JEFFERSON COLLEGE

COURSE SYLLABUS

HIT 115

Healthcare Statistics

3 Credit Hours

Prepared by:
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Created on Date: 10-11-11

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Kenneth Wilson, Director of Health Occupations
**HIT 115 Healthcare Statistics**

I. **CATALOGUE DESCRIPTION**

A. **Prerequisite:** MTH 128 with a grade of “C” or better and HIT 110 with a grade of “C” or better.

B. **Credit hour award:** 3

C. **Description:** This course entails a study of healthcare statistics with a focus on the commonly used rates and percentages computed principally on hospital inpatients. It will also include an in-depth study of hospital statistics, sources, definitions, collection, reporting, and presentation of data. Non-acute care data and examples will also be included in the lessons. (F)

II. **EXPECTED LEARNING OUTCOMES/CORRESPONDING ASSESSMENT MEASURES**

<table>
<thead>
<tr>
<th>Expected Learning Outcomes</th>
<th>Assessment Measures</th>
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<tbody>
<tr>
<td>Identify common abbreviations used in health care statistics.</td>
<td>Class Discussion/Activity Summative Examination</td>
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<tr>
<td>Compute the inpatient census bed counts.</td>
<td>Class Discussion/Activity Summative Examination</td>
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<tr>
<td>Distinguish which formulae include newborns.</td>
<td>Class Discussion/Activity Summative Examination</td>
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<td>Describe the types of deaths most likely to be considered “coroner's cases.”</td>
<td>Class Discussion/Activity Written Project/Paper Summative Examination</td>
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<td>Compute standard deviation.</td>
<td>Class Discussion/Activity Summative Examination</td>
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<td>Identify common vital statistics.</td>
<td>Class Discussion/Activity Written Project/Paper Summative Examination</td>
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<td>Construct a scatter diagram.</td>
<td>Class Discussion/Activity Written Project/Paper Summative Examination</td>
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<tr>
<td>Construct a frequency distribution graph.</td>
<td>Class Discussion/Activity Written Project/Paper Summative Examination</td>
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<td>Construct a histogram graph.</td>
<td>Class Discussion/Activity Summative Examination</td>
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<td>Construct a bar graph.</td>
<td>Class Discussion/Activity Summative Examination</td>
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<td>Construct a line graph.</td>
<td>Class Discussion/Activity Summative Examination</td>
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<td>Construct a pie graph.</td>
<td>Class Discussion/Activity Written Project/Paper Summative Examination</td>
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<td>Construct a pictograph.</td>
<td>Class Discussion/Activity Summative Examination</td>
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<td>Task</td>
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<tr>
<td>Construct a flow chart.</td>
<td>Summative Examination</td>
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<td>Construct a cause and effect diagram.</td>
<td>Class Discussion/Activity</td>
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<td>Written Project/Paper</td>
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<td>Summative Examination</td>
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<td>Construct a pareto graph.</td>
<td>Class Discussion/Activity</td>
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<td>Written Project/Paper</td>
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<td>Summative Examination</td>
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<tr>
<td>Compute the mean.</td>
<td>Class Discussion/Activity</td>
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<tr>
<td></td>
<td>Summative Examination</td>
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<tr>
<td>Compute the mode.</td>
<td>Class Discussion/Activity</td>
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<td></td>
<td>Summative Examination</td>
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<td>Compute median.</td>
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<tr>
<td>Compute the range.</td>
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<td>Written Project/Paper</td>
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<td>Summative Examination</td>
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<tr>
<td>Compute variation.</td>
<td>Class Discussion/Activity</td>
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<td>Summative Examination</td>
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<tr>
<td>Compute the daily inpatient census occupancy rates.</td>
<td>Class Discussion/Activity</td>
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<td>Summative Examination</td>
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<td>Compute inpatient service day death rates.</td>
<td>Class Discussion/Activity</td>
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<td>Written Project/Paper</td>
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<td>Compute average daily census.</td>
<td>Class Discussion/Activity</td>
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<td>Written Project/Paper</td>
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<td>Compute discharge days length of stay.</td>
<td>Class Discussion/Activity</td>
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<td>Summative Examination</td>
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<td>Compute autopsy rates.</td>
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<td>Written Project/Paper</td>
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<tr>
<td>Distinguish between population and sample.</td>
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<td>Written Project/Paper</td>
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<td>Summative Examination</td>
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<tr>
<td>Distinguish between variable and constant.</td>
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<td>Distinguish between qualitative and quantitative data.</td>
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<td>Written Project/Paper</td>
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<tr>
<td>Distinguish between ungrouped and grouped data.</td>
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<td>Summative Examination</td>
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<tr>
<td>Distinguish between descriptive and inferential statistics.</td>
<td>Class Discussion/Activity</td>
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<td>Summative Examination</td>
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III. COURSE OUTLINE

A. Statistical Terminology and Health Care Data
   1. Statistics and Data
   2. Scope of Book
   3. Role of Health Information Technology Professional
   4. Requestors of Data
   5. Uses of Data
   6. Users of Healthcare Data
   7. Sources of Healthcare Data
   8. Governmental Data Collection
   9. Patient Data Collection
   10. Statistical Data Terms, Definitions and Abbreviations

B. Healthcare Overview and Patient Data Collection
   1. Healthcare Overview
   2. Hospital
   3. Long Term Care Facility
   4. Specialized Facilities
   5. Ambulatory Care; Outpatient Care
   6. Payers/ Payment Providers/ Third Party Payers
   7. Bed/ Bassinet Classification
   8. Medical Care/ Medical Staff/ Medical Service Units
   9. Transfers
   10. Patient Data Collection
   11. Sources of Statistical Data

C. Mathematical Review
   1. Review of Basic Mathematical Functions
   2. Fractions
   3. Decimals
   4. Percentages
   5. Rates/Ratio/Proportion
   6. Averaging
   7. Rounding Data
   8. Converting to another Form

D. Census
   1. Census
   2. Hospital Patients
   3. Hospital Departments
   4. Hospital Units and Services
   5. Census Taking
   6. Total Inpatient Service Days
   7. Deaths/ Discharges
   8. Census Calculation Tips
   9. Beds/ Bassinets

E. Percent of Occupancy
   1. Bed/Bassinet Count Terms
2. Rate Formula
3. Beds
4. Bed/ Bassinet Count Day Terms
5. Occupancy Ratio/ Percentage
6. Occupancy Percentage for a Period

F. Length of Stay/ Discharge Days
   1. Terms
   2. Calculating Length of Stay
   3. Total Length of Stay
   4. Average Length of Stay
   5. Day on Leave of Absence

G. Hospital Mortality Rates
   1. Terms
   2. Death Rates
   3. Gross Death Rate
   4. New Death Rate
   5. Newborn Death Rate
   6. Surgical Death Rates

H. Obstetrical Related Rates
   1. Terms
   2. Natality Classifications
   3. Hospital OB Mortality Rates
   4. Cesarean Section Rates

I. Autopsy Rates
   1. Terms
   2. Coroner’s Cases
   3. Additional Autopsy Information
   4. Autopsy Rates

J. Miscellaneous Rates
   1. Infection Rates
   2. Consultation Rates
   3. Complication Rate
   4. Comorbidity Rate
   5. Bed Turnover Rates

K. Vital Statistics Data/ Rates
   1. Vital Statistics Certificates
   2. Obstetrical- Related Mortality Rates
   3. Morbidity Data and Rates
   4. Vital Statistics Mortality Rates
   5. Measures of Fertility

L. Frequency Distribution
   1. Introduction
   2. Terms Related to a Frequency Distribution
3. Creating a Frequency Distribution
4. Ranks/ Percentiles

M. Measure of Tendency and Variation
   1. Measure of Central Tendency
   2. Curves of Frequency Distribution
   3. Measures of Variability

N. Data Presentation
   1. Tables
   2. Charts/ Graphs

IV. METHOD(S) OF INSTRUCTION

A. Lecture
B. Readings from textbook
C. Supplemental handouts
D. Peer interactive activities/ discussions in classroom

V. REQUIRED TEXTBOOKS


VI. REQUIRED MATERIALS

A. Textbook
B. A computer with internet access (available through the Jefferson College Labs)
C. Paper, notebooks, pens, pencils with erasers

VII. SUPPLEMENTAL REFERENCES

A. Class handouts
B. Current internet resources
   1. On-line reference materials
   2. American Health Information Management (AHIMA) web-site

VIII. METHOD OF EVALUATION

A. Homework will equal 40% of total course grade
B. Summative Written Examinations – 4 examinations worth 50%

C. Attendance/Participation grade will equal 10% of total course grade.

D. Grading Scale:
   A = 90-100%
   B = 80-89.9%
   C = 70-79.9%
   D = 60-69.9%
   F = 0-59.9%

IX. ADA STATEMENT

Any student requiring special accommodations should inform the instructor and the Coordinator of Disability Support Services (Library: phone 636-797-3000, ext. 3169).

X. ACADEMIC HONESTY STATEMENT

All students are responsible for complying with campus policies as stated in the Student Handbook. Any student who cheats or plagiarizes will be subject to dismissal from the Health Information Technology program and will be referred to the college for disciplinary action. (See College website, http://www.jeffco.edu/jeffco/index.php?option=com_weblinks&catid=26&Itemid=84)