This course supports the assessments for NUT1. The course covers 2 competencies and represents 2 competency units.

Introduction

Overview
This course will introduce you to the exciting field of nursing informatics. Informatics and health technology have already made enormous changes in healthcare. Issues related to privacy, ethics, cost containment, and the patient's right to information are tied to the field. The TIGER Initiative (Technology Informatics Guiding Educational Reform) is organized on a national level to identify best practice and effective technologies to enhance nursing care and nursing practice. In February of 2009, the Chief Nursing Informatics Officer for Siemens Healthcare and Alliance for Nursing Informatics Committee member testified at a hearing held by the National Committee on Vital and Health Statistics on the future of nursing informatics. Currently there are over 20 nursing informatics professional societies.

Whatever practice area you pursue in nursing, you will be expected to keep up on technological advances, to protect your patient's privacy, to access the latest clinical-decision making tools, and to record your patient's progress. You already integrate technology, and that is why you have chosen to pursue your education online. You are ready to apply handheld devices, use the Internet, and learn new software. You have already thought about the privacy of your academic records and ways to collect information that will support your résumé in the future. Informatics is integrated throughout the nursing curriculum as well as every practice environment.

Watch the following video for an introduction to this course:

Note: View the video in full screen at 720p for best results.

Competencies
This course provides guidance to help you demonstrate the following 2 competencies:

- **Competency 724.4.2: Utility**
  The graduate describes how information and healthcare technologies can be used to enhance nursing care; accesses information through technology sources for decision making; recognizes caring, ethical, and privacy issues surrounding client information; describes how technology can be used in clinical decision making and planning; and defines and recognizes the role of bioinformatics.

- **Competency 724.4.3: Leadership**
  The graduate recognizes the importance of nurse involvement in planning, design, selection, and implementation of information systems in a nursing practice environment; discusses the roles, benefits, and costs of new technologies; and recognizes effective security and confidentiality for protection of patient records.

Nursing Dispositions Statement
Please review the [Statement of Nursing Dispositions](#).

**Course Mentor Assistance**

As you prepare to successfully demonstrate competency in this subject, remember that course mentors stand ready to help you reach your educational goals. As subject matter experts, mentors enjoy and take pride in helping students become reflective learners, problem solvers, and critical thinkers. Course mentors are excited to hear from you and eager to work with you.

Successful students report that working with a course mentor is the key to their success. Course mentors are able to share tips on approaches, tools, and skills that can help you apply the content you're studying. They also provide guidance in assessment preparation strategies and troubleshoot areas of deficiency. Even if things don't work out on your first try, course mentors act as a support system to guide you through the revision process. You should expect to work with course mentors for the duration of your coursework, and you are encouraged to contact them as soon as you begin. Course mentors are fully committed to your success!

**Preparing for Success**

The information in this section is provided to detail the resources available for you to use as you complete this course.

**Learning Resources**

The learning resources listed in this section are required to complete the activities in this course. For many resources, WGU has provided automatic access through the course. However, you may need to manually enroll in or independently acquire other resources. Read the full instructions provided to ensure that you have access to all of your resources in a timely manner.

**Automatically Enrolled Resources**

You can access the learning resources listed in this section by clicking on the links provided throughout the course. You may be prompted to log in to the WGU student portal to access the resources.

**VitalSource E-Texts**

The following textbooks are available to you as e-texts within this course. You will be directly linked to the specific readings required within the activities that follow.


The [Informatics and Nursing website](#) is a supplement to the *Informatics and Nursing: Competencies and Applications* textbook and offers additional information for each chapter of the book including access to referenced websites, updates, and how-to assistance for common software.

*Note: These e-texts are available to you as part of your program tuition and fees, but you may purchase hard copies at your own expense through a retailer of your choice. If you choose to do so, please use the ISBN listed to ensure that you receive the correct edition.*
Additional Preparation
There are many different learning tools available to you within your course in addition to the learning resources discussed above. Some or all of them may be very useful to you as your progress through this course. Take the time to familiarize yourself with them and determine how best to fit them into your learning process.

Message Boards, Study Notes, Communities, and FAQs

Message boards, study notes, and FAQs are available in every course.

Use the "Additional Learning Tools" page to review these tools.

In addition, be sure to participate in the Nursing Informatics Community where you will find helpful tips, student postings, and interesting links related to this course

Nursing Standards

You will be able to access Nursing Professional Standards as they apply to your program through the WGU Library. Please access these documents at the following website:

- Nursing Standards E-Reserves

Technical Competence in Nursing Informatics

The modern nurse is challenged by the exponential increase in health information combined with the ever-changing advances in technology that range from bedside equipment, new high-tech procedures, and system-wide information systems.

You will assess basic technological skills, identify personal strengths and weaknesses, and confront the need for continual education related to patient care technology.

Computer Technology

Medicine has become more and more technical as information is shared over the Internet from places around the world. As a new nurse, you will be expected to interact with a multitude of computer software programs. You will also learn about electronic medical records. In this section you will be investigating models of computer technology.

Concept of Computer Technology in Healthcare

Develop a concept map of technology in healthcare as you currently perceive it. How do you define technology? What are the issues? What are the advantages and disadvantages? How has technology affected healthcare delivery and costs? Link your concepts and label your links. Consider privacy and ethics as you draw your map.

Technology Confidence

Write down how you perceive your own technical skills. What are your weaknesses and your strengths? How do you feel about the ever-changing technology? How do you see technology changing nursing practice? Is it a good thing?

Read the following in Informatics and Nursing: Competencies and Applications:
Skills Assessment

Visit the self-assessment links below to assess your current computer skills.

- Skills Assessment
- Basic Computer Skills Self-Assessment

Setting Standards for Electronic Patient Record

There are major national and international efforts in setting standards related to information technology and electronic healthcare records.

Organizations and Standards

Visit "HIMSS Healthcare Information and Management Systems Society" to read the section dedicated to electronic health records.

- What is meant by interoperability?

Other national organizations involved in standards setting include the American Health Information Management Association (AHIMA) and American Nursing Informatics Association (ANIA). If you are not familiar with these organizations, do a web search and be prepared to discuss their purposes in the Nursing Informatics Message Board.

Electric Healthcare Information Systems Reading

Read the following in Informatics and Nursing Competencies and Applications:

- pages 233-240 in chapter 14 ("The Consumer and the Electronic Health Record")
- chapter 19 ("Basic Electronic Healthcare Information Systems")
- chapter 20 ("Specialized Electronic Healthcare Information Systems")
- chapter 24 ("Administration Tools for Efficiency")

Technology Concept Map

Return to your original technology concept map and revise it to include new concepts. Be prepared to discuss these concepts in the Nursing Informatics Message Board.

Using Handheld Devices in Nursing Practice

PDAs are for more than texting. The latest technology can provide the latest medical information right at your fingertips. PDAs or handheld devices can make bedside nursing safer and more evidence based. You will begin to learn to use handheld devices to enhance nursing resources.

PDAs or Handheld Devices

Consider the questions:

- What are your current perceptions of handheld devices?
- Do you use a handheld device?
- How do you feel about your healthcare providers using handheld devices?

Internet Searches
Search some health and nursing sites for PDA software. Make a list of things you find that you think could be useful in your own practice. Be prepared to share your findings in the Nursing Informatics Message Board

**Healthcare Podcasts**

Visit [Healthcare 411](http://healthcare411.org) and listen to one or more podcasts related to healthcare. You can download directly to your computer, but if you have an MP3 player, try downloading to it and then listening.

- How could this technology be used in nursing?

**Student Nurses and PDAs**

Visit the "[PDAs for Nursing Students](http://pdaforstudents.com)" and watch "Technology at Your Fingertips." This slideshow was created by nursing students to convince their faculty and administration to allow them to use PDAs in their clinical environment.

**Reflection in Nursing Informatics**

Consider the questions and join the discussion thread in the Nursing Informatics Message Board:

- Have you used a handheld device in your practice or in your personal life?
- What do you think the role of handheld devices is in nursing practice?
- What are some pros and cons?

**724.4.3-01-08 Performance Task**

Complete the following in [TaskStream](http://taskstream.com):

- NUT1: 724.4.3-01-08

For details about this performance assessment, see the "Assessment" tab in this course.

*Note: This task is listed second in TaskStream. Please make sure you select the correct task based on the number above.*

**Utility of Computer Technology**

Quality of care and patient safety has historically been tied to the caregiver's access to accurate and reliable information in a timely manner. It is, therefore, not surprising that the field of informatics encompasses the concepts of quality and safety. You will discover the complex relationship between information technology and improving patient care.

**Enhancing Nursing Care**

There is still a debate in nursing as to whether technology hinders or enhances patient care. If you think of technology as a tool, it may help to focus on what technology can do to help nurses enhance the care they can provide. This week you will learn about ways to enhance nursing care.
This topic addresses the following competencies:

- **Competency 724.4.2: Utility**
  The graduate describes how information and healthcare technologies can be used to enhance nursing care; accesses information through technology sources for decision making; recognizes caring, ethical, and privacy issues surrounding client information; describes how technology can be used in clinical decision making and planning; and defines and recognizes the role of bioinformatics.

**History of Efforts to Enhance Nursing Care**

Write a quick list of ways you think the nursing profession has historically worked to enhance and improve the quality of nursing care. Consider improvements related to evidence-based practice, the emergence of national standards, and changes in nursing documentation.

**Caring in a Technological Environment**

Think about the following questions:

- How can a nurse utilize technology while retaining the caring aspects of nursing?
- Can the use of technology actually enhance the nurse-patient relationship?
- What parts of the nursing informaticist's role involve caring?

**Evidence-Based Practice and IT**

Access the following document and read through the slide presentation:

- "Using IT Support Evidence-Based Nursing Practice at the Point of Care"

Answer the following questions:

- Why is it important to identify nursing's contribution to patient outcomes?
- What is meant by clinical research overload?
- Describe the goals of the Aurora Partnership.
- How would the electronic health record be utilized?
- What patient problem do they use to demonstrate their EHR?
- Does this presentation demonstrate the complexity of designing a support system?

**Evidence-Based Practice Reading**

Read the following in *Informatics and Nursing Competencies and Applications*:

- chapter 11 ("The Internet: One Road to Health and Evidence-Based Practice Information")
- chapter 12 ("Finding Knowledge in the Digital Library Haystack")

**Quality and Safety of Patients**

Legal considerations, patient safety, and technology are all intertwined and play into the nurse's role as decision maker and patient advocate.
This topic addresses the following competencies:

- **Competency 724.4.2: Utility**
  The graduate describes how information and healthcare technologies can be used to enhance nursing care; accesses information through technology sources for decision making; recognizes caring, ethical, and privacy issues surrounding client information; describes how technology can be used in clinical decision making and planning; and defines and recognizes the role of bioinformatics.

**Understanding of Legal and Safety Issues**

Quickly write down your responses in your notebook to the following questions. You may not know the answers right now, but take a guess.

- What legal issues are related to information technology?
- What safety issues are related to technology?
- What is the nurse's role in proper information management?
- What is the nurse's role in proper use and application of technology?
- How can technology affect clinical decision making (positive and negative)?
- How can technology affect the logistics of delivering care?

**Decreasing Errors Through Technology**

Read the following in *Informatics and Nursing Competencies and Applications*:

- pages 330-331 in chapter 19 ("Basic Electronic Healthcare Information Systems")

Access and read the following articles and be prepared to discuss them in the Nursing Informatics Message Board.

- **Using Barcode Medication Administration to Improve Quality and Safety**
- **Advances in Technology to Decrease Medication Errors**
- **Chapter 47 ("Patient Safety and Health Information Technology: Role of the Electronic Health Record")**

**Advances in Informatics**

A doctor in a rural community sees a patient with an unknown cardiac condition. He rapidly transmits data he is obtaining from the patient to a specialist in a major city. The specialist can diagnose the condition and help the rural doctor begin immediate treatment, saving the patient's life. In this section you will continue to work on concepts about advances in nursing informatics.

**Concepts of Advances in Technology**

Consider the following questions:

- What effects will technology have on the practice of medicine globally?
- How has technology already affected the field of genetics?
- What effects has technology had on nursing education?
- What effects has technology had on consumer education and health perceptions?
Reading Assignment

Reflect on how tele-health can change healthcare access in rural areas and internationally.

- How might it help reach third world countries?
- How can the Internet and e-mail support patients and alter communication among care providers?

Read the following in *Informatics and Nursing Competencies and Applications*:

- chapter 22 (“Carrying Healthcare to the Client”)

Reflection in Nursing Informatics

Consider the following:

- How have your ideas changed?
- Do you have a broader understanding of the uses of informatics?

Discuss your thoughts with peers in the Nursing Informatics Message Board.

**Leadership in Using Informatics in Nursing**

Nursing leaders have made great strides to identify and communicate nursing's unique contribution to patient outcomes and quality care in all areas of healthcare. In this section you will investigate the leadership roles professional nurses must assume that are related to technology and the development of automated healthcare systems.

**Assuming Leadership in Nursing Informatics**

As a leader in bedside care, you will be asked to work with other professionals to make decisions about technology. As more and more hospitals and other healthcare agencies move to electronic medical records, information systems, and high-tech equipment, it is critical for the nurse to take a part in leadership in nursing informatics.

This topic addresses the following competencies:

- **Competency 724.4.3: Leadership**
  The graduate recognizes the importance of nurse involvement in planning, design, selection, and implementation of information systems in a nursing practice environment; discusses the roles, benefits, and costs of new technologies; and recognizes effective security and confidentiality for protection of patient records.

**Reflection on Leadership**

How is leadership defined? Why is it important for nurses to take a leadership role in the development, design, and implementation of healthcare systems?

**Nursing Codes in Clinical Information Systems**

In *Informatics and Nursing: Competencies and Applications*, read:
Make a chart of the nursing codes recognized by the American Nurses Association (e.g., NANDA, NIC, NOC, CCC, the Omaha System, ICNP, NMDS, PNDS, PCDS, and SNOMED). Briefly describe each.

**Informatics Nurse Specialists**

In *Informatics and Nursing: Competencies and Applications*, read:

- chapter 18 ("The Informatics Discipline")

Consider the question:

- Do all nurses need to be competent in informatics?

**Safeguarding Patient Information**

Reports in the popular press over the last year have exposed hospital staff that have accessed and transmitted private health information about public figures. These individuals have been fired because the privacy of the patient was breached. It is the nurse's responsibility to be an advocate and safeguard of patients and their families. In this section, you will learn about safeguarding patient information.

This topic addresses the following competencies:

- **Competency 724.4.3: Leadership**
  The graduate recognizes the importance of nurse involvement in planning, design, selection, and implementation of information systems in a nursing practice environment; discusses the roles, benefits, and costs of new technologies; and recognizes effective security and confidentiality for protection of patient records.

**Privacy and Ethical Issues**

How is it possible to share information and guard a patient's right to privacy?

Read the following in Informatics and Nursing Competencies and Applications:

- chapters 21("Electronic Healthcare System Issues")
- chapter 26 ("Legal and Ethical Issues")

You should be able to discuss the strengths and weaknesses of HIPAA.

**Reflection and Discussion**

Consider the following questions and be prepared to discuss them in the Nursing Informatics Message Board.

- Why is it important to protect patient information?
What security practices and standards are required to protect technology-based information?
How has your model of information security changed?
What are the rights of the patient?
What are the nurse's responsibilities to protect those rights?

Standards and Assessment of Technology
If you have listened to seasoned nurses who have worked in a number of different hospitals or healthcare agencies, you will find that almost each hospital has a different electronic medical record system and a multitude of different high-tech equipment. This can be confusing and possibly unsafe. Would standardization help? You will now explore standards and assessment of technology.

This topic addresses the following competencies:

- **Competency 724.4.3: Leadership**
The graduate recognizes the importance of nurse involvement in planning, design, selection, and implementation of information systems in a nursing practice environment; discusses the roles, benefits, and costs of new technologies; and recognizes effective security and confidentiality for protection of patient records.

Concept of Standards

Why are standards important for informatics in nursing? How has technology influenced standardization? What are the barriers to standardization?

Visit the "Alliance for Nursing Informatics Shares Insights on Standards Development" and read about efforts to standardize nomenclature and structure of nursing information.

724.4.2-01-05 Performance Task

Complete the following in TaskStream:

- NUT1: 724.4.2-01-05

For details about this performance assessment, see the "Assessment" tab in this course.

Reflection on Effect of Technology on Healthcare

Consider the following questions and be prepared to discuss in the Nursing Informatics Message Board:

- What do you now know about the effect of technology on healthcare, particularly in the area of cost and availability?
- What are the standards that govern the use of technology in healthcare?

Final Steps

Congratulations on completing the activities in this course! This course has prepared you to complete the assessments associated with this course. If you have not already been directed to
complete the assessments, schedule and complete your assessments now.

**The WGU Library**

**The WGU Library**
The WGU Library is available online to WGU students 24 hours a day.

For more information about using the WGU Library, view the following videos on The WGU Channel:

Introducing the WGU library

*Note: To download this video, right-click the following link and choose "Save as...": download video.*

Searching the WGU library

*Note: To download this video, right-click the following link and choose "Save as...": download video.*

**Center for Writing Excellence: The WGU Writing Center**

If you need help with any part of the writing or revision process, contact the Center for Writing Excellence (CWE). Whatever your needs—writing anxiety, grammar, general college writing concerns, or even ESL language-related writing issues—the CWE is available to help you. The CWE offers personalized individual sessions and weekly group webinars. For an appointment, please e-mail writingcenter@wgu.edu.

**Feedback**

WGU values your input! If you have comments, concerns, or suggestions for improvement of this course, please submit your feedback using the following form:

- [Course Feedback](#)

**Accessibility Policy**

Western Governors University recognizes and fulfills its obligations under the Americans with Disabilities Act of 1990 (ADA), the Rehabilitation Act of 1973 and similar state laws. Western Governors University is committed to provide reasonable accommodation(s) to qualified disabled learners in University programs and activities as is required by applicable law(s). The Office of Student Accessibility Services serves as the principal point of contact for students seeking accommodations and can be contacted at ADASupport@wgu.edu. Further information on WGU’s Accessibility policy and process can be viewed in the student handbook at the following link:
• Policies and Procedures for Students with Disabilities