فقيه.

كلية فقيه للعلوم الطبية
Fakeeh College for Medical Sciences

COURSE HANDBOOK

Program: Post-Graduate Online Courses
Course Name: Information Technology and Health Care
Course Code & Number: SNBC 105

Sep-Nov 2021

Welcome Message from Your Teaching Staff

WELCOME to Information Technology and Health Care On-line Course (SNBC 105)

We hope you embark with us on an enriching and enjoyable learning experience. We are committed to providing you with high quality education in an active learning environment.

This handbook provides you with an overview of this course. It includes all the information relevant to the educational process, including but not limited to teaching, learning, assessment, staff members and learning resources.

Your journey in this course will take 12 weeks. We look forward to a productive course with you.

During your journey in this course, you have to remember the followings:

In addition to the teaching hours provided by the teaching staff, there is additional learning hours that you (as a participants) are expected to study independently (e.g. in assignments or other work associated with the course). For this course, these expected hours are (14 hrs. /week) over the course duration.

To get the best achievements in this course, it is highly recommended to demonstrate your commitment, hard work, regular class attendance and participation in all assigned activities and readings. In addition it is important to utilize all the learning resources provided by the college such as library, language and IT labs, and electronic facilities….etc.

Course Booklet

Course Identification:

College:	Fakeeh College for Medical Sciences	
Program:	Post-Graduate On-Line Courses	
Course Title:	Information Technology and Health Care	
Course Code:	SNBC 105	
Credit Hours	2 CHs (2 Contact Hours/Week)	
Target Audience	Health Care Workers	
Date & Time of Delivery	Tuesdays: 2-4 PM	
Course Instructors	**Course Coordinator** Dr. Jefferson G. Guerrero **Email:** jgguerrer@fcms.edu.sa **Contact No.** 0126588650 Ext. 411 **Academic Rank:** Assistant Professor at FCMS Specialty: Critical Care Nursing & Nursing Education **Position:** Committee Chair Nursing Internship and Clinical Training Monitoring 	**Co-Coordinator** Dr. Dena M. Attallah **Email:** gmcastro@fcms.edu.sa **Contact No.** 0126588650 Ext. 115 **Academic Rank:** Assistant Professor at FCMS Specialty: Nursing Education and Administration **Position:** 

Course Description and Main Objective

1. Course Description

Information Technology and Health Care is offered online as a short course for BSN graduate that is focused to equip nurse practitioners and educators. This course is a mixture of cognitive science, computer science, information science, and nursing science. It includes development of analysis and assessment of information system enhanced by modern technologies that supports and enhance safe patient care.

The concentration the course emphasizes development of leadership in nursing, and it will give an opportunity to students to examine, analyze, apply, and perform practices and skills related to nursing informatics. There are several opportunities waits for graduates with this specialty which will be involved in in practice, education, research, and administration.

This course introduces theoretical models of nursing informatics; healthcare computing; and systems designs and analysis. This course concentrates on a theoretical foundation for understanding nursing informatics that comprises analysis of numerous applications of information systems within the context of the health care system. Additionally, topics on nursing vocabularies, nursing knowledge generation; ethical and social issues in healthcare informatics; and the impact of consumer health informatics are included.

2. Course Main Objective

The main objective of the course will increase the postgraduate students' knowledge of nursing theories related to information technology in healthcare including research, health care outcomes, and nursing informatics. The core of the course incorporates work in clinical introduction to informatics, information systems, database management, assessment of informatics developments and consumer health informatics.

Course Learning Outcomes, Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge**		
1.1	Identify applicable theoretical models of healthcare and nursing informatics that enhances patient care.	Interactive Lectures Small Group Discussion	Written Exam: MCQs Essays
1.2	Identify ethical and social issues in healthcare informatics.	Interactive Lectures Small Group Discussion Team Based Learning	Written Exam: MCQs Essays
1.3	Demonstrate an understanding of key information technology concepts and components related to healthcare informatics.	Interactive Lectures Small Group Discussion	Written Exam: MCQs Essays

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.4	Identify the importance of utilizing evidence–based practices with the use of modern technologies available in the healthcare industry.	Interactive Lectures Small Group Discussion	Written Exam: MCQs Essays
1.5	Analyze current and future trends in healthcare and information technology in the delivery of patient care.	Interactive Lectures Small Group Discussion	Written Exam: MCQs Essays
2.0	**Skills**		
2.1	Apply information technology best practices that includes information systems, database management, assessment of informatics developments and consumer health informatics.	Interactive Lectures Small Group Discussion Flipped Classroom Assignments	Written Exam: MCQs Essays
2.2	Demonstrate skills with the use of nursing information systems within the context of the health care system.	Interactive Lectures Small Group Discussion Flipped Classroom Assignments	Written Exam: MCQs Essays Assignment rubrics
2.3	Use computers and electronic health record management system for documentation in clinical settings.	Interactive Lectures Small Group Discussion Flipped Classroom Assignments	Written Exam: MCQs Essays Assignment rubrics
2.4	Demonstrate skills in the implementation and evaluation of healthcare information systems.	Small Group Discussion Flipped Classroom Assignments	Assignment rubrics
2.5	Perform best practices and skills related to healthcare and nursing informatics.	Interactive Lectures Small Group Discussion Flipped Classroom Assignments	Written Exam: MCQs Essays Assignment Rubrics
3.0	**Competence**		
3.1	Perform ethics-based advanced nursing practice aided by the evolving technology in the healthcare industry.	Small Group Discussion Assignment	Assignment / Presentation Evaluation Using Rubrics
3.2	Show leadership and teamwork skills in utilizing healthcare technology.	Small Group Discussions Assignment Presentation	Assignment / Presentation Evaluation Using Rubrics
3.3	Communicate effectively with patients, families, and the health care team facilitated by technologies that support and enhance patient care.	Small Group Discussion Assignment	Assignment / Presentation Evaluation Using

Course Booklet

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
			Rubrics

Mode of Instruction (Teaching Strategies):

The teaching strategies of this course in the below table are planned and identified according to course learning outcome and chosen based on the type of skills to be developed that fit the course learning domains (knowledge, skills & values). For example: (1) interactive lecture and discussion are designed to impart knowledge and cognitive skills; (2) student prepared presentation and case-based learning are designed to develop communication and information technology; (3) topic presentation and case study are designed to develop interpersonal skills and responsibility.

These innovative teaching methods aim to increase participants engagement and active class participation and enhance teamwork and leadership skills. They also contribute to increase in retention of course content, increased motivation, and improved interpersonal skills. Furthermore, active teaching strategies foster students' learning and their autonomy.

No	Activity	Contact Hours
1	**Lecture**	12
2	**Others** (*Flipped classroom, assignment, small group discussions and Student prepared presentations*)	12
	Total	24

Course Evaluation System:

Assessment methods (direct and indirect) that show in the below tables are designed to measure the different levels of course learning domains (Knowledge, Skills & Values). The direct method includes written examinations (MCQs & Essay Questions) and other course activities (Reflections, Oral Presentations & Written Assignments)

Direct Assessment:

#	Assessment Task*	Week Due	Percentage of Total Assessment Score
Summative Assessment			
1	Final Written Examination	12th	40
Continuous Assessment			
2	Assignments	11th	20
3	Presentations	12th	10
4	Reflection	Continuous	10
5	Quizzes (٢)	5th &10th	20
6	Total		100

Course Booklet

Indirect Assessment:

Indirect assessment method includes evaluation of the course through surveys as present in the following table.

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	Student	Teaching Staff Evaluation Survey
Effective Teaching Practices	Staff	Peer Review Visits
Assessment Methods and Process	Student	Assessment Process Evaluation Survey
Assessment Process Verification	Staff	Internal and External Verification Process
Learning Facilities and Resources	Students	Facilities and Learning Resources Survey
Leadership	Staff	Evaluation of Leadership Survey
Course Learning Outcome Achievement	Student	Course Learning Outcomes Survey
Course Content	Student	Course Evaluation Survey Focus group discussion with students at the end of the course.

Grading System:

The grades earned by participants in the course are calculated as follows:

Percent	Rating	Rating Symbol	Rating Weight Out of 5
100-95	Exceptional	A+	5.0
90 to less than 95	Excellent	A	4.75
85 to less than 90	Superior	B+	4.5
80 to less than 85	Very good	B	4.0
75 to less than 80	Above Average	C+	3.5
70 to less than 75	Good	C	3.5
less than 70	Failed	F	2.5

Learning Resources:

Required Textbooks	▪ Saba, V.K., McCormick, K.A. (2021), Essentials of Nursing Informatics (7th Edition) Mc Graw Hill Education, USA ▪ Mcbride S., Tietze M., (2019), Nursing Informatics for the Advanced Practice Nurse, Patient Safety, Quality, Outcomes and Professionalism, (2nd Edition) Springer Publishing Company, ISBN 978-0-8261-4045-6 ▪ McGonigle, D., Mastrian, K. (2015), Nursing Informatics and the Foundation of Knowledge, (3rd ed.) Jones and Bartlett Learning, USA ISBN: 978-1-284-04158-3
Essential References Materials	▪ Dasgupta, S. (2016) Computer Science: A Very Short Introduction: 1st edition. Oxford University Press, USA ISBN: 978-0-19-873346-1 ▪ Hebda. T, Czar, P., (2013). Handbook of Informatics for Nurses and Healthcare Professionals: 5th edition. New York: Pearson, USA. ISBN: 978-1-284-04157-3
Electronic Materials	▪ BMJ Health and Care Informatics https://informatics.bmj.com/ ▪ International Journal of Technology Assessment in Health Care https://www.cambridge.org/core/journals/international-journal-of-technology-assessment-in-health-care ▪ Health Policy and Technology https://www.journals.elsevier.com/health-policy-and-technology ▪ Heath Informatics Journal https://journals.sagepub.com/home/jhi
Other Learning Materials	▪ Journals

Course Content:

No	List of Topics	Contact Hours
1	Fundamentals of Health Information Technology	1
2	Informatics Theories, Trends and Current Issues	1
٣	Advanced Practice Roles in Interprofessional Teams	٢
٤	Electronic Health Records and Point-of-Care-Technology	٢
5	Workflow Redesign in a Quality Improvement Modality	2
6	National Standards for Health Information Technology	2
7	Information Security and Privacy in Healthcare Environments	2
٨	Teleheath and Mobile Heath	٢
٩	Data Management Analytic and Clinical Decision Support Systems	٢
١٠	Nanotechnology, Nanorobotics and Implications for Healthcare	٢
١١	Games, Simulations, and Virtual Worlds for Educators	٢
12	Revision	2
Total		24

Course Study Plan:

Date	Topic	Student Learning Outcomes (SLO) *By the end of the session, you should be able to:*	Speaker	Reference
Week-1	Orientation to Information Technology and Health Care Course	▪ Recognize the course outline, objectives and learning outcomes. ▪ Memorize the assessment methods. ▪ Identify course policies and procedures. ▪ Summarize all course requirements.	Dr. Jefferson Dr. Grace	Course Specification
Week-2	Fundamentals of Health Information Technology	▪ Explain why technology is essential to driving down cost and improving quality. ▪ Discuss the diverse role of nurses in health information technology advancement. ▪ Describe the national agenda for transformation of healthcare system.	Dr. Grace	Nursing Informatics for the Advanced Practice Nurse: Patient Safety, Quality, Outcomes, and Interprofessionalism, Second Edition Susan McBride PhD RN-BC CPHIMS and Mari Tietze PhD RN-BC FHIMSS Chapter 6; Page 95 Chapter 30; Page 529 Essentials of Nursing Informatics, 7th Edition Virginia Saba and Kathleen McCormick Chapter 17; Page 287
Week-3	Informatics Theories, Trends and Current Issues	▪ Define epistemology, science and the generation of new technology. ▪ Discuss relevant of theoretical foundations and their application to HIT. ▪ Describe the process of evaluating HIT from quality improvement perspectives.	Dr. Jefferson	Nursing Informatics for the Advanced Practice Nurse: Patient Safety, Quality, Outcomes, and Interprofessionalism, Second Edition Susan McBride PhD RN-BC CPHIMS and Mari Tietze PhD RN-BC FHIMSS Chapter 9; Page 147 Essentials of Nursing Informatics, 7th Edition Virginia Saba and Kathleen McCormick Chapter 16; Page 265
Week-4	Advanced Practice Roles in Interprofessional Teams	▪ Identify the types of advanced level interprofessional team members. ▪ Apply informatics competencies for interprofessional teams. ▪ Utilize healthcare informatics model-based role in nursing education.	Dr. Grace	Nursing Informatics for the Advanced Practice Nurse: Patient Safety, Quality, Outcomes, and Interprofessionalism, Second Edition Susan McBride PhD RN-BC CPHIMS and Mari Tietze PhD RN-BC FHIMSS Chapter 8; Page 121 Nursing Informatics and the Foundation of Knowledge 5th Edition Dee McGonigle Kathleen Mastrian Chapter 15
Week-5	Electronic Health Records and Point-of-Care-Technology	▪ Identify the benefits of the EHR for improving safety and quality. ▪ Describe the process of EHR implementation and adaptation. ▪ Recognize the method of interoperability and integration of the EHR.	Dr. Jefferson	Nursing Informatics for the Advanced Practice Nurse: Patient Safety, Quality, Outcomes, and Interprofessionalism, Second Edition Susan McBride PhD RN-BC CPHIMS and Mari Tietze PhD RN-BC FHIMSS

Date	Topic	Student Learning Outcomes (SLO) *By the end of the session, you should be able to:*	Speaker	Reference
				Chapter 17; Page 285
Week-6	Workflow Redesign in a Quality Improvement Modality	▪ Use the workflow redesign of HER and quality improvement in process mapping. ▪ Apply the best practices for workflow redesign.	Dr. Grace	Nursing Informatics for the Advanced Practice Nurse: Patient Safety, Quality, Outcomes, and Interprofessionalism, Second Edition Susan McBride PhD RN-BC CPHIMS and Mari Tietze PhD RN-BC FHIMSS Chapter 16; Page 263 Essentials of Nursing Informatics, 7th Edition Virginia Saba and Kathleen McCormick Chapter 19; Page 329 Chapter 20; Page 341 Nursing Informatics and the Foundation of Knowledge 5th Edition Dee McGonigle Kathleen Mastrian Chapter 13
Week-7	National Standards for Health Information Technology	▪ Identify interoperability standards. ▪ Describe data mapping considerations. ▪ Utilize nursing data standards.	Dr. Grace	Essentials of Nursing Informatics, 7th Edition Virginia Saba and Kathleen McCormick Chapter 34; Page 553

Date	Topic	Student Learning Outcomes (SLO) *By the end of the session, you should be able to:*	Speaker	Reference
Week-8	Information Security and Privacy in Healthcare Environments	▪ Describe secured network information. ▪ Identify off-site use of portable devices. ▪ Explain the importance of fair use of information and sharing. ▪ Explain user authentication, security threats and security tools.	Dr. Jefferson	Nursing Informatics for the Advanced Practice Nurse: Patient Safety, Quality, Outcomes, and Interprofessionalism, Second Edition Susan McBride PhD RN-BC CPHIMS and Mari Tietze PhD RN-BC FHIMSS Chapter 15; Page 249
Week-9	Telehealth and Mobile Heath	▪ Recognize the telemedicine policies, regulation and security. ▪ Describe mobile health implementation, financing and sustainability.	Dr. Jefferson	Nursing Informatics for the Advanced Practice Nurse: Patient Safety, Quality, Outcomes, and Interprofessionalism, Second Edition Susan McBride PhD RN-BC CPHIMS and Mari Tietze PhD RN-BC FHIMSS Chapter 19; Page 317 Essentials of Nursing Informatics, 7th Edition Virginia Saba and Kathleen McCormick Chapter 38; Page 615 Nursing Informatics and the Foundation of Knowledge 5th Edition Dee McGonigle Kathleen Mastrian Chapter 14 & 18

Date	Topic	Student Learning Outcomes (SLO) *By the end of the session, you should be able to:*	Speaker	Reference
Week-10	Data Management Analytic and Clinical Decision Support System	▪ Describe data management system and analytic. ▪ Recognize clinical decision support system.	Dr. Grace	Nursing Informatics for the Advanced Practice Nurse: Patient Safety, Quality, Outcomes, and Interprofessionalism, Second Edition Susan McBride PhD RN-BC CPHIMS and Mari Tietze PhD RN-BC FHIMSS Chapter 12; Page 201 Nursing Informatics and the Foundation of Knowledge 5th Edition Dee McGonigle Kathleen Mastrian Chapter 9
Week-11	Nanotechnology, Nanorobotics and Implications for Healthcare	▪ Recognize the implication of nanotechnology and nanorobotics in healthcare. ▪ Identify the safety considerations for nanotechnology and nanorobotics.	Dr. Jefferson	Essentials of Nursing Informatics, 7th Edition Virginia Saba and Kathleen McCormick Chapter 36; Page 583
Week-12	Games, Simulations, and Virtual Worlds for Educators	▪ Recognize the importance of simulation in nursing education. ▪ Recognize case scenario development in simulations. ▪ Differentiate virtual worlds, educational games, and educational simulations.	Dr. Jefferson	Nursing Informatics and the Foundation of Knowledge 5th Edition Dee McGonigle Kathleen Mastrian Chapter 20

Course Booklet

Communication and Attitude:

- Communicate and behave in a professional and respectful manner with Patients / Family, FCMS Faculty Staff, Clinical Instructor, Preceptor, Colleagues, and Other Multidisciplinary Team Members.
- Follow defined chain of commands during communication.
- Use proper and respectable words and voice tone in verbal communication.
- Illustrate proper and respectful body language and facial expressions in non-verbal communication.
  - ✓ Share the course learning objectives with the FCMS Faculty Staff.
  - ✓ Participate in all session's discussions.
- Accept constructive feedback and comments of FCMS Faculty Staff and Peers.

Punctuality Guidelines:

- Arrive on time (not to be late more than (10) minutes).
- Attend all sessions unless an official excuse is provided by the participant.
- Respect the approved break times.
- Do not leave the session's site/ area before you take permission from FCMS Faculty Staff.

Commitment:

- Communicate and behave in a professional and respectful manner with FCMS Faculty Staff, Colleagues, and Other Multidisciplinary Team Members.
- Comply with the FCMS and DSFH policy and procedures.
- Sustain a professional appearance (uniform, hair, nails, shoes, communication, chewing gum and use of mobile phone).
- Accept and complete projects, tasks and assignments given by the FCMS Faculty within a given time.

FCMS Examination Policy:

- **Re-sit Exam:** This exam conducted for those who get less than 70% of the total course score or those with unaccepted or no excuse to attend the final examination.
- **Academic warning:** is given to those who have absenteeism more than 25%, with unaccepted or no excuses for examinations and all with any academic misconduct according to MOE bylaws.

فقيه.

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