

# RESEARCH AND MEASUREMENT (RESM)

## RESM 5110 Quantitative Methods I

[3 credit hours]

This course introduces the major concepts of statistical description, including central tendency, dispersion, and relative position and relationship. Inferential methods such as t-tests, one-way analysis of variance, and multiple group analyses are also presented.

**Term Offered:** Spring, Summer, Fall

## RESM 5210 Educational Testing And Grading

[3 credit hours]

This course introduces the development, administration and interpretation of teacher-made tests and other pupil assessments; basic principles underlying norm- and criterion-referenced tests; problems and issues in grading systems and assigning grades; standardized testing and Value-Added Models.

**Term Offered:** Spring, Summer, Fall

## RESM 5220 Applied Assessment for Improved Practice

[3 credit hours]

This is an advanced course in classroom assessment with a focus on informed and applied evidence-based decision making. Key components are the analysis and reporting of results from assessment datasets, the creation of formative and summative assessment action plans based on analysis results, and the incorporation of 21st century technology tools to support assessment planning and instructional decisions.

**Prerequisites:** RESM 4200 with a minimum grade of C or RESM 5210 with a minimum grade of C

**Term Offered:** Summer

## RESM 5310 Understanding and Consuming Research

[3 credit hours]

This course offers an introduction to the history and foundations of research processes from the consumer's perspective. It introduces qualitative, quantitative, and mixed methods approaches for understanding research problems.

**Term Offered:** Spring, Summer, Fall

## RESM 5330 Qualitative Research I: Introduction And Basic Methods

[3 credit hours]

This course introduces history and theoretical underpinnings of qualitative research. Students then learn and practice fundamental methods of participant-observation, fieldnotes, interviewing, and transcription, and explore common models of qualitative research.

**Term Offered:** Summer, Fall

## RESM 5550 Introduction to Research and Measurement (RESM) and Graduate Studies

[3 credit hours]

This course offers an introduction to the foundations of the research process and an exploration of the major program strands (research and evaluation design, data analysis and interpretation, development and validation of measures, and school-based classroom and program assessment). It also focuses on practical strategies and skills that promote successful graduate-level study.

**Term Offered:** Spring, Fall

## RESM 5950 Workshop In Research And Measurement

[3 credit hours]

Each workshop is developed around a topic of interest and concern to inservice teachers and other educational personnel. Practical application of workshop topics will be emphasized.

**Prerequisites:** RESM 4100 with a minimum grade of D- or RESM 5110 with a minimum grade of C

**Term Offered:** Spring, Summer, Fall

## RESM 6120 Quantitative Methods II

[3 credit hours]

This course covers the major inferential statistical techniques common to the behavioral sciences. Correlation, factorial analysis of variance, and linear regression are major topics. Computer applications are included.

**Prerequisites:** RESM 4100 with a minimum grade of D- or RESM 5110 with a minimum grade of C

**Term Offered:** Spring, Summer, Fall

## RESM 6130 Multivariate Statistics

[3 credit hours]

This course covers multivariate analysis of variance, canonical correlation, discriminant analysis, repeated measures and factor analysis. Computer applications are included.

**Prerequisites:** RESM 6120 with a minimum grade of C or RESM 8120 with a minimum grade of C

**Term Offered:** Spring, Fall

## RESM 6140 Advanced Quantitative Methods

[3 credit hours]

This course exposes students to various experimental designs, such as complete and fractional factorial designs, repeated measures designs, and nested designs. Both the conceptual rationale and the computational procedures are covered.

**Prerequisites:** RESM 6120 with a minimum grade of C or RESM 8120 with a minimum grade of C

## RESM 6150 Structural Equation Modeling

[3 credit hours]

This course introduces structural equation modeling as a statistical method to assess the strengths of a priori relations among variables. Topics include path analysis and confirmatory factor analysis. Computer applications with AMOS are included.

**Prerequisites:** RESM 6120 with a minimum grade of C or RESM 8120 with a minimum grade of C

**Term Offered:** Spring, Fall

## RESM 6160 Nonparametric Statistics

[3 credit hours]

This course introduces the most common nonparametric statistical techniques as well as recent developments in this field. Coverage includes contingency tables, binomial distribution tests, several rank tests and other distribution-free statistics.

**Prerequisites:** RESM 4100 with a minimum grade of D- or RESM 5110 with a minimum grade of C

**Term Offered:** Spring, Fall

**RESM 6220 Measurement I**

[3 credit hours]

This course introduces psychometric theories, with emphasis on classical test theory; reliability theory, including generalizability theory; approaches to validation; practical applications such as standard setting.

**Prerequisites:** RESM 4100 with a minimum grade of D- or RESM 5110 with a minimum grade of C

**Term Offered:** Spring, Fall

**RESM 6230 Applied Measurement Research**

[3 credit hours]

Applied practical experience in measurement analyses is emphasized and participants are introduced to a series of advanced measurement and research-related processes in this authentic experiential course.

**Prerequisites:** (RESM 6220 with a minimum grade of C or RESM 8220 with a minimum grade of C) and RESM 5110 with a minimum grade of C

**Term Offered:** Spring

**RESM 6320 Research Design**

[3 credit hours]

This course exposes students to quantitative and mixed method research approaches that are used in theses and dissertations. Competing designs for addressing research questions are compared. The purpose is to prepare students for their dissertation experience.

**Prerequisites:** RESM 4100 with a minimum grade of D- or RESM 5110 with a minimum grade of C

**Term Offered:** Spring, Summer, Fall

**RESM 6340 Qualitative Research II: Design And Analysis**

[3 credit hours]

This course takes student through the design, implementation, and write up a qualitative study. Topics include theoretical frameworks and research design; managing, analyzing and interpreting data; collaboration between researcher and researched; using computers in analysis.

**Prerequisites:** RESM 5330 with a minimum grade of C or RESM 7330 with a minimum grade of C

**Term Offered:** Spring

**RESM 6350 Methods Of Survey Research**

[3 credit hours]

This course contextualizes survey development within a broad theoretical framework and proceeds through the literature, problem, purpose, methods, and sampling. Particular emphasis is placed on the validity implications of each.

**Prerequisites:** RESM 6120 with a minimum grade of C

**Term Offered:** Fall

**RESM 6360 Program Evaluation**

[3 credit hours]

An overview of prominent human services program evaluation methods including objectives-based, experimental, statistical and economic approaches. Evaluation criteria, issues, ethics and politics are considered.

**Prerequisites:** RESM 5110 with a minimum grade of C or RESM 7110 with a minimum grade of C

**Term Offered:** Spring, Fall

**RESM 6370 Fundamentals Of Grant Writing**

[3 credit hours]

This seminar teaches participants about fundamentals of grant writing. Topics covered include: locating sources of funding, writing grants, designing evaluation instruments and administering grants.

**Term Offered:** Summer

**RESM 6550 Statistical Analysis by Computer**

[3 credit hours]

Course covers computer applications (SPSS, Excel) of statistical analyses. Statistical tests covered include descriptive, nonparametric, tests of mean differences, tests of association, and scaling techniques. Successful students generally will have completed a basic statistics class.

**Prerequisites:** RESM 5110 with a minimum grade of D- and RESM 7110 with a minimum grade of D-

**Term Offered:** Spring, Fall

**RESM 6900 Research and Measurement Master's Portfolio**

[1 credit hour]

This course is a one of the program completion options available for the Research and Measurement master's degree. This course is intended to be longitudinal with one credit hour completed each semester of the three-semester (full-time study) master's program. Upon program completion, portfolio contents should reflect samples of best works completed in each of the 9 courses comprising the master's core, the research and measurement core, and research and measurement concentration.

**Term Offered:** Spring, Summer, Fall

**RESM 6940 Internships In Measurement, Evaluation, Research & Statistics**

[3 credit hours]

This is a supervised field experience in measurement, evaluation, research design, or statistics in a variety of settings.

**Term Offered:** Spring, Fall

**RESM 6960 Master's Thesis In Educational Research**

[1-3 credit hours]

This option is open to a graduate student who elects the completion of a research thesis in fulfilling the research requirement of the master's degree.

**Term Offered:** Spring, Summer, Fall

**RESM 6980 Master's Project In Educational Research**

[1-3 credit hours]

This is a formal independent project applying principles of research and/or measurement to solve a particular problem and culminating in a written discourse.

**RESM 6990 Master's Independent Study In Educational Research**

[1-3 credit hours]

This is a formal exploration of a current topic in educational research, measurement, statistics, or program evaluation. The student meets with the instructor at arranged intervals without formal classes.

**Term Offered:** Spring, Summer

**RESM 7110 Quantitative Methods I**

[3 credit hours]

This course introduces the major concepts of statistical description, including central tendency, dispersion, and relative position and relationship. Inferential methods such as t-tests, one-way analysis of variance, and multiple group analyses are also presented.

**Term Offered:** Spring, Summer, Fall

**RESM 7210 Educational Testing And Grading**

[3 credit hours]

This course introduces the development, administration and interpretation of teacher-made tests and other pupil assessments; basic principles underlying norm- and criterion-referenced tests; problems and issues in grading systems and assigning grades; standardized testing and Value-Added Models.

**Term Offered:** Spring, Summer, Fall**RESM 7220 Applied Assessment for Improved Practice**

[3 credit hours]

This is an advanced course in classroom assessment with a focus on informed and applied evidence-based decision making. Key components are the analysis and reporting of results from assessment datasets, the creation of formative and summative assessment action plans based on analysis results, and the incorporation of 21st century technology tools to support assessment planning and instructional decisions.

**Prerequisites:** RESM 4200 with a minimum grade of D- or RESM 5210 with a minimum grade of C or RESM 7210 with a minimum grade of C

**Term Offered:** Summer**RESM 7310 Understanding and Consuming Research**

[3 credit hours]

This course offers an introduction to the history and foundations of research processes from the consumer's perspective. It introduces qualitative, quantitative, and mixed methods approaches for understanding research problems.

**Term Offered:** Spring, Summer, Fall**RESM 7330 Qualitative Research I: Introduction And Basic Methods**

[3 credit hours]

This course introduces history and theoretical underpinnings of qualitative research. Students then learn and practice fundamental methods of participant-observation, fieldnotes, interviewing, and transcription, and explore common models of qualitative research.

**Term Offered:** Summer, Fall**RESM 7950 Workshop In Research And Measurement**

[3 credit hours]

Each workshop is developed around a topic of interest and concern to inservice teachers and other educational personnel. Practical application of workshop topics will be emphasized.

**Prerequisites:** RESM 4100 with a minimum grade of D- or RESM 5110 with a minimum grade of C

**Term Offered:** Spring, Summer**RESM 7980 Special Topics In Research, Measurement, Statistics And Evaluation**

[3 credit hours]

The study of a current topic or set of related topics in educational research, measurement, statistics, program evaluation and computer applications in quantitative and qualitative data analysis. The course is typically taught as a seminar.

**Prerequisites:** RESM 4100 with a minimum grade of D- or RESM 5110 with a minimum grade of C

**Term Offered:** Spring, Summer**RESM 8120 Quantitative Methods II**

[3 credit hours]

This course covers the major inferential statistical techniques common to the behavioral sciences. Correlation, factorial analysis of variance, and linear regression are major topics. Computer applications are included.

**Prerequisites:** RESM 4100 with a minimum grade of D- or RESM 5110 with a minimum grade of C

**Term Offered:** Spring, Summer, Fall**RESM 8130 Multivariate Statistics**

[3 credit hours]

This course covers multivariate analysis of variance, canonical correlation, discriminant analysis, repeated measures and factor analysis. Computer applications are included.

**Prerequisites:** RESM 6120 with a minimum grade of C or RESM 8120 with a minimum grade of C

**Term Offered:** Spring, Fall**RESM 8140 Advanced Quantitative Methods**

[3 credit hours]

This course exposes students to various experimental designs, such as complete and fractional factorial designs, repeated measures designs, and nested designs. Both the conceptual rationale and the computational procedures are covered.

**Prerequisites:** RESM 6120 with a minimum grade of C or RESM 8120 with a minimum grade of C

**RESM 8150 Structural Equation Modeling**

[3 credit hours]

This course introduces structural equation modeling as a statistical method to assess the strengths of a priori relations among variables. Topics include path analysis and confirmatory factor analysis. Computer applications with AMOS are included.

**Prerequisites:** (RESM 6120 with a minimum grade of C or RESM 8120 with a minimum grade of C) and RESM 5110 with a minimum grade of C

**Term Offered:** Spring, Fall**RESM 8160 Nonparametric Statistics**

[3 credit hours]

This course introduces the most common nonparametric statistical techniques as well as recent developments in this field. Coverage includes contingency tables, binomial distribution tests, several rank tests and other distribution-free statistics.

**Prerequisites:** RESM 4100 with a minimum grade of D- or RESM 5110 with a minimum grade of C

**Term Offered:** Spring, Fall**RESM 8180 Interdisciplinary Seminar In Educational Psychology, Research, And Social Foundations**

[1 credit hour]

This proseminar will enable doctoral students to improve their understanding of the research process. Students will learn to ask research questions, choose alternative methodologies and interpret the validity of conclusions.

**RESM 8220 Measurement I**

[3 credit hours]

This course introduces psychometric theories, with emphasis on classical test theory; reliability theory, including generalizability theory; approaches to validation; practical applications such as standard setting.

**Prerequisites:** RESM 4100 with a minimum grade of D- or RESM 5110 with a minimum grade of C

**Term Offered:** Spring, Fall

**RESM 8230 Applied Measurement Research**

[3 credit hours]

Applied practical experience in measurement analyses is emphasized and participants are introduced to a series of advanced measurement and research-related processes in this authentic experiential course.

**Prerequisites:** (RESM 6220 with a minimum grade of C or RESM 8220 with a minimum grade of C) and RESM 5110 with a minimum grade of C

**Term Offered:** Spring

**RESM 8320 Research Design**

[3 credit hours]

This course exposes students to quantitative and mixed method research approaches that are used in theses and dissertations. Competing designs for addressing research questions are compared. The purpose is to prepare students for their dissertation experience.

**Prerequisites:** RESM 4100 with a minimum grade of D- or RESM 5110 with a minimum grade of C

**Term Offered:** Spring, Summer, Fall

**RESM 8340 Qualitative Research II: Design And Analysis**

[3 credit hours]

This course takes student through the design, implementation, and write up a qualitative study. Topics include theoretical frameworks and research design; managing, analyzing and interpreting data; collaboration between researcher and researched; using computers in analysis.

**Prerequisites:** RESM 5330 with a minimum grade of C or RESM 7330 with a minimum grade of C

**Term Offered:** Spring, Fall

**RESM 8350 Methods Of Survey Research**

[3 credit hours]

This course contextualizes survey development within a broad theoretical framework and proceeds through the literature, problem, purpose, methods, and sampling. Particular emphasis is placed on the validity implications of each.

**Prerequisites:** RESM 8120 with a minimum grade of C

**Term Offered:** Fall

**RESM 8360 Program Evaluation**

[3 credit hours]

An overview of prominent human services program evaluation methods including objectives-based, experimental, statistical and economic approaches. Evaluation criteria, issues, ethics and politics are included.

**Prerequisites:** RESM 4100 with a minimum grade of D- or RESM 5110 with a minimum grade of C

**Term Offered:** Spring, Fall

**RESM 8370 Fundamentals Of Grant Writing**

[3 credit hours]

This seminar teaches participants about fundamentals of grant writing. Topics covered include: locating sources of funding, writing grants, designing evaluation instruments and administering grants.

**Term Offered:** Summer

**RESM 8380 Methods of Normative Theory Construction**

[3 credit hours]

This course explores prominent methods and approaches to normative theory construction. The two approaches covered deontological and teleological.

**Term Offered:** Spring, Fall

**RESM 8390 Methods of Conceptual Analysis and Textual Interpretation**

[3 credit hours]

This course explores prominent methods and approaches Central Analysis and Textual Interpretation. The central goal of the course is to equip doctoral students to engage in theoretical research, the understanding and skill necessary to engage in theoretical research.

**RESM 8550 Statistical Analysis by Computer**

[3 credit hours]

Course covers computer applications (SPSS, Excel) of statistical analyses. Statistical tests covered include descriptive, nonparametric, tests of mean differences, tests of association, and scaling techniques. Successful students generally will have completed a basic statistics class.

**Prerequisites:** RESM 5110 with a minimum grade of D- and RESM 7110 with a minimum grade of D-

**Term Offered:** Spring, Fall

**RESM 8940 Internships In Measurement, Evaluation, Research & Statistics**

[3 credit hours]

This is a supervised field experience in measurement, evaluation, research design, or statistics in a variety of settings.

**Term Offered:** Spring, Summer, Fall

**RESM 8960 Dissertation Research In Foundations Of Education**

[1-12 credit hours]

This is a formal independent study culminating in a written discourse central to the advancement of knowledge in educational research design, statistics, measurement, or evaluation.

**Term Offered:** Spring, Summer, Fall

**RESM 8990 Doctoral-Independent Study**

[1-6 credit hours]

This is a formal exploration of a current topic in educational research, measurement, statistics, or program evaluation. The student meets with the instructor at arranged intervals without formal classes.

**Term Offered:** Spring, Summer, Fall