NURS 3353

Informatics and Technology

Spring 2024 2nd 8-Weeks
Internet Course

Instructor:
Deosha Anderson, MSN, RN, danderson@com.edu (409)-933-8143

Student hours and location:
Virtual, by appointment

Required Textbook/Materials:
Nelson, R. & Staggers, N. (2018). *Health Informatics: An Interprofessional Approach, 2nd edition.* St. Louis: Elsevier, Inc.

Textbook Purchasing Statement:
A student attending College of the Mainland is not under any obligation to purchase a textbook from the college-affiliated bookstore. The same textbook may also be available from an independent retailer, including an online retailer.

Course Description:
This course establishes the role of electronic information infrastructure in the delivery of care within the institution and inter-disciplinary care team. The focus of this course includes the utilization of informatics to access data to enhance quality and continuity of care in a variety of healthcare settings. (Credit 3: Lecture 3, Lab 0) (8-week course, 48 contact hours)

Course requirements: (including description of any special projects or assignments)

1. **Discussion board (7):** Assess knowledge and application of incremental course content. Students are required to submit a primary post each week that is reflective of the weekly reading assignments and is supported by cited references. Students are required to reply to two of their peers/faculty postings each week and responses must entail new information to the post supported by cited references. Failure to submit assignments by the designated due date may result in a zero for the assignment.
2. **Quizzes (7):** Assesses knowledge and application of content integrated within the course. Students will complete quizzes as assigned, each due at midnight on the assigned deadline. The quizzes are multiple choice, multiple answer, and alternative-style questions. The student will have one attempt to complete each quiz, which will be averaged for the quiz grade.
3. **Group Paper Project (1):** Assesses ability to synthesize information when collaborating on a topic with peers/faculty in which the assigned group of students will choose a relevant informatics topic to develop a nursing perspective in the healthcare setting. The students will

analyze the roles of the baccalaureate prepared nurse including Provider of patient- centered care, Patient safety advocate, Member of the Interdisciplinary Team, and Member of the Profession.

4. **Reflection Paper (1):** This assignment aims to foster self-awareness and critical thinking by having students reflect on their learning journey throughout the nursing informatics course. Through this reflection, students will explore how the course content, activities, and interactions have contributed to their growth as informed nursing professionals.

Determination of Course Grade/Detailed Grading Formula:

Assignment	%
Discussion Board	25 %
Unit Quizzes	25 %
Reflection Paper	15 %
Group Project Paper	35%
Grade Total	**100%**
*A Grade Total of at least 70% is required to pass the course.	

Late Work, Make-Up, and Extra-Credit Policy:

All course assignments are expected to be completed and submitted on the specified due date. See Late Assignments policy in the Nursing Student Handbook.

Attendance Policy:

Students are expected to log into the D2L LMS a minimum of three times per week.
Failure to log in may result in a withdrawal from the course due tononattendance.

Communicating with your instructor:

ALL electronic communication with the instructor must be through your COM email. Due to FERPA restrictions, faculty cannot share any information about performance in the class through other electronic means.

Student Learner Outcome	Maps to end of Program Outcomes (Student) SLO's	Assessed via this Assignment
1. Integrate knowledge, skills, and abilities gained from personal experiential learning, prerequisite, and co-requisite courses in the program of study.	Synthesize knowledge, skills, and values from the arts, sciences, and humanities as an exemplar of professional nursing and an advocate of social justice.	Weekly discussion board
2. Discuss the history and current scope of practice for health informatics in healthcare.		Weekly discussion board

3. Develop basic understanding of common computer-generated spreadsheets and the application to nursing.	Utilize data to monitor outcomes of care and improvement methods to continuously improve the quality and safety of nursing care to minimize risk of harm individually and across the healthcare system.	Unit quizzes

4. Use databases to access information.	Utilize data to monitor outcomes of care and improvement methods to continuously improve the quality and safety of nursing care to minimize risk of harm individually and across the healthcare system.	Group informatics term paper project Weekly discussion board
5. Integrate information technology to provide safe, patient-centered care.	Utilize data to monitor outcomes of care and improvement methods to continuously improve the quality and safety of nursing care to minimize risk of harm individually and across the healthcare system.	Weekly discussion board
6. Differentiate the information needs of the healthcare provider, patient, organization, and insurer in various healthcare settings.		Group informatics term project paper Weekly discussion board
7. Distinguish the legal and ethical implications related to use of information technology.		Group informatics term project paper Weekly discussion board
8. Analyze the impact of information technology on the delivery of safe quality care at the organizational level.	Provide comprehensive patient-centered care utilizing an organized framework to make individual, community, and population-based decisions grounded in evidence-based practice.	Unit quizzes Group project paper Discussion board
9. Evaluate the impact of information technology on the delivery of safe quality care for the individual, family, and community.		Weekly discussion board Group project paper
10. Examine the relationship of information technology to interdisciplinary communication, collaboration, and continuity of care.	Communicate and collaborate with the interdisciplinary team to lead and manage shared decision-making for optimal patient, family, population, and community outcomes.	Weekly discussion board Group project paper

Academic Dishonesty: (Describe your academic dishonesty policy and state consequences if it is violated)

Student Concerns: If you have any questions or concerns about any aspect of this course, please contact me using the contact information previously provided. If, after discussing your concern with me, you continue to have questions, please contact Dr. Debra Bauer, Director of Nursing at nursing@com.edu

Course outline:

NURS 3353 Informatics and Technology in Healthcare
Course Calendar

Semester Dates	Course Content	Learning Activities and Assignments	Due Date
Week 1	Chapter1 Chapter 3	1.1 Discussion Board 1.2 Discussion Board 1.3 Weekly Quiz	Discussion Board Initial Post due on Wednesday**. 2 replies** to peers due on Sunday by 2359 Weekly Quiz due Sunday by 2359
Week 2	Chapter 6 Chapter 8 Chapter 9	2.1 Discussion Board 2.2 Weekly Quiz	Discussion Board Initial Post due on Wednesday**. 2 replies** to peers due on Sunday by 2359 Weekly Quiz due Sunday by 2359
Week 3	Chapter 10 Chapter 12	3.1 Discussion Board 3.2 Weekly Quiz	Discussion Board Initial Post due on Wednesday**. 2 replies** to peers due on Sunday by 2359 Weekly Quiz due Sunday by 2359
Week 4	Chapter 13 Chapter 14	4.1 Discussion Board 4.2 Weekly Quiz	Discussion Board Initial Post due on Wednesday**. 2 replies** to peers due on Sunday by 2359 Weekly Quiz due Sunday by 2359
Week 5	Chapter 21 Chapter 24	5.1 Discussion Board 5.2 Weekly Quiz	Discussion Board Initial Post due on Wednesday**. 2 replies** to peers due on Sunday by 2359 Weekly Quiz due Sunday by 2359
Week 6	Chapter 25 Chapter 26	6.1 Discussion Board 6.2 Weekly Quiz	Discussion Board Initial Post due on Wednesday**. 2 replies** to peers due on Sunday by 2359 Weekly Quiz due Sunday by 2359
Week 7	Chapter 28 Chapter 33	7.1 Group Paper	Group Project Paper due Sunday by 2359
Week 8	Chapter 34 Chapter 35	8.1 Reflection Paper 8.2 Weekly Quiz	Reflection Paper due Friday by 1200 Weekly Quiz due Friday by 1200

Institutional Policies and Guidelines

Grade Appeal Process: Concerns about the accuracy of grades should first be discussed with the instructor. A request for a change of grade is a formal request and must be made within six months of the grade assignment. Directions for filing an appeal can be found in the student handbook https://www.com.edu/student-services/docs/Student_Handbook_2023-2024_v2.pdf. *An appeal will not be considered because of general dissatisfaction with a grade, penalty, or outcome of a course. Disagreement with the instructor's professional judgment of the quality of the student's work and performance is also not an admissible basis for a grade appeal.*

Academic Success & Support Services: College of the Mainland is committed to providing students the necessary support and tools for success in their college careers. Support is offered through our Tutoring Services, Library, Counseling, and through Student Services. Please discuss any concerns with your faculty or an advisor.

ADA Statement: Any student with a documented disability needing academic accommodations is requested to contact Kimberly Lachney at 409-933-8919 or klachney@com.edu. The Office of Services for Students with Disabilities is located in the Student Success Center.

Textbook Purchasing Statement: A student attending College of the Mainland is not under any obligation to purchase a textbook from the college-affiliated bookstore. The same textbook may also be available from an independent retailer, including an online retailer.

Withdrawal Policy: Students may withdraw from this course for any reason prior to the last eligible day for a "W" grade. Before withdrawing students should speak with the instructor and consult an advisor. Students are permitted to withdraw only six times during their college career by state law. The last date to withdraw from the 1st 8-week session is February 28. The last date to withdraw from the 16-week session is April 22. The last date to withdraw for the 2nd 8-week session is May 1. The last date to withdraw for spring mini session is May 29.

FN Grading: The FN grade is issued in cases of *failure due to a lack of attendance*, as determined by the instructor. The FN grade may be issued for cases in which the student ceases or fails to attend class, submit assignments, or participate in required capacities, and for which the student has failed to withdraw. The issuing of the FN grade is at the discretion of the instructor. The last date of attendance should be documented for submission of an FN grade.

Early Alert Program: The Student Success Center at College of the Mainland has implemented an Early Alert Program because student success and retention are very important to us. I have been asked to refer students to the program throughout the semester if they are having difficulty completing assignments or have poor attendance. If you are referred to the Early Alert Program you will be contacted by someone in the Student Success Center who will schedule a meeting with you to see what assistance they can offer in order for you to meet your academic goals.

Resources to Help with Stress:
If you are experiencing stress or anxiety about your daily living needs including food, housing or just feel you could benefit from free resources to help you through a difficult time, please click here https://www.com.edu/community-resource-center/. College of the Mainland has partnered with free community resources to help you stay on track with your schoolwork, by addressing life issues that get

in the way of doing your best in school. All services are private and confidential. You may also contact the Dean of Students office at deanofstudents@com.edu or communityresources@com.edu.

Course Content

Unit 1: An Introduction to Health Informatics

Unit Student Learning Outcomes:

Upon completion of this unit, the student will be expected to:

1. Define healthcare informatics.
2. Discuss the significance of health informatics within healthcare delivery.
3. Provide an overview of health informatics-related topics.

Learning Content:

I. Introduction
II. Definition of Health Informatics
III. Topics and areas of study in informatics
    A. Unit 1: Fundamental Information in Health Informatics
    B. Unit 2: Information Systems and Applications for the Delivery of Healthcare
    C. Unit 3: Participatory Healthcare Informatics (Healthcare on the Internet)

D. Unit 4: Managing the Life Cycle of a Health Information System
E. Unit 5: User Experience, Standards, Safety, and Analytics in Health Informatics
F. Unit 6: Governance Structures, Legal, and Regulatory Issues in Health Informatics
G. Unit 7: Education and Health Informatics
H. Unit 8: International Health Informatics Efforts
I. Unit 9: Historical Implications and Future Directions in Health Informatics

IV. Conclusion and Future Directions

Learning Activities:

Read:
Nelson, R. & Staggers, N. Chapter 1 Activity

Unit 3: Evidence-Based Practice, Practice-Based Evidence, and Health Informatics Unit

Student Learning Outcomes:

Upon completion of this unit, the student will be expected to:

1. Explore trends in evidence-based quality improvement.
2. Discuss the implications of evidence-based quality improvement for various levels and types of healthcare organizations as well as across multiple professions.
3. Review effective models in structuring evidence-based practice (EBP) initiatives.
4. Define the goals and analyze processes employed in practice-based evidence (PBE) designs.
5. Analyze the strengths and weaknesses of observational designs in general and of PBE specifically.
6. Identify the roles and activities of the informatics specialist in PBE in healthcare environments.
7. Discuss the synergistic role of EBP and PBE in developing informatics-based solutions for managing patients' care needs.

Learning Content:

I. Introduction
II. Evidence-Based Practice
III. Evidence-Based Practice Models
IV. Stevens Star Model of Knowledge Information
    A. Point 1: Discovery Research
    B. Point 2: Evidence Summary
    C. Point 3: Translation to Guidelines
    D. Point 4: Practice Integration
    E. Point 5: Evaluation
V. Informatics and Evidence-Based Practice
VI. Relationships of EBP and PBE
    A. EHRs and PBE Knowledge Discovery

B. Knowledge Building Using Health Information Technology
VII. Practice-based Evidence
A. Practice-Based Evidence Features and Challenges
B. Steps in a PBE Study
C. Limitations and Strengths of Practice-Based Evidence Studies
VIII. Informatics and Practice-based Evidence
IX. Conclusion and Future Directions

Learning Activities:
Read:
Nelson, R. & Staggers, N. Chapter 3 Activity

Unit 6: Electronic Health Records and Applications for Managing Patient Care Unit

Student Learning Outcomes:
Upon completion of this unit, the student will be expected to:

1. Analyze terms and definitions associated with the electronic health record (EHR).
2. Describe the essential components and attributes of an EHR.
3. Define *federal requirements* in the context of EHR adoption and the impact on health practitioners.
4. Examine EHR applications used in the clinical setting.
5. Analyze the benefits of an EHR related to cost, access, quality, safety, and effectiveness.6. Evaluate stakeholder perspectives and key issues that affect EHR adoption.
7. Explore future directions for EHR adoption and integration.

Learning Content:

I. Introduction
A. Early Terms and Definitions
B. Electronic Medical Record Versus Electronic Health Record
II. Electronic Health Record Components, Functions, and Attributes
III. Sociotechnical Perspectives
A. Electronic Health Record Adoption
IV. Electronic Health Record Applications Used in the Clinical Setting
A. Computerized Provider Order Entry
B. Electronic Medication Administration Record
C. Bar Code Medication Administration
D. Clinical Documentation
E. Specialty Applications
F. Clinical Decision Support
G. Ancillary Systems

V. Electronic Health Record Benefits
    A. Cost
    B. Access
    C. Quality, Safety, and Efficiency of Care Delivery
VI. Stakeholder Perspectives
    A. Consumers
    B. Nurses
    C. Healthcare Providers
    D. Healthcare Organizations
    E. Insurance Payers
    F. State and National Governments
VII. Key Issues
    A. Cost
    B. Ownership
    C. Data Integrity
    D. Privacy and Confidentiality
    E. Standards
    F. Organizational Culture
    G. User Experience
    H. Patient Access to the Electronic Health Record
    I. Patient-Generated Health Data
VIII. Conclusion and Future Directions

Learning Activities:
Read:
Nelson, R. & Staggers, N. Chapter 6 Activity

Unit 8: Telehealth and Applications for Delivering Care at a Distance

Unit Student Learning Outcomes:
Upon completion of this unit, the student will be expected to:

1. Discuss the historical milestones and leading organizations in the development of telehealth.
2. Explain the two overarching types of telehealth technology interactions and provide examples of telehealth technologies for each type.
3. Describe the clinical practice considerations for telehealth-delivered care for health professionals.
4. Analyze operational and organizational success factors and barriers for telehealth within healthcare organizations.
5. Discuss practice and policy considerations for health professionals, including competency, licensure and interstate practice, malpractice, and reimbursement for telehealth.
6. Describe the use of telehealth to enable self-care in consumer informatics.
7. Discuss future trends in telehealth.

Learning Content:

I. Introduction
- A. Examples of Successful Telehealth Programs
- B. Telehealth Historic Milestones
- C. Leading Telehealth Organizations

III. Telehealth Technologies
- A. Synchronous or "Real-Time" Technologies
- B. Asynchronous or "Store-and-Forward" Technology
- C. Technical Standards in Telehealth

IV. Telehealth Clinical Practice Considerations for Healthcare Professionals
- A. Equal To or Better Than In-Person Care?
- B. Telehealth Clinical Competency
- C. Confidentiality, Privacy, and Informed Patients
- D. Scope of Clinical Practice
- E. Types of Clinical Telehealth Applications

V. Telehealth Operational and Organizational Success Factors and Barriers
- A. B.E.L.T. Framework
- B. Operational Telehealth
- C. Telehealth Acceptance and Training
- D. Telehealth Implementation

VI. Telehealth Challenges: Licensure and Regulatory Issues for Healthcare Professionals
- A. Licensure
- B. Credentialing and Privileging
- C. Reimbursement
- D. Malpractice and Liability

VII. Telehealth and Direct Patient Health Services
- A. Patient-to-Provider Telehealth-Delivered Care
- B. Delivering Direct Care Using Health Monitoring Tools and Biometric Sensors
- C. Telehealth Technology and Healthcare Consumers

VIII. Conclusion and Future Directions

Learning Activities:

Read:

Nelson, R. & Staggers, N. Chapter 8

Unit 9: Home Health and Related Community-Based Systems

Unit Student Learning Outcomes:

Upon completion of this unit, the student will be expected to:

1. Describe home health, palliative care and hospice, public health, nurse-managed health centers, and other practice models.
2. Summarize the supporting electronic health records (EHRs) and information systems used at community and home-based practice sites.
3. Specify the value of the clinical data and information that can be generated by information systems used at practice sites.

Learning Content:

I. Introduction
II. Evaluation and Milestones
III. Practice Models
    A. Home Health
    B. Palliative Care and Hospice
    C. Community-Based Public Health
    D. Nurse-Managed Health Centers
    E. Other Practice Sites
    F. Similarities Among Practice Models
IV. Standardized Dates
    A. Outcome and Assessment Information Set
    B. Hospice Item Set
    C. Patient-Experience Surveys
V. Supporting Home Health with Electronic Health Records and Health Information Technology
    A. Billing Solutions
    B. Point-of-Care Solutions
    C. Clinical Decision Support Systems
VI. Standardized Terminologies
VII. Omaha System
    A. Description
    B. Clinical Example from Practice
VIII. Conclusion and Future Directions

Learning Activities:

Read:
Nelson, R. & Staggers, N. Chapter 9

Unit 10: Clinical Decision Support Systems in Healthcare

Unit Student Learning Outcomes:

Upon completion of this unit, the student will be expected to:

1. Describe why clinical decision support is needed and its impact.
2. Explain the major types of clinical decision support.
3. Analyze best practices for clinical decision support.
4. Synthesize the current adoption status and the barriers to the wide adoption of clinical decision support.
5. Outline recent progress toward disseminating clinical decision support on a national level.

Learning Content:

I. Introduction
    A. Definition of Clinical Decision Support
III. Practice Models
    A. Home Health
    B. Palliative Care and Hospice
    C. Community-Based Public Health
    D. Nurse-Managed Health Centers
    E. Other Practice Sites
    F. Similarities Among Practice Models
IV. Standardized Dates
    A. Outcome and Assessment Information Set
    B. Hospice Item Set
    C. Patient-Experience Surveys
V. Supporting Home Health with Electronic Health Records and Health Information Technology
    A. Billing Solutions
    B. Point-of-Care Solutions
    C. Clinical Decision Support Systems
VI. Standardized Terminologies
VII. Omaha System
    A. Description
    B. Clinical Example from Practice
VIII. Conclusion and Future Directions

Learning Activities:

Read:

Nelson, R. & Staggers, N. Chapter 10

Unit 12: The Engaged Patient

Unit Student Learning Outcomes:

Upon completion of this unit, the student will be expected to:

1. List at least three "e" terms used to describe ePatients.
2. Explain the driving forces behind the emergence and continuing evolution of the ePatient movement.
3. Discuss the characteristics of digital healthcare consumers.
4. Describe how the quantified self uses health-related data.
5. Analyze the implications of ePatients for clinical practice.
6. Identify technological innovations likely to be used in routine practice by clinicians in the future when caring for patients.

Learning Content:

I. Historical Background and Drivers of the Epatient Evolution
    A. ePatient as a Pioneering Concept
    B. Our Connected World
    C. Policy and Legislative Influences
    D. Characteristics of Digital Healthcare Consumers
II. Convergence of Epatients, Clinicians, Patient-Centered Models of care, and Informatics
    A. Participatory Patient-Centered Healthcare
    B. The New Role of Clinicians and Informatics in ePatient Care
    C. Health Informatics and ePatients
    D. Transparency and Access Data
III. Health 3.0 Emerges
    A. Virtual Patient Communities and Research Networks
IV. Conclusions and Future Directions
    A. 21st Century Health and Healthcare

Learning Activities:

Read:
Nelson, R. & Staggers, N. Chapter 12

Unit 13: Social Media Tools for Practice and Education

Unit Student Learning Outcomes:

Upon completion of this unit, the student will be expected to:

1. Describe social media tools and their benefits.
2. Explore the current and potential use of social media in healthcare and healthcare education.
3. Analyze the issues and challenges associated with the use of social media in healthcare and healthcare education.
4. Provide guidance for writing social media policies.

Learning Content:

I. What is Social Media?
II. Social Media Tools
    A. Social Networking
    B. Blogging and Wikis
    C. Microblogging (Twitter)
    D. Social Bookmarking
    E. Video and Image Sharing Content
III. Social Media Statistics
IV. Benefits of Social Media
V. Challenges of Social Media
    A. Privacy and Confidentiality
    B. Inappropriate Behaviors
    C. Security
    D. Regulatory Issues
    E. Market Pressure
VI. Social Media in Education
VII. Policy
    A. Guidelines for Writing Policies
    B. Resources for Policy Development
VIII. Conclusion and Future Directions

Learning Activities:

Read:
Nelson, R. & Staggers, N. Chapter 13

Unit 14: Personal Health Records

Unit Student Learning Outcomes:

Upon completion of this unit, the student will be expected to:

1. Describe trends and events leading to the development and adoption of electronic personal health records (PHRs).
2. Describe the history of Blue Button.
3. Describe the ideal PHR and its proposed benefits.
4. Explain the different types of PHRs and the pros and cons of each type.
5. Provide examples of existing PHRs, including their function and usage.
6. Evaluate current evidence regarding the effectiveness of PHRs as an approach to improve healthcare.
7. Explore issues affecting the adoption of current PHRs.
8. Discuss the future of PHRs.

Learning Content:

I. Definitions of the Personal Health Record
II. The Development of the Electronic Personal Health Record
    A. Blue Button for Patient Access to Electronic Health Records
III. Principles of an Ideal Personal Health Record
    A. Proposed Benefits of an Ideal Personal Health Record
    B. Types of Personal Health Records
IV. Examples of Existing Personal Health Records
V. Current Evidence of Benefits of Personal Health Records
    A. Experience of Care
    B. Quality of Care
    C. Cost/Utilization
VI. Current Use of Personal Health Records
VII. Barriers to Personal Health Record Adoptions
    A. Awareness
    B. Usability
    C. Privacy Concerns
    D. The Digital Divide
    E. Provider Engagement
    F. Interoperability
    G. Summary of Adoption
VIII. The Future of Personal Health Records

Learning Activities:

Read:
Nelson, R. & Staggers, N. Chapter 14

Unit 21: Improving the User Experience for Health Information Technology

Unit Student Learning Outcomes:

Upon completion of this unit, the student will be expected to:

1. Compare and contrast the terms *user experience*, *human factors*, *ergonomics*, *human-computer interaction*, *usability*, and *design thinking*.
2. Discuss the potential benefits of incorporating usability into organizational processes.
3. Describe the goals of usability and user-centered design.
4. Identify the major components to consider in human-computer interaction and usability studies.
5. Analyze methods for conducting usability studies and relate them to a specific purpose of a usability study.
6. Outline components of four different usability tests related to their position in the systems life cycle.
7. Explain the basic steps in conducting a usability test on a healthcare IT product.

Learning Content:

I. Introduction to Improving the User Experience
    A. The Current User Experience with Health Information Technology Products
II. Definition of Terms and Their Relationships
    A. User Experience
    B. Human Factors
    C. Ergonomics
    D. Human-Computer Interaction
    E. Usability
III. The Goals of Usability
IV. User-Centered Design
    A. Design Thinking
    B. Potential Benefits of Improving the User Experience
V. Human Interaction Frameworks for Health Informatics
    A. Human Factors and Human-Computer Interaction Frameworks
    B. The Health Human-Computer Interaction Framework
    C. Essential Components for Improving the User Experience
VI. Selecting Methods to Improve the User Experience
    A. Discount Usability Methods
    B. Traditional Usability Methods
    C. Contextual Inquiry or Focused Ethnographies
VII. Formal User Testing
    A. Usability Questionnaires
VIII. Selecting a Type of Usability Test
    A. Determining User Needs and Requirements
    B. Formative Tests

C. Validation Tests
D. Comparison Test
E. Identifying Usability Issues with Fielded Health IT Products
F. Steps for Conducting User Experience Tests

IX. Conclusion and Future Directions

Learning Activities:

Read:

Nelson, R. & Staggers, N. Chapter 21

Unit 24: Patient Safety and Quality Initiatives

Unit Student Learning Outcomes:

Upon completion of this unit, the student will be expected to:

1. Define patient safety and quality of care from a health informatics prospective.
2. Describe the role of health information technology (IT) in advancing the quality and safety of healthcare in the United States.
3. Analyze three national initiatives driving adoption and use of health IT to improve safety and quality of care in the United States.
4. Explore two national initiatives related to promoting quality data standards in the United States.
5. Discuss the three components of the Framework for Patient Safety and Quality Research.
6. Describe how the Framework for Patient Safety and Quality Research can be used to evaluate quality and patient safety interventions.

Learning Content:

I. Introduction
II. Definitions
A. Quality of Care
B. Patient Safety
III. National Initiatives Driving Adoption and Use of Health It
IV. National Efforts Related to Quality Data Standards
V. Evaluating Quality and Patient Safety
A. Conceptual Framework for Patient Safety and Quality
B. Medication Safety
C. Chronic Illness Screening and Management
D. Nursing Sensitive Quality Outcomes: Patient Falls and Pressure Ulcers
VI. Success Factors and Lessons Learned
VII. Conclusion and Future Directions

Learning Activities:

Read:

Nelson, R. & Staggers, N. Chapter 24

Unit 25: Legal Issues, Federal Regulations, and Accreditation

Unit Student Learning Outcomes:

Upon completion of this unit, the student will be expected to:

1. Describe the U.S. governmental processes and structure for regulating health information technology (health IT).
2. Explain the difference between laws, regulations, and sub-regulatory guidance.
3. Discuss the intersection of federal fraud and abuse regulations as they relate to electronic health records (EHRs) and health IT.
4. Discuss the impact of informatics-related regulations on payment reform.
5. Outline accreditation measures and agencies in the United States.

Learning Content:

I. Introduction
II. Legal System
    A. Federalism and the Constitution
    B. Federal Healthcare Regulatory Framework
    C. Enforcement
III. Fraud and Abuse and Billing Issues Related to Electronic Health Record Use
    A. Stark Law
    B. Federal Anti-Kickback Statute
    C. Safe Harbors
    D. False Claims Act
    E. Wire/Mail Fraud
    F. Fraud and Abuse and the Electronic Health Record
    G. State Law
IV. Accreditation
    A. The Joint Commission Health Information Management Standards
    B. Sentinel Events Alert
V. The Intersection of New Technology and Regulation
    A. Medical Devices
    B. mHealth Wearable Devices and Telehealth
    C. Social Media and Informatics
VI. Conclusion and Future Directions

Learning Activities:

Read:
Nelson, R. & Staggers, N. Chapter 25

Unit 26: Privacy and Security

Unit Student Learning Outcomes:

Upon completion of this unit, the student will be expected to:

1. Describe and explain the following informatics concepts: privacy, security, confidentiality, integrity, availability, covered entity, and business associate.
2. Analyze current federal and state laws and regulations and their implications for privacy and security practices and procedures.
3. Use appropriate resources in establishing and implementing both privacy- and security-related policies and procedures.
4. Apply common procedures for securing sensitive health information.

Learning Content:

I. Introduction
II. Definitions and Concepts
III. Legal and Historical Context
    A. Fair Information Practice and Principles
    B. Code of Ethics for Health Informatics Professionals
    C. International Medical Informatics Association
IV. Principles, Laws, and Regulations Guiding Practice
    A. National Privacy and Security Framework for Health Information Laws and Regulations
    B. International Laws
    C. U.S. Federal Law
    D. ONC Tool for Integrating Privacy and Security into Health Practices
    E. Federal-State Collaboration
    F. HIPAA and Secondary Uses of Electronic Health Data
    G. Public Health Monitoring Surveillance and HIEs
    H. De-identification of Data
V. The Importance of Information Security
    A. The Public Trust
    B. Legal Requirements and Fines
    C. Increasing Security Threats to Healthcare Data
VI. Current Security Vulnerabilities
    A. External Events
    B. Internal Vulnerabilities
    C. Medical Devices
VII. Current Security Challenges
    A. Administrative
    B. Technical
    C. Physical
VIII. Resources
IX. Conclusions and Future Directions

Learning Activities:
Read:
Nelson, R. & Staggers, N. Chapter 26

Unit 28: Health Policy and Health Informatics

Unit Student Learning Outcomes:
Upon completion of this unit, the student will be expected to:

1. Identify key health policy issues of importance to the practice of health for informatics.
2. Explain the process for developing and utilizing informatics principles and concepts in developing health policy.
3. Differentiate the Institute of Medicine (IOM) recommendations in the *HIT and Patient Safety* and *The Future of Nursing* reports.

Learning Content:

I. Introduction
II. Developing and Implementing Health Information Technology Policy
    A. Role of the Federal Government
    B. Office of the National Coordinator for Health Information Technology
III. Driving Forces for Creating Health Information Technology Policy
    A. Patient Safety
    B. Institute of Medicine Report on Health Information Technology and Patient Safety
    C. Unintended Consequences of Health Information Technology Implementation
    D. Quality Initiatives
IV. Leadership Competencies for Developing and Implementing Health Information Technology Policies
    A. Ensuring That Health Practitioners Are Positioned on Key Committees and Boards
    B. Responding to Requests for Comments
    C. Developing Position Statements
V. Leading Policy Activities Through Organizational Work and Leadership
    A. Strategies
VI. Discipline-specific Policies: Nursing
    A. Use of Health Information Technology to Advance the Future of Nursing
    B. Healthcare Information and Management Systems Society Nursing Informatics Position Statement
    C. Assessing Progress on the Institute of Medicine Report: *The Future of Nursing*
VII. Conclusions and Future Directions

Learning Activities:
Read:
Nelson, R. & Staggers, N. Chapter 28

Unit 33: Simulation in Healthcare Education

Unit Student Learning Outcomes:

Upon completion of this unit, the student will be expected to:

1. Define the different types of simulation modalities available.
2. Describe the challenges and opportunities inherent to simulation.
3. Apply the 2016 International Nursing Association for Clinical Simulation and Learning (INACSL) Standards of Best Practice: Simulation^{SM} in developing educational experiences.
4. Discuss the use of simulation-based education in interprofessional experiences.
5. Analyze the similarities and differences related to the available simulation resources.
6. Develop evidence-based simulation activities.

Learning Content:

I. Introduction
    A. Type of Simulators
    B. Fidelity
    C. Benefits of Simulation
    D. Challenges and Opportunities
II. The Simulation Process
    A. Learning Theories Applied to Simulation
    B. International Nursing Association for Clinical Simulation and Learning Standards of Best Practice: Simulation
III. Application of Simulation
    A. General Application of Simulation to Education
    B. Application of Simulation for Evaluation
    C. Application of Simulation to Interprofessional Education
    D. Example
IV. Conclusion and Future Directions

Learning Activities:

Read:
Nelson, R. & Staggers, N. Chapter 33

Unit 34: International Efforts, Issues, and Innovations

Unit Student Learning Outcomes:

Upon completion of this unit, the student will be expected to:

1. Outline key international eHealth initiatives.
2. Describe key organizations that are leading international initiatives to promote eHealth.
3. Discuss global challenges to eHealth.

Learning Content:

I. Introduction
II. Key Initiatives in World Regions
    A. eHealth Initiatives in Europe
    B. eHealth Initiatives in the Asia-Pacific Economic Cooperation Region
    C. eHealth Initiatives in the Pan American Health Organization Region
    D. eHealth Initiatives in Africa
III. International Organizations with eHealth Involvement
    A. eHealth and Health Informatics at the World Health Organization
    B. International Medical Informatics Association
IV. International Standards Efforts
    A. International Organization for Standardization
    B. International Council of Nurses
    C. Health Level Seven
    D. International Terminology Standards Development Organisation
V. Global Challenges to eHealth
    A. Global Interoperability
    B. Human Resources for eHealth
    C. eHealth Infrastructure
    D. Legal and Regulatory Framework for eHealth
VI. Conclusion and Future Directions

Learning Activities:

Read:
Nelson, R. & Staggers, N. Chapter 34

Unit 35: The Evolution of Health Informatics

Unit Student Learning Outcomes:

Upon completion of this unit, the student will be expected to:

1. Discuss the development of health informatics as a discipline, profession, and specialty.
2. Analyze how historical events have influenced the definition and current scope of practice of health informatics.
3. Explore informatics-related professional organizations and their contributions to professional development and informatics.
4. Analyze the history and process for naming the specialty and the discipline.

Learning Content:

I. Introduction
II. The Roots of Informatics within the Computer and Information Sciences
    A. Computer Science
    B. Information Science
    C. Health Informatics
III. Establishing the Specialty of Health Informatics
    A. Books
    B. Professional Organizations
    C. Educational Programs
    D. Accreditation for Health Informatics Education Programs
    E. Certification
    F. Recognition by the U.S. Bureau of Labor Statistics
IV. Recognition of the Specialty
V. Naming the Specialty—Naming the Discipline
VI. Conclusion and Future Directions

Learning Activities:

Read:
Nelson, R. & Staggers, N. Chapter 35