

Common Course Outline
HIIT 220
Health Data Research and Analysis
3 Credits

The Community College of Baltimore County

Description

HIIT 220 – 3 credits -- Health Data Research and Analysis prepares students to collect, organize, analyze, and present data in areas such as vital statistics, facility usage, cost review, patient population, charge per case, average length of stay, and disease prevalence. Emphasis is placed on research techniques and evaluation. Students prepare data for analysis and display using statistical and spreadsheet software and use the data analysis to assess quality management, utilization management, and risk management to improve the overall effectiveness of the health care facility. 3 credits. 3 lecture hours, 1 lab hour per week. *Prerequisites: MATH 153, HIIT 102, HIIT 130, and HIIT 210.*

Overall Course Objectives

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

1. access credible print and electronic sources from which to gather health care data;
2. differentiate among various performance improvement models;
3. design a customer satisfaction survey;
4. describe commonly used statistical measures in health care;
5. describe how proper coding drives reimbursement;
6. identify hypotheses in research studies;
7. define and select indicators and performance measures for data collection;
8. interpret a risk analysis cause-and-effect diagram;
9. describe the scope of a comprehensive facility emergency management program;
10. summarize performance improvement aspects of accreditation and licensure;
11. describe the phases of a project;
12. perform effectively in a team;
13. compile website, database, and journal references that report health statistics;
14. collect, organize, and aggregate performance improvement data for descriptive analysis;
15. utilize statistical functions in Excel to determine standard deviation, frequency, normal distribution, and probability for health data;
16. compile, graph, and present data using spreadsheet and database software;
17. assess data variation;
18. analyze data using statistical software;
19. develop visual displays of data using statistical and spreadsheet software;
20. critique data resources to select the best data and to utilize the data effectively;

21. abstract and report data for facility-wide quality management and performance improvement;
22. analyze clinical data to identify trends that impact quality, safety, and effectiveness in the health care facility;
23. apply HIPAA, legal, regulatory, and ethical guidelines to quality improvement and data collection scenarios;
24. draw logical conclusions from health data analysis to improve performance and quality in a healthcare facility; and
25. prepare an analytical report with data display.

Major Topics

- I. Common Statistical Measures in Health Care
- II. Introduction to Measurement
- III. Measures of Central Tendency and Variability
- IV. Normal Distribution and Statistical Inference
- V. Descriptive Statistics
- VI. Research and Data Collection
 - a. Survey Data
 - b. Facility Utilization Data
 - c. Health Care Fraud and Abuse Data Collection Program
 - d. Maryland Health Services Cost Review Commission
 - e. Department of Health and Human Services
 - f. American Hospital Association
 - g. Joint Commission on Accreditation of Healthcare Organizations
 - h. National Center for Health Statistics
 - i. National Committee on Vital and Health Statistics
 - j. National Institutes of Health
 - k. Centers for Disease Control
 - l. Agency for Healthcare Research and Quality
 - m. Institute of Medicine
 - n. National Library of Medicine (MEDLINE database)
 - o. National Institute of Standards and Technology
 - p. Institutional Review Board
- VII. Administrative and Clinical Health Data Sets
- VIII. Study Protocol for Human Subject Research
- IX. Medical Research and Disease Registries
- X. Performance Measurement
- XI. Benchmarking
- XII. Healthcare Facilities and the Performance Improvement Process
- XIII. Trend Analysis
- XIV. Applying Quality Measurement
- XV. HIPAA and Compliance
- XVI. Legal and Ethical Issues

Course Requirements

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

1. Four quizzes
2. Written analytical report (minimum 1500 words) with PowerPoint and oral presentation
3. Case studies
4. Final exam