COURSE NUMBER AND HOURS: HCM 365-3 Statistics for Health Care Professions

COURSE DESCRIPTION: Course for students beginning a major in the health care professions. Students examine and apply data to their professions with an emphasis placed on the understanding of the basic principles, techniques, and applications involved with analysis, synthesis, and utilization of data. Focus will be placed on using data for empirical research.

PREREQUISITES: UCC Math. Restricted to SAH major, HCM majors/minors.


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

1. Understand the importance of statistics in the field of health administration.
2. Know how to summarize and present data, especially in reference to the use of computer software.
3. Utilize the fundamental techniques for assessing the probabilities of events.
4. Describe the distribution of random variables.
5. Understand and utilize the quantitative skills needed to perform analyses of variance.
6. Draw inferences about means and proportions.
7. Calculate correlations between variables.

COURSE OUTLINE:

<table>
<thead>
<tr>
<th>Topics</th>
<th>Percentage of Time</th>
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<tbody>
<tr>
<td>I. What is statistics?</td>
<td>5%</td>
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<td>II. Descriptive Statistics</td>
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<tr>
<td>A. Measures of central tendency</td>
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<td>B. Measures of dispersion</td>
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<td>C. Distribution</td>
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III. Probability 15%
   A. Simple event
   B. Compound event
   C. Rules of multiplication

IV. Probability distribution 20%
   A. Discrete random variable
   B. Continuous random variable

V. Inference about the mean 10%

VI. Inference about the proportion 10%

VII. Analysis of variance 15%
   A. One-way ANOVA
   B. Two-way ANOVA

VIII. Correlation 10%