Course analysis template

After the course has ended, the course leader fills in this template.

Course code	Course title	Credits
5HI001	Computer Applications in Health Care and Biomedicine (10hp)	10
Semester	**Period**	
1	2	

Course leader	Examiner
Stefano Bonacina	Sabine Koch
Other participating teachers	**Other participating teachers**

Number of registered students	Number passed after regular session	Response rate for course survey (%)
43	41	46,51%

Methods for student influence other than course survey
Feedback and comments on the schedule and the agenda, while the course is running.

How will the results from the course analysis be communicated to students
The course analysis will be published on the course website on Canvas and submitted to the Board of Education at LIME Department.

1. Description of any implemented changes since the previous course

In the HT24 edition of the course, the main topics were organized into lecture sessions followed by one or more in-class exercise sessions conducted through group work. Then, the "Individual assignments" 1 and 2 provided students with the opportunity to solve similar exercises individually. In addition, in modelling production rules from clinical practice guideline recommendations, the recommendations were assigned differently to various groups to enhance discussion opportunities. While the solutions for conceptual modelling using Unified Modelling Language (UML) class diagrams were heterogeneous, this diversity ensured robust discussions of alternative solutions. Compared to the previous edition of the course, the individual assignment requirements were modified and the instructions updated. Group projects on Public Health Informatics were presented through oral presentations, which were interspersed with engaging class discussions.

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. Enclose results from the course evaluation)

Twenty (20) out of 43 students have completed the course evaluation survey. Sixteen have clinical/medical education background, while four have "technical" education background. For each question of the survey, mean, standard deviation and coefficient of variation, as a percentage, are presented in Table 1.

In Table 1, the Mean value of the answers varies from 3.3 to 4.6, while the Standard deviation ranges from 0.6 to 1.1. Finally, the Coefficient of variation ranges from 12.6 to 31.4 per cent. From those numbers, it appears that respondents' views are quite heterogeneous.

Table 1. Mean, standard deviation and coefficient of variation for questions of the survey.

#	Question	Mean	Standard Deviation	Coefficient of Variation (%)
1	In my view, I have developed valuable expertise/skills during the course.	4.0	0.9	22.9
2	In my view, I have achieved all the intended learning outcomes of the course.	4.0	0.7	16.9
3	In my view, there was a common theme running throughout the course – from learning outcomes to examinations.	4.2	0.6	14.7
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).	4.3	0.7	17.0
5	In my view, during the course, the teachers have been open to ideas and opinions about the course's structure and content.	4.6	0.6	12.6
6	Teaching was based on real examples to develop students' professional knowledge.	4.4	0.7	15.4
7	My previous knowledge was sufficient to follow the course.	3.5	1.1	31.4
8	The course was challenging enough for me.	3.3	1.0	29.7
	Average	4.0	0.8	20.1

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

The course describes the structure, functionality and use of information systems or computer applications (e.g., medical record systems, clinical decision support systems, consumer health apps, and telemedicine applications) in health care. Computer applications in heterogeneous settings for Clinical Informatics, Consumer Health Informatics, and Public Health informatics have been explained, also considering interoperability, organizational, and ethical and legal aspects. The course was implemented by 34 sessions: 22 of two hours, eight of three hours, and four of one hour. Seven of them were by international guest lecturers, and three were given remotely by international guest lecturers. Guest lecturers were from healthcare organizations, and from a company developing clinical decision support systems. The

implementation of the course was satisfying; improvements can be done according to the received feedback from the students.
As for the results, 10 students got "A" grade, 22 got "B" grade, nine got "C" grade. There was no need to deliver the re-examination of the Individual Assignments, as the students passed the course after regular session.

Course strengths:

1. Supportive learning environment
2. Effective teaching methods
3. Group assignments and active class discussions
4. Real life examples and practical applications

Course weaknesses:

1. Grouping strategies and presentation sessions of group assignment.
2. Instructions about the assignments.
3. Integrate more advanced technical topics.

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.)

In Table 2, reflections on weaknesses and proposals for changes are presented. Responsible for changes is the course director.

Table 2. Reflections on weaknesses and proposals for changes

#	Topic/short summary	Teacher reflections	Actions for improvement
1	Grouping strategies and presentation sessions of group assignment.	For the group assignment, each group consists of three students, each with specific responsibilities. Increasing the group size may complicate interactions and work planning. To minimize the need for multiple trips to the site, the presentation session will be held over a single day.	In the current edition of the course, groups were formed based on student preferences. For future editions, we may consider using alternative methods, such as random grouping. To maintain engagement, breaks will be scheduled throughout the session.

2	Instructions about the assignments	Instructions about the assignments include technical concepts that might not be known at the publication date of the assignment.	Provide a checklist mirroring the step-by-step instructions and eventual additional resources to help students understand complex tasks assigned in the assignments.
3	Integrate more advanced technical topics	The course content is structured to build on the knowledge acquired in previous courses and to prepare students for the knowledge they will gain in subsequent courses. Integrating advanced technical topics may require a solid foundation of background knowledge, which might not be fully covered within the specific timeframe of the course.	Provide additional reading materials, online resources, and tutorials that students can review at their own pace (Supplementary Materials). Gradually introduce advanced topics throughout the course, ensuring that each new concept builds on the previous one (Incremental Learning).