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	Stefano Bonacina
Other participating teachers	**Other participating teachers**
Rosario Silva, Luis Marco Ruiz	

Number of registered students	Number passed after regular session	Response rate for course survey (%)
48	43	22,92 %
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 to the VT25 iteration of the course, in VT26 5HI020 course diverse instructional materials and resources have been expanded. Resources demonstrating the use of open-access software relevant to the course have been shared. Then, interactive learning has been strengthened through the incorporation of real-world case studies, live demonstrations, and practical activities (sessions on medical terminology).

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)

Eleven (11) out of 48 students completed the course evaluation survey. Of these, ten had a clinical or medical background, while one had a technical background. For each survey question, the mean, standard deviation, and coefficient of variation (expressed as a percentage) are reported in Table 1.

In Table 1, the mean value of the answers varies from 3.5 to 5.5, while the standard deviation ranges from 1.0 to 1.8. Finally, the “coefficient of variation” ranges from 19.0 to 49.9 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	The course was designed in a way that provided me with opportunities for active learning.	4.7	1.7	35.5
2	I felt included and respected during the course.	5.5	1.0	19.0
3	The course as a whole was good.	4.3	1.8	43.3
4	Teaching was based on real examples to develop students' professional knowledge.	4.5	1.6	34.6
5	My previous knowledge was sufficient to follow the course.	3.5	1.8	49.9
6	The course was challenging enough for me.	4.9	1.5	31.1
	Average	4.6	1.6	35.6

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

The course was structured into six main components covering key areas of health informatics standardisation: an introduction to standards and medical terminologies; Health Level Seven (HL7) v2 with practical demonstrations; C Language Integrated Production System (CLIPS) for rule-based knowledge representation with hands-on exercises; HL7 Fast Healthcare Interoperability Resources (FHIR) with software-based practice; openEHR with archetype and template development; and, from industry experts, Guideline Definition Language (GDL) v2 with "Form builder" tools. Most component combined lectures, software installation, demonstrations, and group-based practical assignments (for CLIPS, FHIR, and openEHR). In addition, guest lecturers contributed expertise on standards development organisations, real-world implementations such as the Swedish eHealth infrastructure, and the adoption of standards like FHIR and openEHR in European contexts.

The course was delivered through 31 sessions, of which 16 involved guest lecturers as presenters or co-instructors, and three were conducted remotely by international guest speakers. Guest lecturers represented both governmental organisations and a company developing health IT systems. Overall, the course implementation was satisfactory; however, further improvements can be made based on the student feedback (see Section 5).
In terms of results, 3 students received grade A, 23 received B, 12 received C, and 5 received D.

Course strengths:

1. Interactive group activities
2. Practical exposure to real-world applications
3. Supportive learning environment

Course weaknesses:

1. Course Structure & Organisation
2. Practical Application & Relevance
3. Learning Resources & Delivery

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 aspects to improve and proposals for changes are presented. Responsible for changes is the course director.

Table 2. Reflections on aspects to improve and proposals for changes.

#	Topic/short summary	Teacher reflections	Actions for improvement
1	Course Structure & Organization	Although the course followed a logical progression from terminology standards to exchange standards and finally to permanent data structures, this sequencing was not sufficiently evident to students to support progressive learning or conceptual understanding. Production rule–based knowledge was first illustrated using a general-purpose language (CLIPS) and then compared with its representation in a standardized domain-specific formalism (GDL), highlighting its application within openEHR and FHIR representations.	A clear progression and logical sequencing of topics will be explicitly presented in the course introduction and consistently reflected on the Canvas course website. Time schedule: four months – before the next iteration of the course.

2	Practical Application & Relevance	The integration of theory with real-world application was identified as an area for improvement, particularly through the inclusion of more practical examples. In addition, an imbalance was perceived, with a stronger emphasis on openEHR and comparatively limited coverage of FHIR. Learning openEHR is generally more demanding than learning HL7 FHIR, as it requires understanding a more abstract and formal approach to clinical knowledge modelling, whereas FHIR provides a more accessible, implementation-oriented entry point based on widely used web technologies.	Revise content coverage across standards and add integrated exercises showing how tools (e.g., openEHR and FHIR) work together. Time schedule: four months – before the next iteration of the course.
3	Learning Resources & Delivery	Live demonstrations were found difficult to follow due to their pace, technical lag, or limited access to the platforms being shown. This restricted students' ability to revisit and consolidate their understanding at their own pace.	Replace or complement live demos with recorded tutorials for self-paced learning, ensuring clear visibility and access to platforms. Time schedule: four months – before the next iteration of the course.