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Course analysis (course evaluation)

Course code	Course title	Credits
5MT012	Frontiers in Translational Medicine	13
Semester (VT/HT-yr)	**Dates**	
HT-2023	2023-10-13 - 2023-12-05	

Course Director	Examiner
Louisa Cheung, Ning Xu Landén (Deputy)	Ning Xu Landén
Teachers in charge of different parts of the course	**Other participating teachers**
Alexander Espinosa, Fredrik Wermeling, Anna Navis/Bernhard Schmiere, Joakim Dahlin, Onur Parlak, Sylvain Peuget, Mingmei Shang, Aida Collado Sánchez, Ahlem Zaghmi	Helena Idborg, Helga Westerlind, Sofia Papavasileiou, Hong Jin, Cecilia Österholm Corbascio, Astradeni Efthymiadou, Ioannis Parodis, Lars Bräutigam, Vitaly Kaminsky, Wendela Vester, Zhichao Zhou, Li-Sophie Rathje, Cheng Zhang, Charlotte Stadler, Ulrika Axelsson

Number of registered students at the 3-week check	Number passed at final course day	Response frequency course valuation survey
29	29	24 of 29 (82.8%)
Other methods for student influence (in addition to the final course valuation/survey) Course council with student representatives		
Feedback reporting of the course evaluation results to the students Email with link to the survey report, published on Canvas and course web page		

Note that...

The analysis should (together with a summarising quantitative summary of the students' course evaluation) be communicated to the education committee at the department responsible for the course and for programme courses also to the programme coordinating committee.

The analysis was communicated to the education committee on the following date: 2024-02-09
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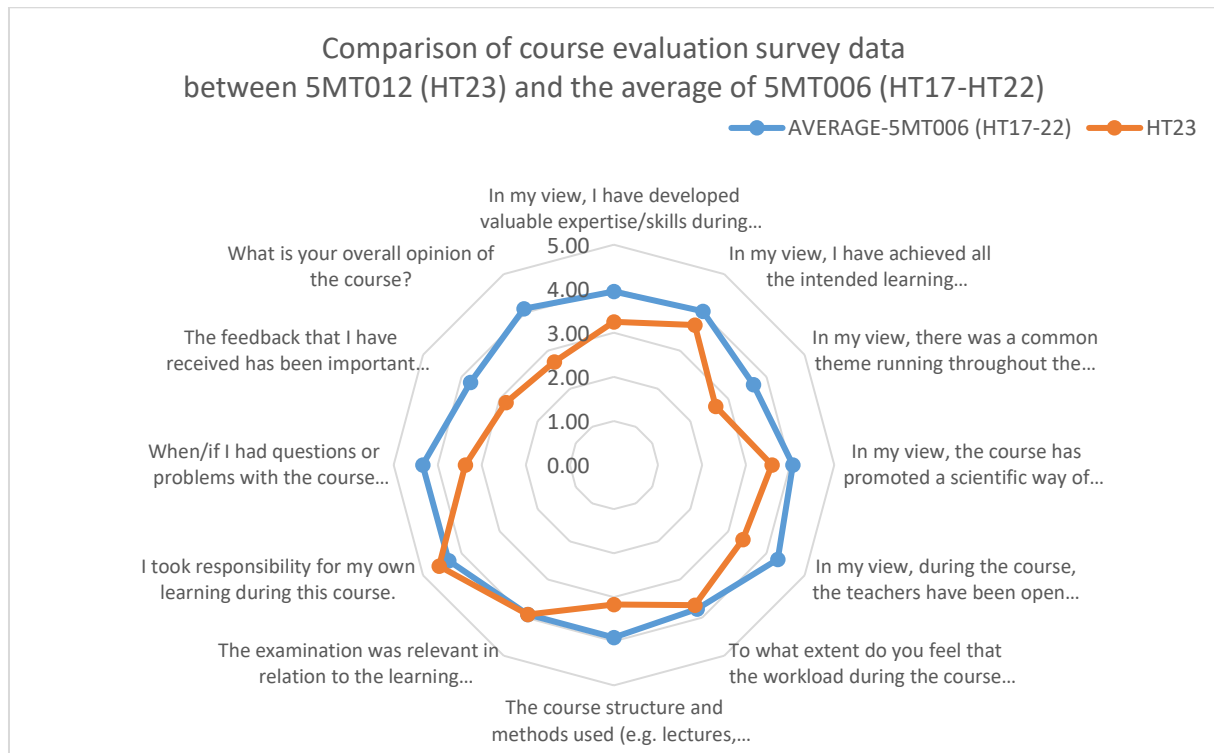
1. Description of any changes implemented since the previous course occasion based on the views of former students

The feedback from the previous course version (5MT006) and occasion (HT22) was generally positive with similar written feedback. Responding to the students' feedback from the previous course occasion, the number of teachers involved was reduced so was the number of lectures, to streamline the course content. At the same time, the course maintained the long-standing appreciated elements, i.e. exposure to diverse emerging translational research topics and contacts with actively recruiting researchers.
There were some opinions expressed about the frustration with failed experiments, the practical lab for HT23 was standardized and simplified to increase the chance of successful experiments.

2. Brief summary of the students' evaluation of the course

(Based on the students' quantitative responses to the course valuation and key views from free text responses. Quantitative summary and any graphs are attached.)

Comparison of course evaluation survey data between 5MT012 (HT23) and the average of 5MT006 (HT17-HT22)

The feedback, while slightly below the historical average for course 5MT006, showed moderate satisfaction among students. Most questions had medians from 3 to 4, with the lowest median score of 2.5, and the top median score of 5 (see below).

	Mean (SD)	Median
What is your overall opinion of the course?	2.7 (1.0)	3
The highest two from the five general questions		
In my view, I have achieved all the intended learning outcomes of the course.	3.7 (0.8)	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).	3.6 (0.8)	4
The highest two from the programme-specific questions		
I took responsibility for my own learning during this course.	4.6 (0.5)	5
The examination was relevant in relation to the learning outcomes.	3.9 (0.6)	4
The lowest from the five general questions		
In my view, there was a common theme running throughout the course – from learning outcomes to examinations.	2.7 (1.0)	2.5
The lowest from the programme-specific questions		
The feedback that I have received has been important for my development and learning.	2.8 (1.3)	3

For most of the survey questions, normal distributions were observed as exemplified below.

(A) The highest rated KI general question:

**In my view, I have achieved all the intended learning outcomes of the course.**

In my view, I have achieved all the intended learning outcomes of the course.	Number of responses
to a very small extent	0 (0.0%)
to a small extent	1 (4.2%)
to some extent	9 (37.5%)
to a large extent	11 (45.8%)
to a very large extent	3 (12.5%)
Total	24 (100.0%)
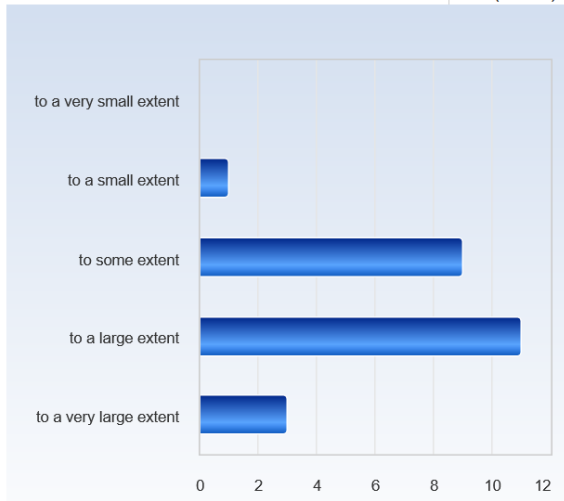
(B) The second highest rated programme-specific question:

**The examination was relevant in relation to the learning outcomes.**

The examination was relevant in relation to the learning outcomes.	Number of responses
to a very small extent	0 (0.0%)
to a small extent	1 (4.2%)
to some extent	8 (33.3%)
to a large extent	7 (29.2%)
to a very large extent	8 (33.3%)
Total	24 (100.0%)
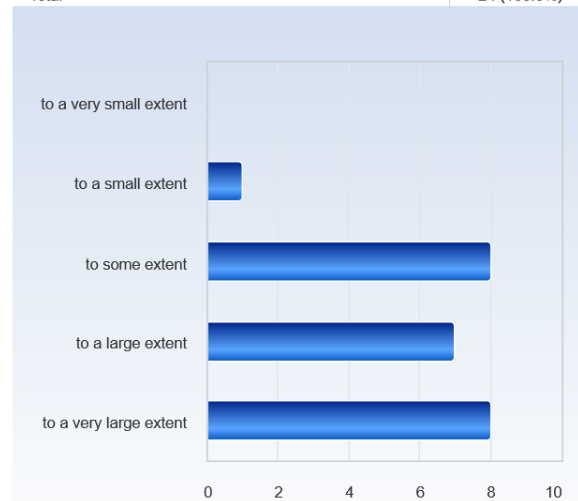
(C) The lowest rated KI general question:

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

In my view, there was a common theme running throughout the course – from learning outcomes to examinations.	Number of responses
to a very small extent	2 (8.3%)
to a small extent	10 (41.7%)
to some extent	7 (29.2%)
to a large extent	4 (16.7%)
to a very large extent	1 (4.2%)
Total	24 (100.0%)
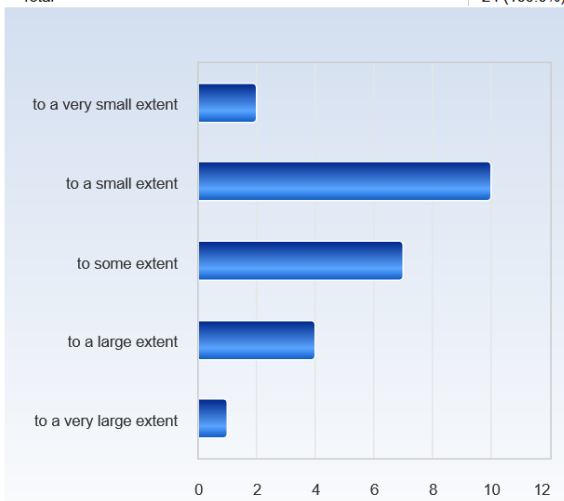
(D) The lowest rated programme-specific question:

The feedback that I have received has been important for my development and learning.

The feedback that I have received has been important for my development and learning.	Number of responses
to a very small extent	5 (20.8%)
to a small extent	5 (20.8%)
to some extent	6 (25.0%)
to a large extent	5 (20.8%)
to a very large extent	3 (12.5%)
Total	24 (100.0%)
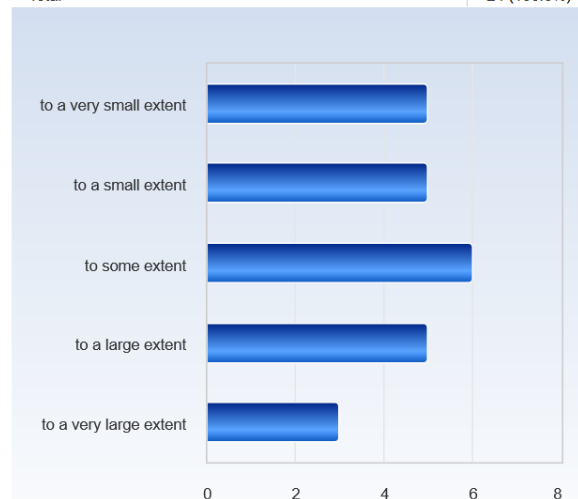
Microsoft Copilot summarized the free text answers under the questions "strengths of the course" and the suggestions for improvement as below:

- Most students felt that they **developed valuable expertise/skills** and **achieved the learning outcomes** of the course, but they were less satisfied with the **common theme** and the **workload** of the course.
- The students also gave **mixed feedback** on the **course structure**, the **examination**, the **feedback**, and the **teachers**. They suggested some **improvements** such as better organization, clearer instructions, more assessment as individual, and more lectures on basic topics.

The AI-generated summary was in line with the comments during the course council meetings and conversations with the students after classes. There were diverse opinions and the learning experiences varied between individuals. The lab, which replaced part of the research project, was a well-appreciated learning activity, with some students expecting a deeper learning experience.

3. The Course Director's reflections on the implementation and results of the course

Strengths of the course:

Project work has been the most appreciated learning activity since its introduction. Due to the reduction of course credit/time, the project work was split into a research proposal and a streamlined course lab. Both learning activities were well appreciated. Students enjoyed the opportunity to explore creatively a research team, integrating their knowledge of human diseases and cutting-edge molecular techniques in close contact with active researchers as mentors.

The exposure to a broad range of emerging translational medicine topics has also been one of the long-standing strengths of this course.
The diversity of types of learning activities was also well-appreciated, with study visits being the favourite.

In general, these were similar strengths mentioned in the previous course evaluations.

Weaknesses of the course:

Coherence in the course content has been one of the biggest challenges in the FTM course since the first course occasion in 2015. However, previous students had not expressed so strongly that a common theme was central to a satisfactory learning experience. In response to students' confusion about course setup, explanations with graphics and videos were posted in Canvas in the first few weeks. However, many students did not find these explanations satisfactory. Some students pointed out that audio-visual content was perplexing without detailed explanatory text.

Communicating expectations from the teachers' side was not satisfactory. Students had higher expectations from the students compared to previous years for the clarity, frequency, and depth of just-in-time information/explanation from the course directors/teams. They also expected frequent physical presence of the course director during the course lectures.

Feedback has been a key development point for the past years. Despite the increased amount of feedback from teachers as rubrics (individual assignments) and communicated in writing (group

submissions), a notable number of students did not consider the feedback important for their learning.

3. Other views

The planned transition from the course *Molecular Genetics and Genomics* were not satisfactory, both from the teachers' view and the students' comments.
First, it was not ideal for students to have two written exams for two courses within a month.
In the future, the FTM examination will be held earliest four weeks after the course commences.
In short, instead of incorporating elements from the MGG course, the FTM course will focus on their distinct elements, i.e. the broad and diverse content, teamwork, application of CRISPR and research proposal.

There also appeared to be some confusion regarding the interpretation of some survey questions. Questions in graphs A-C focused on constructive alignment: intended learning outcome – learning activities – examinations. From a pedagogical standpoint, graphs B and C asked similar questions. However, the students' responses were contradictory. It was unclear whether students interpreted the common theme mentioned in "In my view, there was a common theme running throughout the course – from learning outcomes to examinations." (graph C) as coherent content and not the alignment of learning outcomes with examinations.

Despite a lower satisfaction in general compared to previous years, students rated high in the question "The examination was relevant in relation to the learning outcomes." This was an area of improvement from previous years. Since the last course occasion, intended learning outcomes have been included in most of the submissions on Canvas. This could explain this desired response.

4. Course Director's conclusions and any suggestions for changes
(If changes are suggested, state who is responsible for implementing them and provide a schedule.)

In summary, the core value of the FTM in the programme has been upheld in the new course syllabus/programme curriculum. A project work that both students and teachers/mentors thoroughly enjoyed, applying their course knowledge to create research ideas. The broad range of emerging translational medicine topics and diverse types of learning activities were also appreciated. On the downside, the expectations were out of place this year. Students expected more frequent presence and more detailed instructions from the teachers. Teachers expected students to read information on Canvas and the details in the schedule on TimeEdit.

Enhancing communication is a constant challenge. The Canvas course setup will be revised in response to the students' comments. On the first day of the course, a demonstration of the Canvas course page will highlight the key pages, e.g. Schedule, Announcements, Inbox, and "Ask a question". The students' demand for clear and detailed information is not surprising, considering their ubiquitous usage of LLM Generative AI. Comprehensive documents detailing course setup and weekly updates need to be prioritised. Apart from written updates, a scheduled class time could also be held to enhance communication and help the students understand the course setup.

Coherence in course content will be the focus area this year. A suggestion is to highlight immunology in all course content and present it as a common theme. Moreover, the different fundamental

concepts will be paired as a theme for the first few weeks to convey coherence. There would be learning progression during the week with lectures on Mondays and then a workshop or journal club on Fridays.

	Areas of improvement / Activities	Responsible	Time plan
1	**Continuous communication with students**	LC, NXL	HT24
2	**Coherence in course content presentation**	FW, NXL	HT24
3	Adjust course lab to be more challenging	AE	HT24-HT25
4	Improve feedback (quality, not quantity)	LC, NXL	HT24-HT25
5	Incorporate planetary health in course content	LC, FW, AE	HT24-HT25
6	Entrepreneurial skills/mindset	LC	Pilot HT24, HT25

Appendices: