# El Paso Community College
# Syllabus
# Part II
# Official Course Description

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| **SUBJECT AREA** | **Health Information Technology** |
| **COURSE RUBRIC AND NUMBER** | **HITT 1311** |
| **COURSE TITLE** | **Health Information Systems** |
| **COURSE CREDIT HOURS** | **3 3 : 1**<br>**Credits Lec Lab** |

## I. Catalog Description

Provides an introduction to health IT standards, health-related data structures, software applications and enterprise architecture in health care and public health. A grade of "C" or better is required in this course to take the next course. **Prerequisite: COSC 1301 or ITSC 1301. (3:1). Lab fee.**

## II. Course Objectives

A. Unit I. Technology, Applications, and Security

1. Define key terms.
2. Describe the overall scope of health information systems.
3. Discuss the evolution of information technology in health care.
4. Explain the fundamental concepts of database models.
5. Interpret computer software manuals commonly utilized for Health Information Department functions.
6. Describe the functionality of Structured Query Language.
7. Describe the role of an interface engine.
8. Characterize the differences between two-tier and three-tier architecture.
9. Provide examples of how an ADT is used in a health information system.
10. Identify network protocols used in the Internet.
11. Discuss the purpose and applications of telemedicine.
12. Explain the authentication tools used by information systems.
13. Explain the need for firewalls.
14. Discuss the role of SSL in Internet applications.
15. Describe the steps for building a data mart.
16. Explain how data collected in a health information system can be used for research.

B. Unit II. Electronic Health Records

1. Define terms associated with electronic health records.
2. Explain functional requirements and expectations for electronic health records.
3. Describe the progress toward electronic health records.
4. Discuss data and information systems and electronic concepts for health information systems and electronic health records.
5. Describe technical building blocks and illustrate information system components.
6. Identify resources and strategies needed by health information management professionals to lead and participate in electronic health record projects.

C. Unit III. Information Systems Life Cycle

1. Define terms associated with Information Systems Life Cycle.
2. Discuss similarities and unique characteristics among the various life cycles, including the general systems life cycle, information systems life cycle, information systems development life cycle.
3. Discuss the life cycle stages in Nolan's six-stage theory of information system Development
4. Identify the three stages of the information systems development life cycle and the components of each.
5. Apply techniques and tools, including hierarchy charts, data flow diagrams, data dictionaries, and entity-relationship diagrams, to perform information system design and development.
6. Apply investigative strategy techniques for gathering information for systems design and development.
7. Evaluate information system interfaces from satisfaction and efficiency perspectives.
8. Describe the various techniques that are used to evaluate information systems, including benefits realization, break-even analysis, payback period, and discounted payback period.
9. Describe the activities that take place during system implementation.
10. Describe the purpose and content of a request for proposal.
11. Describe the usual process that is followed in purchasing a vendor system.

D. Unit IV. Optical Imaging, Database Management Systems, and Information Security

1. Define key terms associated with optical imaging, database management systems, and information security.
2. Describe the components of an optical imaging system.
3. List the advantages of an optical imaging system.
4. Discuss the link between forms design and preparation for optical imaging.
5. Given the number of health record images, calculate the number of optical disk platters necessary to store that data.
6. Describe HIM roles with regard to database management systems.
7. List advantages and disadvantages of database management system (DBMS).
8. Distinguish between a field, record, file, and table in a DBMS.
9. Given selected data elements, determine the corresponding data type.
10. Query a database for information.
11. List the steps in building a database.
12. Build a health-information-management-related database.
13. Distinguish between the conceptual data model, external data model, and internal data model.
14. List components of a typical data dictionary.
15. Discuss trends in information security.
16. Discuss legal issues surrounding health information.
17. Describe Joint Commission requirements related to information security.
18. Identify common threats to information security.
19. List methods to control access to confidential communication.
20. Distinguish between the Internet and an intranet.
21. Discuss security concerns surrounding the use of the Internet, e-mail, cellular telephones, laptop computers, and portable computers.
22. List security concerns to consider when working with hardware/software vendors.
23. List methods to limit an information system's exposure to problems with malicious code.
24. List methods to limit data loss in the event of a physical disaster.
25. Describe the process to follow when a security breach occurs.
26. Provide examples of security issues regarding various departments within a healthcare facility.
27. Describe the concept of data encryption.
28. Explain how HIPAA impacts data security.
29. Describe the typical functions of a data security coordinator.

E. Unit V. Applications: Coding, Registries, Transcription

1. Define key terms associated with operating systems, application software, and programming languages.
2. Distinguish between encoders and groupers.
3. Describe decision support systems.
4. Describe an executive information system.
5. List examples of clinical information systems.
6. Identify computer applications for health information management.
7. Explain the basic functions of registries.
8. Identify items necessary when abstracting for registries.
9. Discuss the impact of computerization on the registry process.
10. List sources for comparative data for research purposes.
11. Describe the uses of registry data in research.
12. Describe the use of transcription management software for managing and monitoring transcription productivity.
13. Discuss the methods utilized for transmitting data/information for Health Information Department functions.
14. Compare and contrast digital dictation systems with discrete media, such as cassette tapes.
15. Discuss the impact speech recognition systems are projected to have on the transcription industry in the future.

## III. THECB Learning Outcomes (WECM)

1. Describe general functions, purposes and benefits of health information systems.
2. Describe the evolution and adoption of health information systems.
3. Compare health information systems in terms of their ability to support the requirements of a health care enterprise.
4. Explain the impact of electronic health records on reporting outcomes.
5. Explain strategies to minimize major barriers to the adoption of electronic health records.
6. Explain the principles of health care data exchange and standards.
7. Review workflow design and assessment, and their relationship to patient care, productivity and data analysis.
8. Propose the hardware, software, operating system and networking considerations necessary for effective data storage and use in health care organizations.
9. Utilize the tools and techniques for collecting, storing, securing, retrieving, and reporting health care data.

## IV. Evaluation

A. Pre-assessment

The instructor will review and discuss the course prerequisites on the first day of class. Due to specialized admission requirements for the HITT Program, all students should have the necessary prerequisites prior to enrollment.

Post-assessment

A unit exam will be administered at the completion of each unit in this course. Quizzes over lecture/lab material and/or assigned reading are at the discretion of the instructor.

Unit activities/assignments will assigned by the instructor to further enhance students' understanding of the course objectives.

A comprehensive final examination will be administered for this course.

The instructor will maintain a continuous record of each student's progress. Students not performing at a C level or better in the course will be referred for tutoring and/or counseling.

Students are encouraged to seek direction and help for those areas in which they experience difficulty. The course instructor may assign remedial or tutorial work designed to enhance student proficiency.

Students not adhering to the Health Occupations Criteria for course pursuit may be administratively withdrawn form this course. (See attached)

B. Grading Scale

93 - 100 = A
83 - 92 = B
75 - 82 = C
0 - 74 = Failing

The student must receive a grade of "C" or better to pass this course.

## V. Disability Statement (Americans with Disabilities Act [ADA])

EPCC offers a variety of services to persons with documented sensory, mental, physical, or temporary disabling conditions to promote success in classes. If you have a disability and believe you may need services, you are encouraged to contact the Center for Students with Disabilities to discuss your needs with a counselor. All discussions and documentation are kept confidential. Offices located: VV Rm C-112 (831-2426); TM Rm 1400 (831-5808); RG Rm B-201 (831-4198); NWC Rm M-54 (831-8815); and MDP Rm A-125 (831-7024).

## VI. 6 Drop Rule

Students who began attending Texas public institutions of higher education for the first time during the Fall 2007 semester or later are subject to a 6-Drop limit for all undergraduate classes. Developmental, ESL, Dual Credit and Early College High School classes are exempt from this rule. All students should consult with their instructor before dropping a class. Academic assistance is available. Students are encouraged to see Counseling Services if dropping because exemptions may apply. Refer to the EPCC catalog and website for additional information.

**HEALTH OCCUPATIONS DIVISION CRITERIA FOR COURSE PURSUIT**

In order to establish guidelines for determining when a student has ceased to pursue the course objectives, the Health Occupations Division has set the following applicable standards.

1. The student must adhere to the attendance requirement of course HITT 1311. In order to pursue the course, the student must attend a minimum of 52 hours of instruction. (Meets a total of 64 hours).

2. The student will not be able to make up theory hours. The student will be able to make up lab hours at the discretion of the instructor.

3. Tardiness will be defined as being fifteen (15) minutes or more late to laboratory sessions and fifteen (15) minutes or more late to theory sessions. Students will be allowed two (2) events of tardiness, after which the tardiness will be considered an absence.

4. If required by instructor/coordinator, student also must follow the standards established in the El Paso Community College Health Occupations Programs Students Handbook for Allied Health Students and/or program addendum. The student is bound by standards in the El Paso Community College Health Occupations Programs Student Handbook for Allied Health Students as evidenced by the return of a signed/dated acknowledgment sheet.

5. Where the student continues to pursue the course objectives but is receiving failing grades, he/she will remain eligible to complete the course, except in instances where unsafe practice occurs.

6. The student must appear for examinations, presentations, or other required class activities and submit required papers, projects, and/or reports as identified in the course syllabus/calendar.

Failure of the student to follow the above will indicate that the student is no longer pursuing the objectives of the course and will result in faculty initiated withdrawal.

**EL PASO COMMUNITY COLLEGE**
**HEALTH OCCUPATIONS DIVISION**
**SCHOLASTIC DISHONESTY**

Scholastic dishonesty shall constitute a violation of these rules and regulations and is punishable as prescribed by Board policies. Scholastic dishonesty shall include, but not be limited to, cheating on a test, plagiarism, and collusion. "Cheating on a test" shall include:

1. Copying from another student's paper.

2. Using test materials not authorized by the person administering the test.

3. Unauthorized collaborating with or seeking aid from another student.

4. Knowingly using, buying, selling, stealing, or soliciting, in whole or in part, the contents of a test.

5. The unauthorized transportation or removal, in whole or in part, of the contents of the test.

6. Substituting for another student, or permitting another student to substitute for one's self, to take a test.

7. Bribing another person to obtain a test or information about a test.

8. "Collusion" shall be defined as the unauthorized collaboration with another person in preparing written work for fulfillment of course requirements.

9. Any student involved in scholastic dishonesty as identified above, or in the Student Handbook, may, at the discretion of the faculty,

    a. Have the test or paper graded zero (0).
    b. Be removed from the class.
    c. Be recommended for administrative dismissal from the course or program.

The stringency of this policy is understandable when read in the context of an educational program preparing individuals for a health career where the safety and well-being of the public are largely dependent upon the knowledge and ethical responsibility of the health personnel. Evidence of unethical behavior, such as cheating, precludes the instructional faculty's ability to declare prospective graduates to be reliable and ethical.