هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission
اعتماد
NCAAA
2024
TP-153

Course Specification

(Bachelor)

Course Title:	Health Informatics
Course Code:	371 NUR-2
Program:	Bachelors in Nursing
Department:	Nursing
College:	College of Nursing and Health Sciences
Institution:	Jazan University
Version:	2025
Last Revision Date:	20-08-2024

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A. General information about the course:

1. Course Identification

1. Credit hours: (2 Credit Hours)					
2. Course type					
A.	☐University	☐College	☐ Department	☐Track	☒ Others
B.	☒ Required		☐Elective		
3. Level/year at which this course is offered: (6th Level / 3rd Year)					
4. Course General Description:					
This course provides an introduction to the knowledge, skills, and attitudes essential for utilizing information technology in nursing. It covers the application of informatics in patient care, healthcare administration, patient education, nursing education, and research. The course also addresses the professional, legal, and ethical issues related to the use of informatics in nursing. Students will explore how information technology can be professionally applied in nursing practice, education, and research, preparing them to integrate these tools effectively in their future roles.					
5. Pre-requirements for this course (if any)**:**					
None.					
6. Co-requisites for this course (if any)**:**					
None.					
7. Course Main Objective(s):					
By studying the course, the students will be able to: 1. Examine the use of information technology to enhance nursing care delivery within healthcare organizations and public health settings. 2. Gain a comprehensive understanding of the principles and challenges of health informatics. 3. Develop foundational skills in applying health informatics principles to improve nursing practice. 4. Understand the conceptual and theoretical frameworks for designing, developing, and implementing health information systems in nursing care. 5. Explore the research methodologies and practical applications within the field of health informatics. 6. Engage in discussions on ethical and diversity issues related to health informatics in the context of nursing care. 7. Expand understanding of the evolving direction of health informatics and its application in future nursing care, including effective training of health information system users.					

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	(1*15) + (2*15) = 45	100%
2	E-learning		
3	Hybrid • Traditional classroom • E-learning		
4	Distance learning		

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	**Lectures**	15 *1 = 15
2.	**Laboratory/Studio**	15 *2 = 30
3.	**Field**	
4.	**Tutorial**	
5.	**Others (specify)**	
Total		45 hours

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

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
1.0	**Knowledge and understanding**			
1.1	**Demonstrate a basic understanding and practical use of computer technologies and skills that enhance nursing knowledge, improve healthcare**	**K1**	Lecture- discussion and didactics; Computer-aided Instructions (CAI); Student-Lead Activities; Data show Presentation; e-Videos (Model).	Recitation in class / Quizzes; Periodic Examinations; Individual and group assignments

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
	delivery, and support the advancement of nursing education, practice, and service.			
1.2	**Explain the importance of protecting privacy, confidentiality, and security in the collection and use of health information to ensure safe and effective healthcare delivery across various settings.**	**K2**	Lecture- discussion and didactics; Computer-aided Instructions (CAI); Student-Lead Activities; Data show Presentation; e-Videos (Model).	Recitation in class / Quizzes; Periodic Examinations; Individual and group assignments
...				
2.0	**Skills**			
2.1	**Apply safeguards and decision-support tools embedded in patient care technologies and information systems to maintain a safe practice environment for both patients and healthcare workers.**	**S2**	Group Research Project development; 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
2.2	**Integrate healthcare information systems, electronic health records, and telemedicine into the delivery of nursing care to enhance patient**	**S3**	Group Research Project development; 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

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
	outcomes and care efficiency.			colleagues; Supervisor evaluation for performance and attitude
2.3	**Communicate effectively using social media within the contexts of consumer health information, patient education, and professional nursing practice.**	**S4**	Group Research Project development; 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
3.0	**Values, autonomy, and responsibility**			
3.1	**Exhibit a professional attitude related to nursing and healthcare informatics that supports and advances the science of nursing informatics, as well as the practice, education, and research in the field.**	**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	**Effectively utilize Clinical Information Systems (CIS) and Electronic Health Records (EHR) to support decision-making and demonstrate the value of nursing in achieving healthcare's triple**	**V2**	Small group discussion; Equipped and functional nursing laboratories for demonstration.	Final exam; Multiple choice tests; Assessment; Questionnaires; Continuous observation and évaluation

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
	aim: improved patient experience, improved population health, and reduced healthcare costs.			

C. Course Content

No	List of Topics	Contact Hours
1.	Introduction to Health Informatics: Definition and Scope of Health Informatics, The role of Informatics in Nursing and Healthcare, History and Evolution of Health Informatics, Key Terms and Concepts Practical: Overview of common health informatics tools (EHR, CDS, HIE), Introduction to Health Informatics software and platforms	1+2
2.	The Role of Health Informatics in Nursing: Impact of Health Informatics on Nursing Practice, The Role of Nurses in Health Informatics, Informatics Competencies for Nurses Practical: Navigation and basic tasks in an EHR system (e.g., creating patient records, entering vital signs)	1+2
3.	Health Information Systems (HIS): Overview of Health Information Systems, Types of HIS (EHR, EMR, HIS, HIE, LIS), Key Components of an HER, Benefits and Challenges of HIS Practical: Hands-on practice with EHR: Viewing and documenting patient records	1+2
4.	Electronic Health Records (EHR): EHR Structure and Functionality, EHR Documentation Standards, Advantages and Disadvantages of EHR Practical: Data entry and patient charting using an EHR system	1+2
5.	Clinical Decision Support Systems (CDSS): What is CDSS?, Types of CDSS (e.g., diagnostic, therapeutic), Role of CDSS in improving clinical decision-making and patient outcomes	1+2

	Practical: Hands-on activity: Exploring CDSS functionality (alerts, reminders, evidence-based recommendations)	
6.	Health Information Exchange (HIE): Overview of HIE and its Importance, Types of HIE (e.g., centralized, decentralized, hybrid), Benefits and Challenges of Health Information Exchange Practical: Case study: How HIE improves care coordination and reduces errors	1+2
7.	Telemedicine and Telehealth: Overview of Telemedicine and Telehealth, Role of Telehealth in Nursing Practice, Legal and Ethical Considerations in Telehealth Practical: Virtual patient consultation simulation, Using telehealth platforms for remote patient monitoring	1+2
8.	Data Privacy and Security in Health Informatics: Data Security in Healthcare, Regulatory Frameworks, Ethical and Legal Responsibilities of Nurses in Protecting Patient Data Practical: Identifying privacy breaches in healthcare settings, Hands-on exercise: Secure data transmission in an EHR system	1+2
9.	Standards and Interoperability: Importance of Standards in Health Informatics (HL7, ICD, SNOMED), Interoperability Challenges and Solutions, Benefits of Standardization in Healthcare Practical: Exploring health data standards and interoperability tools	1+2
10.	Health Informatics and Patient Safety: Role of Informatics in Enhancing Patient Safety, Reducing Medication Errors and Improving Clinical Outcomes through Technology, The Role of Nurses in Promoting Safety through Informatics Practical: Case study on preventing medication errors using informatics tools (CDSS alerts)	1+2
11.	Data Analytics in Health Informatics: Introduction to Health Data Analytics, Using Analytics for Clinical Decision Support and Predictive Modeling, Introduction to Big	1+2

	Data in Healthcare Practical: Basic data analysis using healthcare datasets (e.g., patient outcomes, vital signs)	
12.	Health Informatics in Evidence-Based Practice: Role of Informatics in Supporting Evidence-Based Nursing Practice, Integrating Research Findings into Clinical Care, Tools for Evidence-Based Practice in Nursing (e.g., Cochrane Library, PubMed) Practical: Searching and accessing evidence-based resources using health informatics tools	1+2
13.	Workflow Optimization in Healthcare: Analyzing and Optimizing Healthcare Workflow through Informatics, The Impact of Technology on Healthcare Efficiency, Reducing Costs and Improving Quality through Workflow Management Practical: Hands-on project: Mapping and optimizing a healthcare workflow using informatics tools	1+2
14.	Ethics and Legal Issues in Health Informatics: Ethical Challenges in Health Informatics (privacy, data use, consent), Legal Considerations in Electronic Health Records, Professional Standards and Ethics for Nurses in Health Informatics Practical: Case discussion on ethical dilemmas in health informatics (e.g., data breaches, unauthorized access)	1+2
15.	Future Trends in Health Informatics: Emerging Technologies in Health Informatics (AI, machine learning, blockchain), The Future of Nursing and Health Informatics, The Impact of Innovation on Patient Care Practical: Hands-on exploration of emerging technologies (e.g., AI-powered clinical decision tools)	1+2
Total		45

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Midterm Theory Exam	Week 8-9	20%
2.	Practical Assessment (Assignment, MCQ Exam, ect.)	Week 6&12	15%
3.	Discipline & Behavior	Continuous	5%
4	Final Practical Exam (Written Exam)	Week 16	20%
5	Final Theory Exam	Week 19th - 20th	40%

*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	**a)** Health informatics: an interprofessional approach. St. Louis, Missouri. Elsevier (2018) **b)** Fundamental of telemedicine and telehealth. 1st edition Elsevier (2019) **c)** 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	• 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 (CDs) ○ 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 like computers and 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; 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		

Assessors (Students, Faculty, Program Leaders, Peer Reviewers, Others (specify)

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	Nursing Department Council
REFERENCE NO.	NUR 2508
DATE	Jan 15, 2025