

## Course analysis template

After the course has ended, the course leader fills in this template. This is an important part of the quality assurance of the programme. The programme director decides whether the template should be supplemented with further information/questions.

<b>Course code</b> 4BP044	<b>Course title</b> Product Development in Life Sciences	<b>Credits</b> 11
<b>Semester</b> Spring	<b>Period</b> 20 <sup>th</sup> January – 24 <sup>th</sup> March 2025	

<b>Course leader</b> Caroline Dahl	<b>Examiner</b> Madelen Lek
<b>Other participating teachers</b>	<b>Other participating teachers</b>

<b>Number of registered students</b> 37	<b>Number passed after regular session</b> Component 1 = 34 Component 2 = 6	<b>Response rate for course survey (%)</b> 37.84%
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### Methods for student influence other than course survey

- 30 minute Drop-in Q&A each week
- Meetings with individual Project teams in order to resolve issues and respond to team queries in a close-knit setting
- 1h scheduled Mid-Course Counsel
- Individual students chose which need to focus on and were grouped into teams accordingly
- Student teams chose their final need definition depending on the team's own interest, background, economic outlook and stakeholder interviews
- Students chose to enter teams (as long as people on their own Project team were excluded) and together they chose Sustainability Development Goals that they wanted to investigate.
- Email correspondence with individual students as well as teams

### Note that...

This analysis shall (together with a summary of the quantitative results of the students course survey) be submitted to the LIME educational committee.

This analysis have been submitted to the LIME educational committee on this date: 250506

## 1. Description of any implemented changes since the previous course based on previous students' comments

### 2024 Proposals for changes and their status of implementation

Implemented changes in 2025:

- **Scaled down the TechCase** hand-in. Replaced by the *SDG Report* in larger teams.
- **Removed the Reflection** assignment.
- **Removed several external lecturers.** Content related to course aims and set examination modules had priority over inspirational lectures. US content was dropped in favour of a more Europe-centric curriculum.
- **Removed physical prototyping**
- **Removed the patient perspective**
- **NB Did not remove the medtech regulatory lecture, as proposed** – instead another external lecturer was introduced that covered the session. Better for ILOs and student learning than only supplying student reading materials.

## 2. A brief summary of the students' evaluations of the course

(Based on the students' quantitative answers to the course evaluation and comments. Quantitative compilation and possible graphs attached.)

Course in general – Qualitative results

**The overall mean show that students strongly appreciate the course.** Marks were high across all questions posed, averaging at 4.45 out of a possible maximum score of 5.0. Grades ranged between 4.0 and 4.9. The high-score of 4.9 was awarded to the question:

- *In my view, there was a common theme running throughout the course – from learning outcomes to examinations.*

For mean score per question, see Table 1, below.

**Table 1.** Quantitative Student responses to survey questions.

#	Question	2024	2025
1	In my view, I have developed valuable expertise/skills during the course.	4,7	4,7
2	In my view, I have achieved all the intended learning outcomes of the course.	4,6	4,4
3	In my view, there was a common theme running throughout the course – from learning outcomes to examinations.	4,7	4,9
4	In my view, the course has promoted a scientific way of thinking and reasoning (e.g. analytical and critical thinking, independent search for and evaluation of information).	4,6	4,8
5	In my view, during the course, the teachers have been open to ideas and opinions about the course's structure and content.	4,8	4,8
6	I was given the opportunity to reflect on what I have learned during the course.	4,4	4,0
7	The course developed my ability to search for data and scientific evidence.	4,4	4,5

8	The course developed my ability to use scientific methods.	4,3	4,4
9	There was a good atmosphere during the course.	4,8	4,3
10	The psychosocial environment during the course was good (psychosocial environment includes among other things well-being, support, stress, equal treatment and discrimination)..	4,8	4,4
11	Relevant ethical issues were discussed during the course.	4,6	4,2
12	The course helped me prepare to deal with the ethical considerations I might face.	4,4	4,0
13	In my view, the industry expert feedback session was valuable for the Product Development Project.	4,6	Not quantified.
	<b>TOTAL AVERAGE</b>	<b>4,59</b>	<b>4,45</b>

The largest differences between 2024 and 2025 scores were lower 2025 scores for the question *I was given the opportunity to reflect on what I have learned during the course*, which is understandable given that the Reflection assignment was ceased in the 2025 edition of the course. Lower scores, but not significantly so, were also received for the questions *There was a good atmosphere during the course* and *The psychosocial environment during the course was good (psychosocial environment includes among other things well-being, support, stress, equal treatment and discrimination)*. Comments concerned disagreements between students during this course as well as during other courses. Respect between students is key in Programmes like the MBE which feature a lot of teamwork. The opinions were forwarded to the Program director, who brought it to the attention of the class representative.

The arguably most general question posed in the course evaluation, *"In my view, I have developed valuable expertise/skills during the course"*, received on average 4.7 out of a maximum possible 5.0 grade, same score as in 2024.

The marks suggest a very good track record for the course.

#### Course in general – Qualitative results

When asked to say **the one thing they liked the most about the course**, students particularly mention the realism of the course (i.e. that it's not a theoretical course) and that the course is actual hands-on field work in teams where the deliverable is a prototype. Also the clear and coherent course organization, comprehensiveness and the course director received much praise. Students particularly enjoy developing their Projects alongside lectures where key technology development concepts are sequentially introduced, that their market analyses were put to good use. Some students liked the course so much that they would have liked it to run for longer.

Things that students mentioned **could be improved** include the brevity of the course given the complex topics covered, lack of morning lectures, sometimes dense external lecture materials, lack of time with Expert Panelists, more content on business development and the VC perspective, clearer instructions for the SDG report, to include pitching and pitch training sessions and including a technology expert in the Expert panel line-up.

**Brief comments on the above:**

The course appears too short for its contents because technology development for life sciences is a vast topic, but course materials were still reduced since last year. Lectures have been scheduled in 2025 for lecture halls to cost less, but the afternoon scheduling also helps students avoid morning commuter rush hours, which is a prime site of infection for a course running during the first quarter of the year, and this scheduling has been applauded by students in previous years. Business development, pitching and the VC perspective are brought up in later MBE courses, so will not be implemented in this course beyond the business developer and ex-VC panelist at the Expert Panel. The instructions for the SDG assignment will be updated and clearer in the 2026 edition of the course.

**3. The course-responsible reflection on the course implementation and results**

Students are generally very positive about the course. Students enjoyed the contents, structure and realism that come with working with real clinical needs, being encouraged to resolve those needs, and meeting the end users face to face. The most frequent negative comment in previous years was that the course could be stressful at times – this comment was not encountered frequently in this year's course survey, suggesting that the course amendments done to bring the course within budget has also had a positive impact on course pace.

From the course director's point of view, students were inquisitive, interested and well invested in the healthcare needs presented to them.

***Course strengths:*****Programme course inter-linkage**

Creating links to Market Analysis – both in terms of teams and topics – has been vital for students to develop the in-depth knowledge needed to pursue sustainable and relevant solutions. Product Development projects are also pursued in subsequent economics classes, which has been a success. Programme course linkage is continuously explored in MBE teachers' meetings.

**The course schedule structure** where theory is learnt one week and this knowledge is applied to the Project the week after (thus allowing for immediate applied and deep learning) has been a success. Students comment very positively on this each year.

**Projects beyond theory.** Sustainable solutions are sought to big health needs with global applications. In concrete terms, need-relevant clinical expertise was sought by students, IP strategy was tackled and scrutinized down to competing claim level, students were encouraged to take course solutions forward professionally, industry professionals gave custom, in-person advice to team solutions with regards to IP, business, reimbursement as well as regulatory.

**Healthcare equality.** Health needs that primarily affect women and girls were part of the clinical needs addressed by 2025 teams. The focus on the global SDGs and ethics related to technologies employed in life science also help ensure a broader perspective.



**Communication.** The course prides itself with excellent communication with participating students. It offers numerous ways to counter course issues and knowledge gaps: publicly in the classroom, in smaller student groups all the way down to communication on an individual basis. Support is offered in person, online and in writing.

**Many modes of learning available.** Students have access to live lectures, reading materials, slide decks, workshops, project assignments that apply learnt materials, practical prototyping facilities and expert in-person custom feedback and advice.

**Relevant guest lecturers.** Government bodies, Life Science industry and SMEs all lectured to students.

*Course weaknesses:*

**Much course material is covered over a relatively short period of time.** Some students would like to see the course run for longer, giving more time to delve into product development topics and develop sustainable life science solutions to real-life healthcare issues. This is unfortunately not possible.

#### 4. Other comments

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#### 5. The course-responsible conclusions and any proposals for changes

(If any changes are proposed, please specify who is responsible for implementing these and a time schedule.)

The course is highly appreciated by students, covering a lot of ground in a well-structured format.

Students tackle real-life healthcare needs and are supported in the process by relevant industry, government bodies, SMEs and product development experts from Europe, plus KI/KS clinical experts and researchers. Students have opportunity to influence the course both during and after the course ended, and are offered help and tuition both on- and offline, in lectures, workshops and during weekly regular Q&A sessions.

*Proposals for changes*

The 2024 focus on fitting the course into the allocated MBE program budget continues into proposed changes for 2025. Related proposed changes include:

- **Remove more external lecturers.** Content related to course aims and set examination modules must have priority over inspirational lectures.
- **Remove learning about big/small molecule distinction** in pharma as this verges on molecular biology rather than product development, as pointed out by a 2024 student
- **Remove Ethics or Reimbursement** as not all topics can be tackled if teaching depth is to be allowed elsewhere, e.g. IP and Regulatory.



Reimbursement could possibly be tackled in subsequent Economics classes on the program.

Other longer-term course suggestions:

- **Look into alternative, sustainable business plans to allow for more diverse, yet economically viable solutions.** Economically sustainable alternatives are needed that allow a full range of student solutions to prosper.
- **Possibility to use Industry need(s)** alongside clinical needs. This would add a sustainability dimension to Product Development since an Industry partner might consider implementing team solutions if they are sufficiently good.