هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

T-104
2022

Course Specification

Course Title:	**Health Informatics**
Course Code:	**371 NUR-2**
Program:	**Bachelor In Nursing**
Department:	**Nursing**
College:	**Nursing**
Institution:	**Jazan University**
Version:	**2023**
Last Revision Date:	**1 February 2023**

Table of Contents:

A. General information about the course:

Course Identification					
1. Credit hours:	2 credits (1 theory and 1 practical)				
2. Course type					
a.	University ☐	College ☐	Department☒	Track☐	Others☐
b.	Required ☒	Elective☐			
3. Level/year at which this course is offered:			7^{TH} Level/ 3^{rd} Year		
4. Course general Description: This course introduces the knowledge, skills and attitudes necessary for the use of information technology by nurses in relation to client care, health care administration, client teaching, nursing education and research. This course was designed to make students aware of professional, legal and ethical issues associated with the use of informatics within nursing. Students will explore the professional application of information technology in nursing education, professional practice and research.					
5. Pre-requirements for this course (if any): **None**					
6. Co- requirements for this course (if any): **None**					
7. Course Main Objective(s) **By studying the course, the students able to:** 1. Explored how information technology can be used to improve nursing care delivery in health care organizations and in public health. 2. Acquired breadth of knowledge and challenges of the principles of health informatics. 3. Developed basic skills in using health informatics principles to improve nursing practice. 4. Acquired a conceptual and theoretical framework of the design, development, and implementation of health information systems in nursing care. 5.Introduce nursing students to the research and practice of health informatics 6.Provide all students with basic skills and knowledge in health informatics to apply in their future health-related careers 7. Lead students in discussion around ethical and diversity issues in health informatics towards nursing care. 8. Learn additional basic understanding to direction of health informatics and how the principles of health informatics can be applied in future nursing related care and effective training to users of health information system in health care.					

1. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1.	Traditional classroom	(12*1) + (12*2) = 36	100%
2.	E-learning		
3.	Hybrid		

No	Mode of Instruction	Contact Hours	Percentage
	• Traditional classroom • E-learning		
4.	Distance learning		

2. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	12 * 1= 12
2.	Laboratory/Studio	12 * 2= 24
3.	Field	
4.	Tutorial	
5.	Others (specify)	
	Total	36 hour/semester

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	Knowledge and understanding			
1.1	Demonstrate basic understanding and use of Computer Technologies and skills that support nursing knowledge work, health care delivery, and the advancement of nursing knowledge, learning, and service.	K1	Lecture- discussion and didactics Computer-aided Instructions (CAI) Student-Lead Activities. Data show Presentation. E-Videos (Model).	Recitation in class. Quizzes Periodical Examinations Individual and group requirements
1.2	Explain the need for protection of privacy, confidentiality and security in the collection and use of health information to support health care delivery across health care context.	K2	Lecture- discussion and didactics Computer-aided Instructions (CAI) Student-Lead Activities. Data show Presentation. E-Videos (Model).	Recitation in class. Quizzes Periodical Examinations Individual and group requirements
2.0	Skills			
2.1	Apply safeguards and decision-making support tools embedded in patient care	S2	Research project development by Group.	Use of rubrics for group activities,

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
	technologies and information systems to support a safe practice environment for both patients and healthcare workers		Student-lead activities. Video clips. Small group discussion	student-patient relationships, student communication and attitude Peer evaluation from their colleagues. Supervisor evaluation for performance and attitude.
2.2	Integrate healthcare information systems, electronic health records, telemedicine in the delivery of nursing care	S3	Research project development by Group. Student-lead activities. Video clips. Small group discussion.	Use of rubrics for group activities, student-patient relationships, student communication and attitude Peer evaluation from their colleagues. Supervisor evaluation for performance and attitude
2.3	Communicate effectively with the use of social media within the contexts of consumer health information, patient education, and professional nursing practice	S4	Research project development by Group. Student-lead activities. Video clips. Small group discussion	Use of rubrics for group activities, student-patient relationships, student communication and attitude Peer evaluation from their colleagues.

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
				Supervisor evaluation for performance and attitude.
3.0	Values, autonomy, and responsibility			
3.1	Demonstrate professional attitude related to nursing and health care informatics that support and influence the science of nursing informatics and the advancement of practice, education and research	V1	Small group discussion, Equipped and functional nursing laboratories for demonstration	Final exam Multiple choice tests. Assessment. - Questionnaires. -Individual interviews. -Continuous observation and evaluation.
3.2	Practice and effectively use of CIS (clinical information systems) and the EHR (electronic health care records) to support decisions and document nursing value in service of health care's triple aim: improved patient experience, improved health of populations, and health care cost reduction.	V2	Small group discussion, Equipped and functional nursing laboratories for demonstration	Final exam Multiple choice tests. Assessment. - Questionnaires. -Continuous observation and evaluation
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C. Course Content

No	List of Topics	Contact Hours
1.	• **Foundation of health informatics** Introduction and definitions, levels of data, types of informatics. • **Practical**-Basic computer concepts (types & parts of a computer, input-process-output operations, input/ output devices, CPU, storage devices)	1 2

2.	• **Foundation of health informatics**. Uses and barriers of informatics, organization of health informatics. • **Practical**-Uses of computer input and output devices	1 2
3.	• **Electronic health record.** • Introduction and definition, uses and challenges, components and software of electronic health record. • CPOE, decision support system, patient database, electronic prescribing, implementation of electronic health record. • **Practical**-Computer Operations (basic computer terminology, formatting storage media, files and folders, making back-ups, care of computer systems). • **Practical**- Formatting storage media, files and folders, making back-ups, care of computer system	1 2
4.	• **Telemedicine**. Introduction and definition, types and uses, modes of transmission, barriers. • **Practical**- Basics concepts of the Internet. Understanding computer software and application of individual software	1 2
5.	• **Medical imaging informatics**. Introduction and definition, components and storage requirements, digital detectors, advantage and disadvantage. • **Practical** - Basics concepts of the Internet Understanding computer software and application of individual software	1 2
6.	• **Mobile technology and mobile health.** Introduction and definition, uses, software for clinicians, barriers. • **Practical** - Uses of internet and servers, portals, antivirus, firewall, network security	1 2
7.	• **Data standard and medical coding.** Introduction and definition, international classification system, medical coding and current procedural terminology. • **Practical** - MS-word- introduction, file preparation, saving document	1 2
8.	• **Data standard and medical coding**. Standard use of data, types of medical code, Evaluation and management code, examples of CPT code. • **Practical**- MS-word- importing text and graphics, page orientation, printing documents, document processing	1 2
9.	• **Health informatics Ethics**.	1

	Introduction and definition, IMIA codes, Ethical issues, Data protection, ethical conflicts • **Practical**- MS PPT (formatting a document, editing and working with tables and graphics) • **Practical**- MS PPT multimedia presentation (multimedia basics, creating a multimedia presentation	2
10.	• **Health information privacy and security** Introduction and definition, authentication and legal issue • **Artificial intelligence and health care** Introduction and definition, classification, uses, advantage and disadvantages. • **Practical**- Medical terminology Practical- - MSXL (Introduction, columns and rows, cell properties) spread sheets (data entry, formatting sheets, creating charts).	1 2
11.	**Practical Final Exam**	3
12.	**Final theoretical Exams**	3
Total		**36**

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Mark for short assessment (you could use quiz, oral evaluation, group project, group presentation, …etc.)	4	10
2.	Midterm Theory Exam	6	25
3.	Individual assignment	9	5
4	Practical Assessment or assignment	10	5
5	Attendance and Participation	Daily	5
6	Final practical	11	20
7	Final theory	12	30
		Total	100

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.)

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	• Health informatics: an interprofessional approach. St. Louis, Missouri. 2018 Elsevier • Fundamental of telemedicine and telehealth. 1st edition Elsevier (2019)

	• Handbooks of informatics for Nurses & Health care professionals. Pearson; 6th edition (2018) • Artificial intelligence in health care. Academic Press; 1st edition (2020)
Supportive References	• Exploring the role of social media in health promotion. Mdpi AG (2020) • Biomedical Informatics-computer applications in Healthcare and Biomedicine. Springer. 5th edition (2021)
Electronic Materials	• 1-http://www.imia-medinfo.org • http://medical-dictionary.thefreedictionary.com • AHIMA website • Open source EMR/HER • www.clcbio.com • www.amia.org
Other Learning Materials	- Videos - Compact Discs (C D) -Info graphics - Power point(projectors)

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	• - Lecture /Computer Laboratory room that is commensurate to the number of students enrolled in the course •
Technology equipment (projector, smart board, software)	• Fully functional computer laboratory • Internet access, Providing suitable equipment from computers and other projectors
Other equipment (depending on the nature of the specialty)	• Magmatic teaching board • Functional computer set. (for each student) • Updated software programs for basic computer subject. • Updated software related to health informatics such as EHR with CDSS & CPOE.

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Students	Course Report

Assessment Areas/Issues	Assessor	Assessment Methods
		Students' teaching evaluation questionnaire. Continuing feedback from students during the semester.
Effectiveness of students assessment	Instructor	Course report CLO Evaluation survey Continuing feedback from students during the semester.
Quality of learning resources	Quality Assurance Unit	Students Satisfaction Survey Continuing feedback from students during the semester.
The extent to which CLOs have been achieved	Instructor	Course report CLO Evaluation survey Continuing feedback from students during the semester.
Other		

Assessor (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)

Assessment Methods (Direct, Indirect)

G. Specification Approval Data

COUNCIL /COMMITTEE	PLANS AND CORRICULUM COMMITTEE-COLLEGE OF NURSING
REFERENCE NO.	
DATE	