

## **HCMT 323: Healthcare Information and Management Systems**



**Prerequisite(s): HCMT 320, HCMT 321, HCMT 322**

**Credits: 3**

---

### **I. Course Description**

This course provides an overview of basic methodologies for the gathering and tracking of healthcare information and data within healthcare settings and individual departments. Students will be able to identify the basic tools and technologies for the management of information within the healthcare industry. General medical terminology, medical information management systems, and data tracking will be evaluated. Students will be required to identify guidelines for maintaining information within the healthcare industry to include the legal requirements associated with patient data.

### **II. Course Objectives**

At the end of this course, students will be able to:

1. Explore the historical progression of the establishment of standards and technological developments in healthcare information management
2. Recognize key medical terminology utilized in healthcare information and management systems
3. Understand medical informatics and the uses of the technology throughout healthcare settings
4. Distinguish roles and responsibilities for establishing structures and maintaining information throughout various healthcare organizations
5. Examine the information lifecycle and established standards pertaining to maintaining medical records
6. Identify how information technology is utilized in various way throughout diverse departments in healthcare settings
7. Describe the best practices for quality assurance and maintaining patient confidentiality
8. Analyze trends and emerging technologies in healthcare information and management systems

### **III. Course Textbooks and Reading Materials**

***\*Students must purchase in advance texts and/or materials for this course.***

**Information Technology for the Health Professions, 5<sup>th</sup> Edition**

Burke & Weill / Pearson

ISBN: 9780134877716

### **IV. Weekly Information**

#### **Module One – Week 1**

#### **Introduction to Medical Informatics**

##### **Objectives**

By the end of this lesson, you will be able to:

1. Define medical informatics, also referred to as clinical informatics
2. Discuss the American Recovery and Reinvestment Act (ARRA) and the Health Information Technology for Economic and Clinical Health Act (HITECH) and their effects on health information technology (HIT)
3. Discuss the Patient Protection and Affordable Care Act (Obamacare)
4. Define the electronic medical record (EMR) and electronic health record (EHR), and discuss the differences between the two

##### **Reading**

Read in your textbook:

Chapter 1: An Introduction to Medical Informatics: Administrative Uses of Computers in the Medical Office (pp. 1-29)

Read supplemental information

##### **Lecture**

View PowerPoint presentation (Chapters 1)

##### **Deliverables**

Discussion: Introductions

Discussion: Medical Records

Written Assignment: EMR & EHR (Essay)

Quiz

## **Module Two- Week 2**

### **Telemedicine**

#### **Objectives**

By the end of this lesson, you will be able to:

1. Define telemedicine
2. Discuss the various subspecialties of teleradiology, telepathology, teledermatology, telecardiology, teleneurology, telestroke, telepsychiatry, telewound care, telehome care, and the use of smartphones and tablet computers as mobile computing devices
3. Discuss the role of the telenurse
4. Discuss the legal, licensing, insurance, and privacy issues involved in telemedicine

#### **Reading**

Read in your textbook:

Chapter 2: Telemedicine (pp. 33-76)

Read supplemental information

#### **Lecture**

View PowerPoint presentations (Chapter 2)

#### **Deliverables**

Discussion: Confidentiality

Written Assignment: Telemedicine Technology in Treatment of Patients (Essay)

Quiz

## **Module Three – Week 3**

### **Information Technology In Public Health**

#### **Objectives**

By the end of this lesson, you will be able to:

1. Define the field of public health and public health informatics
2. Discuss the impact of inequality on health
3. Discuss the use of computers in the study of disease
4. Define computer modeling of disease

#### **Reading**

Read in your textbook:

Chapter 3: Information Technology in Public Health (pp. 77-117)

Read supplemental information

### **Lecture**

View PowerPoint presentations (Chapter 3)

### **Deliverables**

Discussion: First Responders

Assignment: Catastrophe and Informatics (Essay)

Quiz

## **Module Four – Week 4**

### **Information Technology in Radiology & Surgery**

### **Objectives**

By the end of this lesson, you will be able to:

1. Describe the contributions of digital technology to imaging techniques
2. Discuss the newer digital imaging techniques of computed tomography (CT) scans, magnetic resonance imaging (MRI), functional MRI, positron emission tomography (PET) scans, and single-photon emission computed tomography (SPECT) scans, optical imaging, and their uses, advantages, and disadvantages
3. Explain the uses of computers in surgery
4. Describe some of the advantages and disadvantages of computer-assisted surgery

### **Reading**

Read in your textbook:

Chapter 4: Information Technology in Radiology (pp. 118-145)

Chapter 5: Information Technology in Surgery – The Cutting Edge (pp. 146-169)

Read supplemental information

### **Lecture**

View PowerPoint presentations (Chapters 4 and 5)

### **Deliverables**

Discussion: Imaging and Accountability

Written Assignment: Challenges in Computer-Assisted Surgery (Essay)

Quiz

## **Module Five – Week 5**

### **Information Technology in Pharmacy & Dentistry**

#### **Objectives**

By the end of this lesson, you will be able to:

1. Describe the contributions of information technology to the development and testing of drugs
2. Explain the uses of computer technology in pharmacies
3. Discuss the significance of the electronic patient record in integrating practice management and clinical applications
4. Describe the use of computers in endodontics, periodontics, and cosmetic dentistry

#### **Reading**

Read in your textbook:

Chapter 6: Information Technology in Pharmacy (pp. 170-195)

Chapter 7: Information Technology in Dentistry (pp. 199-221)

Read supplemental information

#### **Lecture**

View PowerPoint presentations (Chapter 6 & 7)

#### **Deliverables**

Discussion: Computers in Pharmacies

Assignment: Closing the Dental Care Gap (Essay)

Quiz

## **Module Six – Week 6**

### **Informational Resources & Information Technology in Rehabilitative Therapies**

#### **Objectives**

By the end of this lesson, you will be able to:

1. List the many informational resources the computer technology and the Internet have made available and their use in the health care fields
2. Describe health-related uses of smartphones and tablet computers

3. Describe the contributions made to the design of medical devices by information technology and be able to discuss the advantages of computerized medical monitoring systems over their predecessors
4. Discuss the uses of computers in rehabilitative therapies

### **Reading**

Read in your textbook:

Chapter 8: Informational Resources: Computer-Assisted Instruction, Expert Systems, Health Information Online (pp. 222-254)

Chapter 9: Information Technology in Rehabilitative Therapies: Computerized Medical Devices, Assistive Technology, and Prosthetic Devices (pp. 255-281)

Read supplemental information

### **Lecture**

View PowerPoint presentations (Chapter 8 & 9)

### **Deliverables**

Discussion: Computer Literacy

Assignment: Computerization and Disabilities (Essay)

Quiz

## **Module Seven – Week 7**

### **Security and Privacy**

### **Objectives**

By the end of this lesson, you will be able to:

1. Define security and privacy
2. Discuss threats of information technology, including crimes, viruses, and the unauthorized use of data
3. Discuss security measures, including laws, voluntary codes of conduct, restriction of access to computer systems, biometrics, and the protection of information on networks
4. Discuss the enforcement of HIPAA, as amended by HITECH

### **Reading**

Read in your textbook:

Chapter 10: Security and Privacy in an Electronic Age (pp. 282-324)

### **Lecture**

View PowerPoint presentation (Chapter 10)

Read supplemental information

### **Deliverables**

Final Project Assignment: Laws Relating to Cybersecurity through History

Quiz

## **V. Course Information and Grading**

### **Course Requirements (Weekly)**

Each Module will be based on the inclusion and grading of the following segments: Discussion Boards, Assignments/ Case Studies/ Projects and quizzes or tests.

### **Class Discussions**

Successful online learning requires active and meaningful participation in the Discussion Board Forum. Critical thinking, appropriate use of judgment and professional comments are required for all responses. Simple agreement or disagreement with a fellow student does not constitute a quality response. Student opinions are important but must be supported by relevant data obtained in the literature or text.

1. One initial discussion board post is due by the fourth day (Thursday @ 11:59 pm) of each weekly module and two response posts are due by the last day (Sunday @ 11:59 pm) of each weekly module.
  - a. Undergraduate Word Count Requirements:
    - i. Initial post must be >200 words
    - ii. Responses must be >150 words
  - b. Graduate Word Count Requirements:
    - i. Initial post must be >250 words
    - ii. Responses must be >200 words
2. Participation – Students must meet initial and response post deadlines to be eligible for full points. Late initial posts may be accepted with a 33% reduction in the overall score assessed for each day late. Two response posts are required. If only one is received, then the overall score will be reduced by 25%. If no response posts are received, then the overall score will be reduced by 50%.
3. Students should be respectful and write in a proper and professional manner.

Please refer to the Discussion Board Rubric located within course syllabus for specific requirements and guidance on delivering a substantial discussion.

## **Late and Make-up Assignments**

All deliverables are due by 11:59 PM on the due dates indicated. When substantive emergencies occur, acceptance of late submissions is left to the discretion of the course instructor.

Assignments that are submitted after the due date with prior written approval (text or email) from the instructor may receive the following deductions:

1. Late assignments are subject to a deduction of 10% of the available points for each day late.
2. Assignments submitted later than one week after due date will not be accepted and will receive a zero (0).
3. No work may be submitted after the last day of the course.
4. See Class Discussions for late discussion post policy.

## **Written Work**

- All graded assignments must be typewritten, as designated by the professor of record for the course.
- All referenced materials must be presented according to the Publication Manual of the American Psychological Association (APA), based on the most current published edition. (current, 6<sup>th</sup> edition) (Except for English courses that specify use of MLA format.)
- All required written assignments are due on the last night of each lesson week at 11:59pm EST. This information is included in the course scheduler and calendar of every course.
- All written and graded assignments are considered the property of the College of Adult and Professional Studies and should be returned to the appropriate professor of record for the related course.
- SafeAssign may be used to check for plagiarism.

## **Grading Scale and Assigned Letter Grades**

Charleston Southern Online Undergraduate classes follow the following numerical and letter grading scale. Grades will be posted by the Sunday night following the closing of the Module. No grades will be given to students over the phone.

A = 90-100

B+ = 87-89

B = 80-86

C+ = 77-79



C = 70-76

D = 60-69

F = <60