# Scope & Sequence

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| Course Name: Health Informatics **PEIMS Code:** 13020960 | **Course Credit:** 1.0**Course Requirements:** This course is recommended for students in Grades 11 and 12. **Prerequisites:** Business Management I and Medical Terminology. |
| **Course Description:** The Health Informatics course is designed to provide knowledge of one of the fastest growing areas in both academic and professional fields. The large gap between state of the art computer technologies and the state of affairs in health care information technology has generated demand for information and health professionals who can effectively design, develop, and use technologies such as electronic medical records, patient monitoring systems, and digital libraries, while managing the vast amount of data generated by these systems. |
| **NOTE:** This is a suggested scope and sequence for the course content. This content will work with any textbook or instructional materials. If locally adapted, make sure all TEKS are covered. |
| **Total Number of Periods****Total Number of Minutes****Total Number of Hours** | 175 Periods7,875 Minutes131.25 Hours\* | \*Schedule calculations based on 175/180 calendar days. For 0.5 credit courses, schedule is calculated out of 88/90 days. Scope and sequence allows additional time for guest speakers, student presentations, field trips, remediation, extended learning activities, etc. |
| **Unit Number, Title, and Brief Description** | **# of Class Periods\***(assumes 45-minute periods)Total minutes per unit | **TEKS Covered****130.228 (c) Knowledge and skills** |
| **Unit 1: Meeting Employer Expectations in Health Science**This unit is designed to inform future Health Science students about industry expectations for employability skills and professional standards. | 20 periods900 minutes | (1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:(A) demonstrate verbal and non-verbal communication in a clear, concise, and effective manner;(B) demonstrate adaptability skills such as problem solving and creative thinking;(C) develop a career plan;(D) employ teamwork;(E) create a job-specific resume; and(F) appraise the characteristics desired by employers such as work ethics and professionalism. |
| **Unit 2: How to Use Health care Data and Information**In this unit learn the differences between health information and health data. Students will discuss the importance of data security, accuracy, integrity, and validity. Data information concepts for health information systems and electronic health records are demonstrated. | 20 periods900 minutes | (4) The student distinguishes between data and information. The student is expected to:(A) discuss the importance of data security, accuracy, integrity, and validity; and(B) demonstrate an understanding of data information concepts for health information systems and electronic health records. |
| **Unit 3: Database Management Systems**Students will identify and define key concepts in data modeling and various types of organizational databases. They will look at various types of databases as they relate to health science information. Students will be asked to contrast between entities, attributes, and relationships in a data model. | 25 periods1,125 minutes  | (3) The student employs the various types of databases in relation to health informatics. The student is expected to:(A) define the function of a database management system;(B) identify the purpose of data modeling;(C) define the customary steps in the data modeling process;(D) differentiate between entities, attributes, and relationships in a data model; and(E) explain various types of organizational databases. |
| **Unit 4: Using Electronic Health Records**The growing importance of electronic health records is the focus of this unit. Students will evaluate the progress, evolution, and functional requirements of electronic health records. The progress of and importance of electronic health records are illustrated.  | 20 periods900 minutes | (5) The student examines the evolution of the health information system. The student is expected to:(A) evaluate the growing role of the electronic health record;(B) review the progress of the development of the electronic health record; and(C) explain functional requirements for electronic health records. |
| **Unit 5: Information About Health Insurance Coding**Students identify the process of medical diagnosis and the current procedural practices of insurance coding. Different types of coding along with possible fraud and abuse are outlined. Students describe the importance of Health Insurance Portability and Accountability Act (HIPAA) as it relates to patients records. | 25 periods1,125 minutes | (6) The student examines the process of medical diagnostic and coding concepts as well as current procedural practices. The student is expected to:(A) examine Health Insurance Portability and Accountability Act (HIPAA) guidelines for confidentiality, privacy, and security of a patient's information within the medical record;(B) differentiate between insurance fraud and insurance abuse;(C) discuss the linkage between current procedural technology (CPT) codes, International Classification of Diseases, 10th revision, clinical modification (ICD-10-CM) codes, and medical necessity for reimbursement for charges billed;(D) search ICD-10-CM code system for correct diagnosis code using patient information;(E) identify the two types of codes in the health care common procedure coding system (HCPCS); and(F) explain how medical coding affects the payment process. |
| **Unit 6: Understanding Health Care Agencies**In this unit students are expected to understand a variety of health care agencies and programs including Medicare, Medicaid, TRICARE, and CHAMPVA. Students are asked to explain worker’s compensation and several different ways that claims can be submitted. | 25 periods1,125 minutes | (7) The student identifies agencies involved in the health insurance claims process. The student is expected to:(A) define Medicaid and Medicare;(B) discuss health care benefit programs such as TRICARE and CHAMPVA;(C) explain how to manage a worker's compensation case;(D) complete a current health insurance claim form such as the Centers for Medicare and Medicaid Service (CMS-1500) form; and(E) identify three ways to transmit electronic claims. |
| **Unit 7: Different Types of Information Systems**Students will learn how to identify the components of an information system. Students must also be able to discuss, define, and explain the six basic types of information systems. At the end of this unit students are responsible for producing a culminating project. Extra time is allocated for this purpose. | 40 periods1,800 minutes | (2) The student interprets fundamental knowledge of concepts of health information systems technology and the tools for collecting, storing, and retrieving health care data. The student is expected to:(A) discuss and define the common information systems;(B) differentiate between the six types of information systems;(C) explain how each of the six information systems support the administrative, financial, clinical, and research needs of a health care enterprise;(D) describe the components of an information system; and(E) implement the concepts of health informatics by creating a culminating project. |