

Health Nursing Informatics & Technology

Course Specifications

Course Title	Health Nursing Informatics & Technology
Course Code	HNIT 145
Course Type	Combination course
Faculty	Nursing

Course Summary

This course is designed to equip novice nursing students with knowledge and skills necessary to deliver efficient informatics-led health care services.

PLACEMENT: II SEMESTER

THEORY: 2 Credits (40 hours)

PRACTICAL/LAB: 1 Credit (40 hours)

Course Outcomes

On completion of the course, the students will be able to

CO-1	Develop a basic understanding of computer application in patient care and nursing practice.
CO-2	Apply the knowledge of computer and information technology in patient care and nursing education, practice, administration and research.
CO-3	Describe the principles of health informatics and its use in developing efficient healthcare.
CO-4	Demonstrate the use of information system in healthcare for patient care and utilization of nursing data.
CO-5	Demonstrate the knowledge of using Electronic Health Records (EHR) system in clinical practice.
CO-6	Apply the knowledge of interoperability standards in clinical setting.
CO-7	Apply the knowledge of information and communication technology in public health promotion.
CO-8	Utilize the functionalities of Nursing Information System (NIS) system in nursing.
CO-9	Demonstrate the skills of using data in management of health care.
CO-10	Apply the knowledge of the principles of digital ethical and legal issues in clinical practice.
CO-11	Utilize evidence-based practices in informatics and technology for providing quality patient care.
CO-12	Update and utilize evidence-based practices in nursing education, administration and practice.

Approved by the Academic council at its 27th meeting held on 26th September 2022

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M.S. Ramaiah Institute of Nursing Education and Research

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COURSE OUTLINE

Unit	Time (Hrs)	Learning Outcomes	Content	Teaching/ Learning Activities	Assessment Methods
I	10 (Th)	Describe the importance of computer and technology in patient care and nursing practice	Introduction to computer applications for patient care delivery system and nursing practice <ul style="list-style-type: none"> Use of computers in teaching, learning, research and nursing practice 	<ul style="list-style-type: none"> Lecture cum discussion Supervised clinical practice on EHR use Assignment on application of computer usage in nursing practice Participate in data analysis using statistical package with statistician Practical session Visit to hospitals with different hospital management systems 	<ul style="list-style-type: none"> Short answer MCQ Visit reports Assessment of assignment
	15 (Pr)	Demonstrate the use of computer and technology in patient care, nursing education, practice, administration and research	<ul style="list-style-type: none"> Windows, MS office: Word, Excel, Power Point Internet Literature search Statistical packages Hospital management information system 		<ul style="list-style-type: none"> Assessment of skills using checklist
II	4 (Th)	Describe the principles of health informatics	Principles of health informatics <ul style="list-style-type: none"> Health informatics – needs, objectives and limitations 	<ul style="list-style-type: none"> Lecture cum discussion 	<ul style="list-style-type: none"> Essay Short answer MCQ
	5 (Pr)	Explain the ways data, knowledge and information can be used for	<ul style="list-style-type: none"> Use of data, information and knowledge for more effective healthcare and 	<ul style="list-style-type: none"> Practical session use of data, knowledge and information in 	<ul style="list-style-type: none"> Assessment of report

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M.S. Ramaiah Institute of Nursing Education and Research
M.S. Ramaiah University of Applied Sciences
Bangalore-560054


Dean - Academics
M.S. Ramaiah University of Applied Sciences
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Programme structure and course details of B.Sc. Nursing-2022

		effective healthcare	better health	health care	
				<ul style="list-style-type: none"> Work in groups with health informatics team in a hospital to extract nursing data and prepare report 	
III	3 (Th)	Describe the concepts of information system in health	Information systems in healthcare <ul style="list-style-type: none"> Introduction to the role and architecture of information systems in modern healthcare environments 	<ul style="list-style-type: none"> Lecture cum discussion Demonstration 	<ul style="list-style-type: none"> Essay Short answer MCQ
	5 (Pr)	Demonstrate the use of Health Information System (HIS) in hospital setting	<ul style="list-style-type: none"> Clinical Information System (CIS)/Hospital information System (HIS) 	<ul style="list-style-type: none"> Practical session on use of CIS and HIS Work in groups with nurse leaders to understand the hospital information system 	<ul style="list-style-type: none"> Assessment of report nurses view on hospital information system
IV	4 (Th)	Explain the use of electronic health records in nursing practice	Shared care and electronic health records <ul style="list-style-type: none"> Challenges of capturing rich patient histories in a computable form 	<ul style="list-style-type: none"> Lecture cum discussion Practice on Simulated EHR system 	<ul style="list-style-type: none"> Essay Short answer MCQ
	4 (Pr)	Describe the latest trends in electronic health records (EHR) standards and	<ul style="list-style-type: none"> Latest global developments and standards to enable lifelong electronic health records to be 	<ul style="list-style-type: none"> Practical session on electronic health records standards Visit to health informatics department of a hospital to 	<ul style="list-style-type: none"> Assessment of practical skills using checklist Assessment of report on current EHR

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[Signature]
Principal and Dean
M S Ramaiah Institute of Nursing Education and Research
M S Ramaiah University of Applied Sciences

[Signature]
Dean - Academics
M S Ramaiah University of Applied Sciences
Bangalore-560054

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		interoperability	integrated from disparate systems.	understand the use of EHR in nursing practice <ul style="list-style-type: none"> • Prepare a report on current EHR standards in Indian settings 	standards in Indian settings
V	3 (Th)	Describe the advantages and limitations of healthinformatics in maintaining patient safety and risk management	Patient safety and clinical risk <ul style="list-style-type: none"> • Relationship between patientsafety and informatics • Function and application of therisk management process 	<ul style="list-style-type: none"> • Lecture cum discussion 	<ul style="list-style-type: none"> • Essay • Short answer • MCQ
VI	3 (Th)	Explain the importance of knowledge management	Clinical knowledge and decisionmaking <ul style="list-style-type: none"> • Role of knowledge management in improving decision-making in both the clinical and policy contexts 	<ul style="list-style-type: none"> • Lecture cum discussion • Demonstration • Work in groups to prepare a report on standardized languages used in health informatics 	<ul style="list-style-type: none"> • Essay • Short answer • MCQ
	6 (Pr)	Describe the standardized languages used in health informatics	Systematized Nomenclature of medicine, clinical terms, SNOMED CT to ICD-10-CM Map, standardized nursing terminologies (NANDA, NOC), Omaha system.	<ul style="list-style-type: none"> • Practical session • Visit health informatics department to understand the standardized languagesused in hospital setting 	<ul style="list-style-type: none"> • Assessment ofskills using checklist • Assessment of report
VII	3 (Th)	Explain the use of information and communication	eHealth: Patients and the internet	<ul style="list-style-type: none"> • Lecture cum discussion • Demonstration 	<ul style="list-style-type: none"> • Essay • Short answer

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Principal and Dean

M. S. Ramaiah Institute of Nursing Education and Research
M. S. Ramaiah University of Applied Sciences

Dean - Academics

M. S. Ramaiah University of Applied Sciences
Bangalore-560054

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		technology in public health promotion.	<ul style="list-style-type: none"> • Use of information and communication technology to improve or enable personal and public healthcare • Introduction to public health informatics and role of nurses 		<ul style="list-style-type: none"> • MCQ • Practical exam
VIII	3 (Th)	Describe the functions of nursing information system	Using information in healthcare management <ul style="list-style-type: none"> • Components of Nursing Information System (NIS) 	<ul style="list-style-type: none"> • Lecture cum discussion • Demonstration on simulated NIS software 	<ul style="list-style-type: none"> • Essay • Short answer • MCQ • Assessment of skills using checklist
	5 (Pr)	Explain the use of healthcare data in management of health care organization	<ul style="list-style-type: none"> • Evaluation, analysis and presentation of healthcare data to inform decisions in the management of health-care organizations 	<ul style="list-style-type: none"> • Visit to health informatics department of the hospital to understand use of healthcare data in decision making 	<ul style="list-style-type: none"> • Assessment of report
IX	4 (Th)	Describe the ethical and legal issues in healthcare informatics	Information Law and Governance in clinical practice <ul style="list-style-type: none"> • Ethical-legal issues pertaining to healthcare information in contemporary clinical practice • Ethical-legal issues related to digital health applied to nursing 	<ul style="list-style-type: none"> • Lecture cum discussion • Case discussion • Role play 	<ul style="list-style-type: none"> • Essay • Short answer • MCQ
X	3 (Th)	Explain the relevance of evidence-	Healthcare quality and evidence based	<ul style="list-style-type: none"> • Lecture cum discussion 	<ul style="list-style-type: none"> • Essay • Short answer

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[Signature]
Principal and Dean
M.S. Ramaiah Institute of Nursing Education and Research
M.S. Ramaiah University of Applied Sciences

[Signature]
Dean - Clinical Sciences
M.S. Ramaiah University of Applied Sciences
Bangalore-560054

Programme structure and course details of B.Sc. Nursing-2022

		based practices in providing quality healthcare	practice Use of scientific evidence in improving the quality of healthcare and technical and professional informatics standards	• Case study	• MCQ
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Skills

1. Utilize computer in improving various aspects of nursing practice.
2. Use technology in patient care and professional advancement.
3. Use data in professional development and efficient patient care.
4. Use information system in providing quality patient care.
5. Use the information system to extract nursing data.
6. Develop skill in conducting literature review.

REFERENCE BOOKS

1. Randhir P. Health/Nursing informatics and technology. New Delhi: CBS publishers and distributors (p) ltd; 2021.
2. Gupta D. Health/Nursing informatics and technology. Pune: AITBS publishers; 2021.
3. Jadhav R. Health/Nursing informatics and technology. Jaipur: Jain publications; 2021.
4. Das S, Deb P. Health/Nursing informatics and technology. New Delhi: Lotus publishers; 202

Gp
Registrar
M.S. Ramaiah University of Applied Sciences
Bangalore-560 054

Neelgao
Dean - Academics
M.S. Ramaiah University of Applied Sciences
Bangalore-560054

Approved by the Academic council at its 27th meeting held on 26th September 2022

S. Radha
Principal and Dean
M.S. Ramaiah Institute of Nursing Education and Research
M.S. Ramaiah University of Applied Sciences

Course Mapping (CO-PO-PSO Mapping)

Course code & Name	Course Outcome (COs)	Programme Outcomes (POs)				Programme specific Outcomes (PSOs)											
		PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10	PSO11	PSO12
HNIT 145 Health Nursing Informatics & Technology	CO 1	1	1	2	2	1	1	1	1	1	1	3	2	2	2	1	1
	CO 2	2	1	1	2	1	1	1	1	1	1	3	2	2	2	1	1
	CO 3	2	1	1	3	1	1	1	1	1	1	3	3	2	2	1	1
	CO 4	1	1	1	2	1	1	1	1	1	1	3	3	3	3	1	1
	CO 5	1	1	2	3	1	1	1	1	1	1	3	3	3	3	1	1
	CO 6	1	2	1	3	1	1	1	1	1	1	3	3	3	3	1	1
	CO 7	2	2	2	3	1	1	3	1	1	1	2	3	2	1	1	1
	CO 8	1	2	2	3	1	2	2	1	1	1	3	3	3	2	2	3
	CO 9	1	2	3	2	1	1	3	1	1	1	2	3	2	3	1	2
	CO 10	1	2	2	3	1	1	2	3	3	1	2	3	3	2	2	2
	CO 11	1	2	3	3	1	1	2	1	1	2	3	2	2	3	2	3
	CO 12	1	3	3	3	1	1	2	1	1	2	3	3	3	3	2	3
3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution																	

[Signature]
M.S. Ramaiah
Bangalore
Applied Sciences

[Signature]
M.S. Ramaiah University of Applied Sciences
Bangalore-560054
Dean - Academics

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[Signature]
Principal and Dean
M.S. Ramaiah Institute of Nursing Education and Research
M.S. Ramaiah University of Applied Sciences