to future course participants.

#### Weaknesses:

- bibliography management lecture was too basic and associated iRAT was too subjective.
- dry lab management lecture was fantastic for some who had particular interest, but too advanced for others.
- occasionally too much overlap with previous courses - on the other hand students liked the fact that they could build on previous knowledge
- it seems not enough time was given on cost management
- success of course critically depends on the students having a good knowledge of their project before the start of the course



### Possible explanations

- Course under ongoing development and review as it was the first time it ran. Course leaders were keen to implement student feedback after every lecture, so this led to some changes 'on the fly'. This will be easily amended next year.

### Suggestions of measures and further development

- 'Library lecture' needs to change; can be more advanced and iRAT needs tweaking to be more objective (since this MCQ requires a pass).
- New lecture on time/cost management to include examples of grant applications
- Timetable of assignments published at the start
- Dry lab data documentation (and introduction to github) to be split into mandatory and optional sessions
- More free time for literature review
- Further encouragement to meet and discuss projects with supervisors prior to and during the course

## Signatures

Date: 2021-12-21	Place: <b>Lund</b>
Course leader	Student representative
Signature 	Signature 
Elucidation <b>CHRISTOPHER DOUSE</b>	Elucidation <b>Sofia Thomasson</b>

<b>BIMM04</b>	<b>Drug Development and Clinical Trials</b>		<b>7.5 ECTS</b>
<b>Year 21/22</b>	<b>Course start:</b> 2021-09-30	<b>Course end:</b> 2021-10-29	<b>Study rate 100%</b>
Course leader(s)	Fredrik Ek and Ana Carneiro		
Examiner	Marcus Järås		

### The course

Number of students	At start: 8	At the end: 8		
Examination module (name, credits)	Passed at first attempt	Passed later		
Multichoice questions 2.5 ECTS	6	2		
Project plan 5 ECTS	8			
Number of other teachers involved: 15	Of which 0 professors, 2 readers (docent), 13 holding PhD, 0 Phd students, other, and 12 non LU or RS employed.  Of which     were core course conveners, 12 guest lecturer, assistants, or other minor contributors.			
It was easy to find competent teachers <input checked="" type="checkbox"/> yes <input type="checkbox"/> no	If no, in what field of knowledge was it hard to find teachers? Why?			
<b>Short description of the course:</b>  The course covers the general process for development of a new drug from pre clinical discovery via pre-clinical development and clinical trials. The course will address scientific, strategic and regulatory challenges from discovery to approval of a new drug and also includes key methods and terminology. It also covers the importance of the professional groups that are involved in the different phases of the development of a new drug This course will prepare the students for subsequent degree projects and future work in the pharmaceutical industry as well as work in academia regarding innovations, early drug development and entrepreneurship.				
<b>Pedagogic model(s) used in the course (exemplify how you work):</b>  The outline of the course is first a two week section where the students obtain theoretical knowledge using a combination of lectures from experts in the field and TBLs. The student then perform an iRAT to test level of theoretical knowledge, grades fail/pass. In the second part the student perform an application, a drug development plan, in groups (4 per group). The students have different roles, CEO, COO, CFO and CMO, in the project covering most aspects of the drug development process. The evaluation is performed by a written report and an oral presentation. Individual contribution is examined in the project plan, grades fail/pass/pass pass with distinction. Course content i.e lectures and study goals were uploaded on ortrac and communication was done using a discord server.				
<b>Major changes from last year:</b>  New course				

## Summary of course quality evaluation

### Results – focus on strengths and weaknesses

Overall the course was well received despite being set up for the first time. In the graded questions of the course evaluation, the average on all 18 questions was 5.5 (out of 6).

In the free text response, the students highlighted the following topics:

#### Lectures

The students pinpointed the lectures as one of the best thing of the course. In particular that they came in a chronological order in relation to the drug development process and that the quality was very high with experts i each field. They also appreciated the study goals for the lectures which supported their learning process. Some of the lectures need some refinement but overall very good.

#### TBL

The TBLs were appreciated. They preferred the discussion based TBLs rather than the case based with presentation in the end. The limited time to prepare the end presentations were stressful and did not assist in the learning process. More focus towards discussion based TBLs. The TBLs should also be planned that there is some days between lecture and the TBL covering the same topics.

#### Project plan

The application to prepare a drug development project in groups with specific roles was together with the lectures highlighted as the best parts of the course. It gave a possibility to apply the gained knowledge and take a birds-eye view approach to the drug development process and the large numbers of variables that need to be considered. They also liked that the application started already in the beginning of the course which allowed early brainstorming and initiation of the project. What needs to be adjusted is the work load for the different roles, some more demanding than others. The checkup meeting 2 days before submission needs to be earlier. A suggestion would be to have peer review/discussions with students that have the same role in the project CEO, CFO etc during the project work. The "present time" in which the project starts/are planned needs to be clarified for the students.

#### Others

The students emphasized the teachers' flexibility and that they listened to feedback from the students. They would like to see more information/lectures on the concept of target project plan and CMC.

### Possible explanations

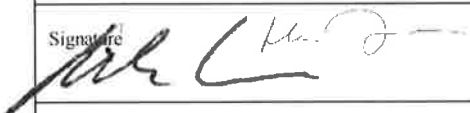


This is the first time the course is given and minor changes are expected

### Suggestions of measures and further development

We will address the following points based on the feedback from the students.

1. We will add one lecture which covers CMC
2. The TBLs will be delayed in relation to the lectures covering the same topics
3. We will give feedback to specific lecturers to improve the lectures
4. The students with the same role in the projects will have separate meetings/information exchange during the project
5. The definition of the roles in the project will be improved and we will strive towards a more equal work load for the different roles.
6. The check up meeting during the project will be planned earlier, 5-7 days before submission

## Signatures

Date: 211121	Place: Lund
Course leader	Student representative
Signature  Ana Carneiro <small>Digitally signed by Ana Carneiro Date: 2021.11.23 15:12:51 +01'00'</small>	Signature  
Elucidation Fredrik Ek, Marcus Järås, Ana Carneiro	Elucidation Sahana Yogarasa, Indra Putra Wendi

Appendix: Course evaluation

<b>BIMM81</b>	<b>Research Project in Academia</b>		<b>45 ECTS</b>
<b>Year 21/22</b>	<b>Course start:</b> 2021-11-01	<b>Course end:</b> 2022-06-08	<b>Study rate 100%</b>
Course leader(s)	Christopher Douse, Nicholas Leigh		
Examiner	Ramin Massoumi		

## The course

Number of students	At start: 17	At the end:
Examination module (name, credits)	Passed at first attempt	Passed later
Thesis (introductory chapter + research manuscript)	17*	
Number of other teachers involved: 16	Of which 3 professors, 6 readers (docent), 16 holding PhD, 0 Phd students, other, and 2 non LU or RS employed.  Of which     were core course conveners,     guest lecturer, assistants, or other minor contributors.	
It was easy to find competent teachers <input checked="" type="checkbox"/> yes <input type="checkbox"/> no	If no, in what field of knowledge was it hard to find teachers? Why?  Note - 'teachers' here indicates the supervising PIs; one lab took two students	
Short description of the course:  The students conduct a full-time research project in an academic lab between November and May. They submit an extended introductory chapter (literature review) on the research topic alongside a research manuscript, which together comprises the masters thesis.		
Pedagogic model(s) used in the course (exemplify how you work):  Depends on the host lab and research project. Students give eachother feedback on a draft introductory chapter, which is submitted in April, but there is no formal centralised teaching. Course leaders provide supportive role and guidance on writing and administration of thesis.		
Major changes from last year:  n/a (new course - but note, this was based on the previous version of the biomedicine masters thesis)		



## Summary of course quality evaluation

### Results – focus on strengths and weaknesses

**Strengths:** the students mostly really enjoyed their lab projects, developed a lot from them and found the experience rewarding. They liked the time to focus on research without having to take classes at the same time, and many enjoyed the feeling of being part of a bigger team.

**Weaknesses:** it is clear that the formatting of the thesis as an introductory chapter and research manuscript is rather confusing. In some cases expectations were unclear between the student, supervisor and the assessment criteria. Some students said that the time in the lab was a little short.

### Possible explanations

This was the first time the course has been run and the assessment criteria were inherited from the old-style masters thesis. They were therefore not really appropriate for the new format of thesis defined in the course plan. This clearly needs to change and expectations clarified.

For some projects, November to May is a little on the short side, especially since the Christmas break falls just 6-7 weeks into the time in the lab.

### Suggestions of measures and further development

Essential changes:

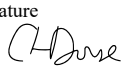


1. circulate a document to students and supervisors at the start of the thesis projects with clear expectations and information about the final thesis. Though we cannot control the quality of supervision received by different groups at LU and outside, we can clarify expectations.
2. change the thesis so it's no longer a separate 'introductory chapter' followed by another short introduction in the research manuscript - the thesis can simply be a research manuscript but we can ask for an extended introduction within that. The halftime assignment can simply be to draft the introduction to the manuscript, building on the literature review from BIMM05.
3. update assessment criteria. If we have to have pass with distinction, then clarify what the threshold is.

Possible changes:

-We could consider starting the projects earlier but this would require us to start BIMM05 as soon as the students are back from summer. So, the previous course would need to move.

-A mid-project check in with the course coordinators

## Signatures

Date: September 12 <sup>th</sup> , 2022	Place: Lund
Course leader	Student representative
Signature  	Signature 
Elucidation Christopher Douse and Nick Leigh	Elucidation Kerstin Laurin



FACULTY OF  
MEDICINE

**Course Quality Closure**

Biomedicine Master's Programme in Biomedicine

Appendix: Course evaluation

<b>BIMM80</b>	<b>Research Project in Drug Development.</b>		<b>45 ECTS</b>
<b>Year 21/22</b>	<b>Course start:</b> 2021-11-01	<b>Course end:</b> 2022-06-10	<b>Study rate 100%</b>
Course leader(s)	Fredrik Ek		
Examiner	Marcus Järås		

### The course

Number of students	At start: 8	At the end: 7
Examination module (name, credits)	Passed at first attempt	Passed later
Portfolio 30 credits	5	2
Written report 15 credits	5	2
Number of other teachers involved:	Of which professors, 2 readers (docent), holding PhD, Phd students, other, and non LU or RS employed. Of which were core course conveners, guest lecturer, assistants, or other minor contributors.	
It was easy to find competent teachers <input checked="" type="checkbox"/> yes <input type="checkbox"/> no	If no, in what field of knowledge was it hard to find teachers? Why?	
Short description of the course: The course is compulsory in the industrial research path in the specialisation in industrial biomedical research and is included in semester 3 and 4 of the Master's Programme in Biomedicine.		
Pedagogic model(s) used in the course (exemplify how you work): During the course, the student carries out a delimited project within drug development. The project is to have a clear issue that is summarised in the project plan. The student will, in addition to the workplace-based project period, devote time to analysing completed project work and summarise this in a written report that is also to be presented orally at a seminar. The student will also review and publicly discuss and examine other student's report.		
Major changes from last year: New course		

## Summary of course quality evaluation

### Results – focus on strengths and weaknesses

Overall the course was well received despite being set up for the first time. In the graded questions of the course evaluation, the average on all 18 questions was 5.6 (out of 6).

### Possible explanations

In the free text, the students highlighted the following topics:

#### Major strengths

In general, the students felt that the course coordinators were helpful. In addition, they also felt that the course was a very good opportunity to learn and get into the culture and working environments in companies. The students also appreciated the flexibility to choose different types of projects. The students learned a lot about the life science industry.


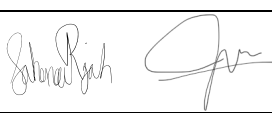
#### Weakness

Some students felt that they for long periods were left alone at companies without frequent contact with the course coordinators or other students in the course. Some students also felt that it would have been good to get more instructions on how to write and structure the report. One student mentioned that it could be a risk that companies don't see the project as education but rather the student as extra working force.

### Suggestions of measures and further development

For the 2022/2023 course, we plan to increase the interaction a bit between the course coordinators and the students. In addition to the individual half-time follow up meeting with the students that we already had during the 2021/2022 course, we also plan to have a joint meeting with all the students. However, we strongly feel that in this last course of the master's programme, which prepares the students for work in the 'real world', they should 'try their own wings' and therefore not have too frequent contact with the course leaders.

## Signatures

Date: 220829	Place: Lund
Course leader	Student representative
Signature 	Signature 
Elucidation Fredrik Ek	Elucidation Indra Putra Wendi and Sahana Yogarasa

## Appendix: Course evaluation