Course analysis template

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

Course code	Course title	Credits
5HI020	Standardisation within health informatics	5
Semester	**Period**	
2	1	

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

Number of registered students	Number passed after regular session	Response rate for course survey (%)
41	40	68,29 %
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

Compared with the VT23 edition, in VT24 5HI020 course, time devoted to the openEHR specifications has been increased. Other than two-hour lesson, seven hours have been devoted to exercises, and three hours to a group assignment in the classroom, in-person.

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-eight (28) out of 41 students have completed the course evaluation survey. Twenty-three have clinical/medical education background, while five 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 3.1 to 3.7, while the standard deviation ranges from 0.9 to 1.2. Finally, the coefficient of variation ranges from 28.2 to 34.6 per cent. From those numbers, it appears that respondents’ views are 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.	3.1	1.0	32.0
2	In my view, I have achieved all the intended learning outcomes of the course.	3.1	0.9	29.5
3	In my view, there was a common theme running throughout the course – from learning outcomes to examinations.	3.4	1.0	28.2
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).	3.4	1.1	32.6
5	In my view, during the course, the teachers have been open to ideas and opinions about the course's structure and content.	3.7	1.1	29.6
6	Teaching was based on real examples to develop students' professional knowledge.	3.4	1.2	34.6
7	My previous knowledge was sufficient to follow the course.	3.2	1.1	34.3
8	The course was challenging enough for me.	3.7	1.2	31.8
	Average	3.4	1.1	31.6

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

As for the implementation, the course was composed by six different parts, as follows:
- Introduction to standardisation and standards within Health Informatics, including some recaps on medical terminology (i.e., SNOMED CT, LOINC, UMLS).
- Health Level 7 standard, v.2.x, including an installation session of software to generate HL7 v.2 messages, a demonstration session, a practical session with exercises to do in groups, and submit as assignment.
- C Language Integrated Production System (CLIPS) including an installation session of the software, a demonstration session, a practical session with exercises to do in groups, and to submit as assignment.
- Fast Healthcare Interoperability Resources (FHIR) standard, including an installation session of software to generate and check FHIR resources, a demonstration session, a practical session with exercises to do in groups, and submit as assignment.
- OpenEHR standard, including an installation session of software to generate template and archetypes, a demonstration session, a practical session with exercises to do in groups, and to submit as assignment.

- Guideline Definition Language (GDL v.2), including an installation session of the software, a demonstration session.

Guest lecturers gave lectures on standards organisations and their functioning (e.g., SIS, CEN, ISO standard development organisations), on the application of standards for implementing the Swedish eHealth Infrastructure, and on OpenEHR adoption in specific European contexts (Catalonia, and Norway).

Course strengths:

1. Class activities and group works.
2. Standards applied in the real world (HL7 v2, HL7 FHIR, and openEHR).
3. The teacher.
4. Guest lectures.

Course weaknesses:

1. Duration / type of the Exam.
2. Time devoted to installation sessions.
3. Software tool for expert system
4. Lacking video guides for using software tools

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	**Duration / type of the Exam**	The assessment as an eight-hours long exam has been introduced to avoid co-operation. The requests for the exam are made according to the available time. For the students, the rehearsal of the exam is the occasion to test their own learning and managing time constraints. Twenty-five out of 41 students submitted it.	Confirming that learning materials can be used during the exam. Clarifying that the time for the exam is for answering the questions, not for studying the course topics. Further clarify instructions on text length. Time schedule: in the introductory session of the course.

2	**Time devoted to installation sessions**	For some, devoting time to installation sessions was perceived useless. However, due to the heterogeneity of operating environments, in-person guiding in the class appears to be the best way for solving problems.	Installation sessions can be better specified in the schedule, so students interested in them can attend. Time schedule: in the schedule of the course.
3	**Software tool for expert system**	CLIPS software tool for expert system was perceived out of date. Let me disagree for the following reasons: 1 – the part needed for modelling clinical practice guidelines is easy to learn (one session); 2 – the tool is applicable in contexts with shortage of resources (global perspective); 3 – CLIPSPy Python bridge for CLIPS has been released in February 2024.	The significance of CLIPS will be further explained. Time schedule: in the introductory session of the course.
4	**Lacking video guides for using software tools**	The software used in the course has user manuals/guides that can be explored. Reading user manuals/guides requires time as at least four distinct software tools are used on the course. The usage of the software is presented in person during the demonstration sessions. Video guides for the usage of those tools for the purpose of the course are lacking.	While software tools are subject to changes, video guides for the usage of those tools for the purpose of the course can be prepared. Time schedule: four months – before the next edition of the course.