



### **Course Description**

#### **HSC2060 | Artificial Intelligence Applications in Healthcare | 3.00 credits**

An introduction to the health care environment and delivery systems. In this course, students will explore how Artificial Intelligence (AI) is impacting healthcare professions. Students will gain a fundamental understanding of ethical implications, legal principles, and applications of AI in various health settings.

**Competency 1:** The student will be able to describe the importance of professional ethics and legal responsibilities in healthcare by:

1. Discussing the legal framework of healthcare occupations, including the scope of practice legislation
2. Identifying procedures for accurate documentation and record keeping
3. Interpreting healthcare facility policy and procedures
4. Recognizing the legal responsibility of consent and confidentiality – oral, written, and electronic
5. Explaining “the patient care partner” and describing patients’ rights and responsibilities
6. Identifying the standards of the Health Insurance Portability and Accountability Act (HIPAA)
7. Describing advance directives
8. Distinguishing between express, implied, and informed consent
9. Explaining the laws governing harassment, labor, and employment
10. Differentiating between legal and ethical issues in healthcare
11. Describing a code of ethics consistent with the health care occupation
12. Recognizing the limits of authority and responsibility of health care workers, including legislated scope of practice
13. Recognizing and reporting abuse, including domestic violence and neglect
14. Interpreting and explaining written organizational policies and procedures

**Competency 2:** The student will demonstrate knowledge of the ethical and legal implications of using AI in health care by:

1. Examining predictive models used for making important health decisions
2. Addressing factors that contribute to trustworthy AI in healthcare
3. Analyzing potential for bias, risk, and social inequity
4. Discussing the worthiness and appropriateness of AI used in healthcare
5. Exploring evidence-based practices and decision-making practices used with AI
6. Discussing justice, social responsibility, and beneficence as they relate to AI
7. Exploring the implications of the expansion of ai in healthcare and the impact on human health
8. Comparing and contrasting protocols, policies, and practices related to AI applications in healthcare addressing safeguarding against ethical violations
9. characterizing threats and safeguards that contribute to the trustworthiness of artificial intelligence applications in healthcare
10. Outlining factors influencing equity/disparity in implementing artificial intelligence applications in healthcare. examining examples of ethical violations of AI in healthcare to avoid negative impacts by addressing critical issues in privacy and transparency
11. Discussing the legal framework of AI in health professions
12. Exploring the impact of AI on the standards of the Health Insurance Portability and Accountability Act (HIPPA)
13. identifying current legislation affecting AI in healthcare

**Competency 3:** The student will demonstrate knowledge of the effects of AI innovations in the health care delivery system by:

1. Exploring recent innovations in ai and healthcare

2. identifying the impact of emerging issues related to the implementation of AI and healthcare in specific healthcare professions
3. Assessing how AI can assist with healthcare, delivery, and clinical documentation

**Competency 4:** The student will learn to identify tasks to operate ai-based tools to build efficiency in healthcare by:

1. Identifying appropriate ai-based patient care/patient documentation tools to operate and execute in healthcare settings
2. Explaining the functionality and integration of AI-based patient care/documentation tools in healthcare settings
3. Evaluating and recommending the effectiveness of AI-based patient care/documentation tools in the health care system and contributing to its appraisal

**Competency 5:** The student will be able to demonstrate knowledge of AI tools in the health care delivery system and health occupations using by:

1. Identifying common methods of payment for healthcare services
2. Demonstrating the various types of health care providers (facilities) and the range of services available, including resources to victims of domestic violence
3. Identifying the general roles and responsibilities of members of the health care team
4. Identifying the roles and responsibilities of the consumer within the healthcare system
5. Explaining the causes and effects of factors that influence the current healthcare delivery system
6. Explaining the impact of emerging issues, including technology, epidemiology, bioethics, social determinants of health, and socioeconomics, on healthcare delivery systems
7. Identifying the educational, certification, and licensing requirements of various healthcare occupations ensures the competency of healthcare professionals
8. Identifying the basic components of the health care delivery system, including public, private, government, and non-profit

**Competency 6:** The student will be able to use oral and written communication skills in creating, expressing, and interpreting information and ideas by:

1. Explaining basic speaking and active listening skills, including reflection, restatement, and clarification techniques
2. Explaining basic observational skills and related documentation strategies in written and oral form
3. Identifying characteristics of successful and unsuccessful communication, including communication styles and barriers. Composing written communication using correct spelling, grammar, and formatting
4. Applying appropriate medical terminology and abbreviations
5. Recognizing the importance of courtesy and respect for patients and other healthcare workers and maintaining good interpersonal relationships
6. Recognizing the importance of patient/client education regarding health care
7. Identifying communication skills to varied levels of understanding and cultural orientation, including diverse age, cultural, economic, ethnic, and religious groups
8. Analyzing elements of communication using a sender-receiver model
9. Distinguishing between and reporting subjective and objective information
10. Selecting and employing appropriate communication concepts and strategies to enhance oral and written communication in the workplace
11. Locating, organizing, and referencing written information from various sources
12. Describing verbal and nonverbal cues/behaviors that enhance communication
13. Explaining the meaning of active listening skills to obtain and clarify information
14. Acquiring AI ethical literacy to engage in meaningful discussions across AI disciplines

**Competency 7:** the student will be able to solve problems using critical thinking skills, creativity, ai-assisted tools, and innovation by:

1. Defining critical thinking and interpersonal skills to resolve conflicts
2. Identifying practices that contribute to both academic and professional success
3. Employing critical thinking skills independently and in teams to solve problems and make recommendations
4. Identifying, documenting, and monitoring workplace progress and performance goals
5. Conducting an Environmental scan for technical research in gathering information necessary for decision-making
6. Exploring the role of AI in critical thinking and problem-solving

**Competency 8:** The student will be able to demonstrate an understanding of and apply wellness and disease concepts by:

1. Describing and applying strategies for the prevention of diseases, including health screenings and examinations
2. Identifying personal health practices and environmental factors that affect optimal function of the major body systems
3. Identifying psychological reactions to illness, including defense mechanisms
4. Identifying complementary and alternative health practices, including biomedical therapies
5. Discussing the adverse effects of the use of alcohol, tobacco, and legal and illegal drugs on the human body and applying safety practices related to these and other high-risk behaviors
6. Explaining basic concepts of wellness and stress
7. Developing a wellness and stress control plan that may be used in personal and professional life
8. Exploring and utilizing the U.S. Department of Agriculture's My Plate Food Guide ([www.choosemyplate.gov](http://www.choosemyplate.gov))
9. recognizing the steps in the grief process
10. Identifying AI tools in wellness and disease management

**Competency 9:** The student will be able to perform proper body mechanics, ergonomics, and standard precautions used in infection control procedures to prevent injury in health care settings by:

1. Demonstrating proper posture and methods of standing and walking to prevent injury
2. Demonstrating the correct steps used in lifting and carrying objects to prevent injury
3. Demonstrating the application of standard precautions in infection control procedures to maintain the safety of health care professionals, patients, and others
4. Applying correct infection control techniques, including gloves and personal protective equipment (gowns and eye protection), to prevent spreading diseases, including blood-borne pathogens
5. Demonstrating correct hand washing procedures to support medical asepsis

**Competency 10:** The student will properly perform and record vital signs by:

1. Demonstrating the correct use of equipment and application of procedural steps to manually measure blood pressure and accurately record the findings
2. Performing the appropriate procedure for counting respirations and correctly recording the findings
3. Performing the appropriate procedure for counting a radial pulse and correctly recording the findings correctly
4. Demonstrating the correct procedure to take an electronic oral temperature
5. Accurately recording the findings
6. Identifying the use of AI tools in performing and recording vital signs

**Learning Outcomes:**

- Use quantitative analytical skills to evaluate and process numerical data
- Solve problems using critical and creative thinking and scientific reasoning
- Demonstrate knowledge of ethical thinking and its application to issues in society
- Use computer and emerging technologies effectively