

Common Course Outline
HIIT 130
Computer Applications for Health Data Analysis
4 Credits

The Community College of Baltimore County

Description

HIIT 130 – 4 credits –Computer Applications for Health Data Analysis provides an overview of health informatics and examines the impact of information technology on the health care industry. It provides hands-on spreadsheet and database health-context applications to enable students to organize data, calculate data, manage data, and transform data into information for presentation and decision-making. This course also introduces students to a variety of clinical and administrative software through field trip experiences. 4 credits; 2 lecture, 2 lab hours per week. *Prerequisites: MATH 082; CINS 101, HIIT 101, or permission of program coordinator.*

Overall Course Objectives

Upon successful completion of this course, students will be able to:

1. describe the uses of information technology in the health care industry;
2. differentiate between information technology and informatics;
3. discuss how information technology has transformed both clinical and administrative healthcare fields;
4. differentiate among various types of clinical and administrative health support software given off-campus and in-class demonstration;
5. describe federal health information technology initiatives and supporting legislation;
6. define the electronic health record and describe the advantages of converting patients' records to an electronic format;
7. identify threats to information quality, availability, and confidentiality;
8. develop a list of health data sets that healthcare facilities and insurance companies track for analysis;
9. differentiate between spreadsheet software and database software;
10. create and edit a database table;
11. perform queries;
12. sort and filter database records;
13. generate reports and charts from a database;
14. import and export data in a database;
15. create relationships between database tables;
16. use link external tables from other databases;
17. create and edit a worksheet;
18. format worksheets with number formats, fonts, borders, shading, and colors;

19. apply format commands such as merge and center, alignment, and freezing and hiding rows and columns;
20. build formulas using absolute and mixed cell references;
21. apply statistical functions and What If analysis;
22. summarize data with charts and pivot tables;
23. import data into a worksheet; and
24. describe how computer applications support and enhance health data analysis.

Major Topics

- I. Informatics in the Health Care Professions
- II. Impact of Information Technology on Health Care and Health Care Professions
- III. Federal and Legislative Initiatives
 - a. Department of Health and Human Services
 - b. Office of the National Coordinator for Health Information Technology
 - c. Electronic health record
 - d. Health information technology legislation
- IV. Role of Technology and Standards in Implementing Electronic Health Record
- V. Role of Regional Health Information Organizations
- VI. HIPAA and Privacy and Security Issues Impacted by Technology
- VII. Joint Commission for Accreditation of Healthcare Organizations Guidelines
- VIII. Data Sources
 - a. Agency for Healthcare Research and Quality
 - b. Institute for Healthcare Improvement
 - c. American Medical Informatics Association
 - d. National Center for Health Statistics
 - e. Centers for Disease Control
 - f. American Nurses Association
- IX. Administrative and Clinical Health Support Software
- X. Administrative and Clinical Health Data Sets
- XI. Microsoft Access
 - a. Database tables
 - b. Queries
 - c. Sorting and filtering records
 - d. Reports and charts
 - e. Importing, exporting, and linking
- XII. Microsoft Excel
 - a. Worksheets and Workbooks
 - b. Formatting worksheets
 - c. Applying formulas and functions
 - d. Charts and pivot tables
 - e. Importing data
- XIII. Maximizing Data Presentation to Support Analysis

Course Requirements

Grading: Grading procedures will be determined by the individual faculty member but will include the following:

1. At least three tests
2. Written report, 500 words minimum
3. Field trip(s) to health care facility
4. Annotated website portfolio
5. Excel project with oral presentation
6. Final Exam