

Template for Course Plan(Nursing information)

Course Description:

This course explores the role of information technology and data management in nursing practice, education, administration, and research. Students will learn how to apply informatics tools to enhance patient care, improve decision-making processes, and support evidence-based practice. Topics include electronic health records (EHR), data privacy and security, health information systems, clinical decision support systems, and the ethical and legal considerations of healthcare informatics. Through practical exercises and case studies, students will develop skills in data analysis, system implementation, and user interface design, contributing to the efficient operation of healthcare systems

IV. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
1	1. Introduction to Nursing Informatics	☐ Overview of nursing informatics: definitions and history ☐ Role of informatics in nursing practice, education, and research ☐ Core competencies for nursing informaticians	1	2
2	2. Information Systems in Healthcare	- Electronic Health Records (EHR) and Electronic Medical Records (EMR) - Hospital information systems (HIS) and clinical information systems (CIS) - Interoperability and health information exchange (HIE) - System implementation, evaluation, and maintenance	1	2

3	. Data Management and Analytics	Data collection, storage, and retrieval Data quality, validation, and cleaning processes Using data for evidence-based practice Introduction to health analytics: data mining, predictive analytics, and big data in healthcare	1	2
4	4. Clinical Decision Support Systems (CDSS)	Introduction to CDSS and their role in improving patient outcomes Types of CDSS: alerts, reminders, clinical guidelines, and diagnostic tools Integration of CDSS into clinical workflows Evaluating the effectiveness and limitations of CDSS	1	2
5	5. Health Information Technology (HIT) and Innovation	□ Emerging trends in HIT (e.g., telehealth, mobile health, AI in healthcare) □ The role of technology in improving patient safety and care quality □ Wearable devices and patient monitoring systems □ Mobile health applications for self-management of diseases	1	2
6	6. Legal and Ethical Aspects of Health Informatics	□ HIPAA and patient privacy regulations □ Confidentiality, security, and data protection measures □ Ethical dilemmas in nursing informatics	1	2

		☐ Legal responsibilities when using health informatics systems		
7	7. Nursing Workflow and Process Improvement	☐ Workflow analysis and redesign using informatics tools ☐ Streamlining nursing documentation and reducing errors ☐ Optimizing patient care processes using informatics solutions	1	2
		– Mid-Term Theoretical Exam	1	2
8	. System Design and User Interface (UI)	☐ Principles of system design for healthcare applications ☐ Best practices in user interface (UI) design to ensure usability for clinicians ☐ Engaging healthcare providers in system design and implementation	1	2
9	Project Management in Informatics	☐ Fundamentals of project management for informatics projects ☐ Planning, executing, and evaluating informatics interventions ☐ Stakeholder engagement, change management, and overcoming resistance	1	2
10.	Health Informatics Standards and Policies	☐ International and national health informatics standards (e.g., HL7, SNOMED, ICD-10) ☐ Role of government policies in health IT adoption	1	2

		☐ Policy implications for the future of nursing informatics		
11	. Telehealth and Remote Patient Monitoring	☐ Implementation and management of telehealth services ☐ Benefits and challenges of remote patient monitoring ☐ Ensuring quality and continuity of care through telehealth technologies	1	2
12	. Informatics in Nursing Research and Education	☐ Using informatics to support nursing research ☐ Teaching informatics competencies to future nurses ☐ Accessing online resources and databases for nursing research	1	2
13	Current Trends and Future Directions in Nursing Informatic	☐ The evolving role of informatics in personalized medicine and genomics ☐ Future innovations: artificial intelligence, machine learning, and robotics in healthcare ☐ Preparing for the future of informatics in nursing practice	1	2
14	Assessment Components	☐ Practical assignments with EHRs or simulated clinical environments ☐ Case studies involving ethical dilemmas in health informatics ☐ Group projects on system implementation or process redesign ☐ Examinations covering	1	2

		theoretical concepts and practical applications		
15		Final Theoretical Exam	1	2
Number of Weeks /and Units Per Semester			16	32