SUBJECT DESCRIPTION FORM

Subject Code	SN5023
Subject Title	Electronic Patient Records
Credit Value	3
Level	5
Pre-requisite / Co-requisite / Exclusion	Nil
Objectives	To equip students with essential knowledge of electronic patient records, enabling them to understand the concepts, principles, standards, and issues, and to contribute to the development of electronic patient records.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: a. Understand the essential concepts and applications of electronic patient records; b. Acquire theoretical understanding of the basic scientific and computing knowledge relevant to electronic patient records; c. Understand the electronic health data standards for representation and communications; d. Understand the implementation processes and procedures of electronic patient records; e. Contribute to the design, development and implementation of electronic patient records.
Subject Synopsis/ Indicative Syllabus	1. Infrastructure and ICT for electronic patient records. 2. Terminology standards: International Classification of Diseases, Systemized Nomenclature of Medicine – Clinical Terms, Logical Observation Identifier Names and Codes. 3. Information exchange standards: models and architecture, Health Level Seven, HL7 Clinical Document Architecture. 4. Data Confidentiality, privacy and de-identification. 5. Practical knowledge of electronic patient record systems, including design, development, implementation and management. 6. User interface, usability and evaluation.
Teaching/Learning Methodology	Online learning: Video lectures and online materials are given to introduce the concepts and principles of electronic patient records, health data standards, system usability and evaluation. Online discussions / Tutorial Students are guided to discuss and criticize specific topics of electronic health records with case studies. Live or video demonstrations are provided as appropriate. Guest talks are arranged to provide practical knowledge of electronic health record

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<tr><td></td><td>systems in order to equip students with a good understanding of real-world systems and to reinforce the concepts and principles introduced during the lectures.</td></tr>
<tr><td>Assessment Methods in Alignment with Intended Learning Outcomes</td><td>
<table>
<tr><td rowspan="2">Specific assessment methods/tasks</td><td rowspan="2">% weighting</td><td colspan="6">Intended subject learning outcomes to be assessed</td></tr>
<tr><td>a</td><td>b</td><td>c</td><td>d</td><td>e</td><td></td></tr>
<tr><td>1. Test</td><td>50%</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td></td><td></td></tr>
<tr><td>2. Group project</td><td>50%</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td></td></tr>
<tr><td>Total</td><td>100 %</td><td colspan="6"></td></tr>
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Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:

Test:
To assess students' level of understanding regarding the essential concepts and knowledge of electronic patient records, and as well as the development and implementation processes.

Group project:
To provide students with an opportunity to learn further or reinforce their understanding about electronic patient records. Students are required to critically review a contemporary research study or prepare a proposal to deal with a specific issue of electronic patient records. They are required to work in a group and provide a written report.
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<tr><td>Student Study Effort Expected</td><td>
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<tr><td>Class contact:</td><td></td></tr>
<tr><td>▪ Online learning</td><td>30 Hrs.</td></tr>
<tr><td>▪ Face-to-face (Discussions / Tutorials)</td><td>15 Hrs.</td></tr>
<tr><td>Other student study effort:</td><td></td></tr>
<tr><td>▪ Online exercise and peer discussions</td><td>15 Hrs.</td></tr>
<tr><td>▪ Preparation of written test</td><td>30 Hrs.</td></tr>
<tr><td>▪ Preparation of group project</td><td>30 Hrs.</td></tr>
<tr><td>Total student study effort</td><td>120 Hrs.</td></tr>
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<tr><td>Reading List and References</td><td>

1. Benson T and Grieve G. Principles of FHIR. In: Benson T and Grieve G (eds) Principles of Health Interoperability: SNOMED CT, HL7 and FHIR. Cham: Springer International Publishing, 2016, 329-348.
2. Braunstein ML. FHIR. In: Braunstein ML (ed) Health Informatics on FHIR: How HL7's New API is Transforming Healthcare. Cham: Springer International Publishing, 2018, 179-203.

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	3. FHIR Overview – Architects. https://www.hl7.org/fhir/overview-arch.html#framework 4. Health Informatics Book Series, Springer-Verlag. https://www.springer.com/series/1114 5. International Statistical Classification of Diseases and Related Health Problems (ICD). https://www.who.int/standards/classifications/classification-of-diseases 6. Knowledge Base, Logical Observation Identifiers Names and Codes (LOINC). https://loinc.org/kb/ 7. Yen PY, Bakken S. Review of health information technology usability study methodologies. Journal of the American Medical Informatics Association 2012;19:413-422. 8. The value of SNOMED CT. https://www.snomed.org/snomed-ct/why-snomed-ct 9. Lancet Digital Health, Elsevier. 10. Journal of the American Medical Informatics Association, Oxford University Press. 11. International Journal of Medical Informatics, Elsevier. 12. Computer Methods and Programs in Biomedicine, Elsevier. 13. Journal of Medical Systems. Springer.