

ALLIED HEALTH RESEARCH METHODS (AHRM)

Courses

AHRM 354. Statistics for the Health Professions. 3 Units.

Fundamental procedures in collecting, summarizing, analyzing, presenting, and interpreting data. Measures of central tendency and variation, probability, binomial and normal distribution, hypothesis testing and confidence intervals, t-tests, chi-square, correlation, and regression. Introduction to SPSS statistical package for computer data analysis.

AHRM 471. Statistics and Research for Health Professionals I. 3 Units.

Presents statistical methods relative to research design for health professionals, with introduction to SPSS statistical package for computer data analysis. Discusses philosophical approaches to scientific inquiry, range of research designs, roles of variables, and ethics.

AHRM 472. Statistics and Research for Health Professionals II. 3 Units.

Advanced conceptual frameworks, data analyses, and techniques in quantitative and qualitative research. Emphasizes process for obtaining and using evidence-based research. Prerequisite: AHRM 471.

AHRM 475. Health-Care Research and Statistics. 4 Units.

Statistical methods presented in the context of health-care research. Rationale for research questions, definition of populations, roles of variables, reliability and validity of research tools, common research designs, internal and external validity of research designs. Descriptive statistics, confidence interval, hypothesis testing concepts, t-tests, chi-square tests, correlation and regression. Interpretation of computer output. Evaluation of the health-care literature.

AHRM 514. Biostatistics. 3 Units.

Fundamental procedures of collecting, summarizing, presenting, analyzing, and interpreting data. Sampling, measures of central tendency and variation, probability, binomial distribution, normal distribution, sampling distributions and standard error, confidence intervals, hypothesis testing, t-tests, chi-square, correlation, and regression. Introduces computer analysis for solution of statistical problems.

AHRM 518. Nonparametric Statistics for the Health Professions. 3 Units.

Introduces nonparametric statistical methods in the context of applications for health professionals. Uses the SPSS statistical package for data analysis. Students learn to identify, design, analyze, and interpret studies using nonparametric statistics. Nonparametric tests covered include the Mann-Whitney U test, Wilcoxon signed-ranks test, Friedman test, Kolmogorov-Smirnov test, Spearman rank correlation, and chi-square tests. Prerequisite: Beginning statistics course.

AHRM 571. Statistics and Research for Health Professionals I. 3 Units.

Presents statistical methods relative to research design for health professionals, with introduction to SPSS statistical package for computer data analysis. Discusses philosophical approaches to scientific inquiry, range of research designs, roles of variables, and ethics. Critical analysis of scientific literature related to an identified professional practice area, which results in an evidence-based practice paper.

AHRM 572. Statistics and Research for Health Professionals II. 3 Units.

Advanced conceptual frameworks, data analyses, and techniques in quantitative and qualitative research. Emphasizes process for obtaining and using evidence-based research. Data analysis of a small data set in order to answer a research question and write a formal results section complete with appropriate tables and graphs. Prerequisite: AHRM 571.

AHRM 581. Research and Statistics I. 3 Units.

In-depth study of research designs: their advantages and disadvantages, including pretest/posttest designs; posttest-only, control group designs; time series designs; factorial designs; randomized block and repeated-measures designs; and incomplete block designs. Introduces clinical trials, sequential research designs; and single case, experimental designs. Measures and analyzes validity and reliability. Survey-instruments(s) design. Power calculations for choosing appropriate sample sizes.

AHRM 582. Research and Statistics II. 3 Units.

Analyzes data using one-way ANOVA with multiple comparisons, factorial ANOVA designs, randomized complete and incomplete block designs, and repeated measures. Introduces multiple correlation and regression and model building using multiple regression techniques. Evaluates research literature that uses multivariate analysis for data analysis. Introduces nonparametric statistics. Interprets multivariate analysis computer output.

AHRM 595. Research and Statistics Concepts and Methods: Intermediate. 3 Units.

In-depth study of research designs, including completely randomized and randomized block designs. Use of and interpretation of statistical tests such as ANOVA, multiple linear regression, multivariate analysis, and correlations; includes introduction to nonparametric statistical tests. Measures and analyzes data for validity and reliability studies. Evaluates research literature that uses multivariate data.

AHRM 604. Research-Proposal Writing. 3 Units.

Student prepares a research proposal, including components essential for submission to the Institutional Review Board. Emphasizes writing skills in preparation of literature review, purpose, conceptual framework, proposed methodology, and statistical analysis. Includes ways in which proposal serves as the basis for a published article.

AHRM 605. Critical Analysis of Scientific Literature. 2,3 Units.

Critical evaluation of scientific literature. Includes critical assessment of study rationale, population inclusion/exclusion criteria, sampling and randomization techniques, sample size, appropriateness of research design, choice of data analysis, structure and content of tables and graphs, interpretation of statistical results, and applications to practice. Additional evaluation time required for third unit of credit.