

# RESEARCH METHODS (RMTD)

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## RMTD 380 Statistical Methods (3 Credit Hours)

This undergraduate course provides an introduction to descriptive and inferential statistical methods used in education, psychology and the health professions.

*Course equivalencies:* RMTD380 / CPSY380

*Outcomes:*

Students will be able to analyze quantitative data using a statistical computing package, to interpret and communicate the results of a statistical analysis in written and oral presentations, and to understand the assumptions and limitations of using statistical methods for analysis

## RMTD 400 Introduction to Research Methodology (3 Credit Hours)

This course provides an introduction to research methods used in education and the social sciences including qualitative and quantitative research designs.

*Course equivalencies:* RMTD400 / CIEP495

*Outcomes:*

Students will be able to critique the argument and methods used in a primary research study, to integrate in a written literature review the results of studies in order to present an argument, and to understand the ethical issues involved in research with human subjects

## RMTD 401 Discourse Analysis and Documentary Research (3 Credit Hours)

This research methods course will examine a number of different discourse analysis techniques. It will also prepare students to conduct historical documentary research, all with a special emphasis on how these methods can be applied to educational research and policy analysis projects.

*Course equivalencies:* RMTD401 / ELPS401

*Outcomes:*

Students in the course will be able to critically evaluate the diverse range of approaches used to analyze discourse and conduct educational research using documentary sources

## RMTD 402 Comparative Analysis (3 Credit Hours)

No course description is available

*Course equivalencies:* RMTD402 / ELPS402

## RMTD 403 Survey Research (3 Credit Hours)

This course provides an introduction to the design and analysis of survey research, and the psychological foundations of questionnaire design.

*Course equivalencies:* RMTD403 / CIEP494

*Outcomes:*

Students will be able to develop a survey or questionnaire, design a study using a survey or questionnaire, gather and record data from a survey or questionnaire, analyze the resulting data from a survey or questionnaire, and present and interpret the results in oral and written form

## RMTD 404 Introduction to Educational Statistics (3 Credit Hours)

This graduate course provides an introduction to descriptive and inferential statistical methods used in education, psychology and the health professions.

*Outcomes:*

Students will be able to analyze quantitative data using a statistical computing package, to interpret and communicate the results of a statistical analysis in written and oral presentations, and to understand the assumptions and limitations of using statistical methods for analysis

## RMTD 405 Qualitative Research (3 Credit Hours)

This course explores the discipline and practice of qualitative research through the examination of various theories, genres and components of this form of inquiry.

*Course equivalencies:* RMTD405 / ELPS403

*Outcomes:*

Students will be able to recognize and discuss theories and components of qualitative research, to analyze various qualitative studies in terms of design, validity and meaning orally and in written critiques, to conceptualize, design and write a proposal for a small qualitative study, to collect, code and analyze data appropriate to a qualitative study, and to write up a small qualitative study including conceptual framework, research question, methods and collected data

## RMTD 406 Educational Evaluation (3 Credit Hours)

The course will focus on the theories, models, strategies and practices that are germane to educational evaluation, including the history of evaluation studies in the social sciences, the various roles of the evaluator in the development and assessment of programs, evaluation theory and social policy.

*Course equivalencies:* RMTD406 / CIEP496

*Outcomes:*

Students will be able to state the purposes, benefits and importance of evaluation research, describe the history and culture associated with evaluation in the US, to read and critique a range of evaluation proposals and reports, to compare and contrast different approaches to evaluation, to develop a proposal for a program evaluation including writing measurable program objectives, planning data collection methods and presenting results to consumers

## RMTD 407 Introduction to Evaluation Theory (3 Credit Hours)

This course introduces students to program evaluation theory in the social sciences, including various conceptualizations of evaluation, historical development of the field, purposes of evaluation, and social and political contexts of evaluation practice.

*Outcomes:*

Students will engage major theoretical concepts of the field - methods, use, values, and practice - from the perspectives of various evaluation theorists; Throughout course readings, discussion and assignments, students will have the opportunity to critically reflect on understandings of social justice, implicitly and explicitly, evident in the evaluation theories

## RMTD 408 Evaluation and Evidence in Cross Cultural Contexts (3 Credit Hours)

M.Ed. IEPE Cohort: Develop students ability to communicate quantitative, qualitative and mixed method data to a range of stakeholders. Emphasis placed on multicultural contexts and the development of sophisticated understandings of the politics of evaluation and evidence. Enrollment Restrictions: M. ED. Online Cohort IEPE.

*Outcomes:*

This course focuses on the writing, presentation and publication dimensions of evaluative work; Develop students ability to communicate quantitative, qualitative and mixed method data to a range of stakeholders; Emphasis placed on multicultural contexts and the development of sophisticated understandings of the politics of evaluation and evidence

**RMTD 410 Communicating Research Findings (3 Credit Hours)**

This course will expose students to strategies for developing clear arguments in engaging, relevant, content-rich papers and presentations. This course will familiarize students with conventions of written research that improve acceptance and publication rates. It will also explore alternative forms of representing research findings.

*Outcomes:*

Students will have enhanced skills in communicating research findings to diverse audiences, both verbally and in writing

**RMTD 411 Introduction to Human Performance Technology (3 Credit Hours)**

This course introduces students to the models, practices and competencies associated with field of Human performance improvement.

*Outcomes:*

Students will be able to apply the practices associated with the roles of an HPT professional; Students will conduct an analysis of an organizational problem and plan an appropriate intervention and change management strategy

**RMTD 412 Needs Assessment (3 Credit Hours)**

In this course, students will learn the principles of needs assessment to improve programs and organizations. Needs assessments are a systematic set of procedures to identify within an organization a set of priorities to improve programs and/or organizations.

*Outcomes:*

Students will plan a needs assessment, develop data collection tools and conduct a practice assessment

**RMTD 415 Practicum in Organizational Evaluation (3 Credit Hours)**

This practicum course is intended to help candidates integrate theoretical and research coursework with the practice of organizational evaluation and to reflect on their own development as professionals in the service of social justice. The practicum project involves the planning, conducting and reporting results of an evaluation, human performance improvement, or needs assessment project.

*Outcomes:*

During the course of the practicum candidates are expected to complete a practicum project

**RMTD 420 Educational Research I: Building a Body of Evidence With Qualitative Method (3 Credit Hours)**

*Pre-requisites:* RMTD 400 or equivalent

This course explores the discipline and practice of qualitative research, introducing students to the discipline of qualitative research through examination of various theories, traditions, genres, and components of this form of inquiry.

*Outcomes:*

Students will be able to discuss the meanings of research and of research traditions within the social sciences, to recognize and discuss various epistemologies, traditions, designs, theories, ethical issues and components of qualitative research, to analyze qualitative studies in terms of design, methodology, validity, findings, ethics and conclusions in oral and written critiques, to conceptualize, design, and implement a small-scale qualitative study, and to interpret and present research study findings

**RMTD 421 Educational Research II: Building a Body of Evidence Quantitative Method (3 Credit Hours)**

This course introduces students to the theories, traditions and components of quantitative research in the social sciences, integrating basic design principles of quantitative research with commonly used statistical methods for analyzing data from these designs.

*Outcomes:*

Students will be able to recognize and discuss various epistemologies, designs, theories and ethical issues in quantitative research, to critique quantitative studies in terms of design, methodology, validity, statistical analysis, results, ethics and conclusions in oral and written critiques, to apply statistical methods to quantitative data using a statistical analysis computer program, to understand and discuss the theoretical basis and underlying assumptions of various statistical methods in the context of common quantitative study designs, and to analyze, interpret and present the findings of a data analysis

**RMTD 422 Single Subject Design (3 Credit Hours)**

*Pre-requisites:* RMTD 400

This course will introduce students to single-case experimental designs as they apply to research and practice in special education and other educational settings. Methods for single-case experiments are applicable to monitoring response to intervention as well as research on low-incidence conditions. Students will learn to critique single-subject experimental research studies and to design studies to monitor treatment interventions in educational settings.

**RMTD 430 Psychological Measurement (3 Credit Hours)**

This course introduces the assumptions underlying measurement in psychology and education including types of measurements, test development, and theoretical, quantitative and practical issues of reliability, validity and scoring.

*Course equivalencies:* RMTD430 / CPSY430

*Outcomes:*

Students will be able to critique studies of the development, reliability and validity of measurement instruments, and to design and plan a study of the reliability and validity of a measurement instrument

**RMTD 432 Item Response Theory (3 Credit Hours)**

No course description is available

*Course equivalencies:* RMTD432 / CPSY488

**RMTD 440 Mixed Methods Research (3 Credit Hours)**

*Pre-requisites:* RMTD 420 and RMTD 421; Enrollment is restricted to Graduate Education Students

The course addresses the theory and practice of mixing inquiry methodologies in educational and social inquiry. The course covers selected roots of the contemporary interest in mixing methods, various conceptualizations of mixed methods design and analysis, and challenges of mixed methods practice. Students will develop a historical understanding of mixed methods and various frameworks for mixed methods, as well as basic competencies in mixed methods practice.

**RMTD 470 Case Study Research (3 Credit Hours)**

*Pre-requisites:* RMTD 420

This course in an in-depth study of a qualitative research methodology: case study. This course allows students to carry out a case study, as well as engage issues common across qualitative research methodologies, such as the flexibility in research design, the ethical dimensions of qualitative research, and qualitative data analysis. Course content is applicable to research and evaluation contexts in education as well as other social and human service practices.

**RMTD 481 Advanced Educational Statistics (3 Credit Hours)**

This course covers statistical inference, hypothesis testing, estimation of power, factorial analysis of variance, multiple regression and selected non-parametric statistical techniques.

*Course equivalencies:* RMTD481 / CPSY490

*Outcomes:*

Students will be able to identify and justify the use of particular statistical techniques for a given research question, to analyze quantitative data using a statistical computing package, to interpret and communicate the results of a statistical analysis in written and oral presentations, and to critique the assumptions and limitations of statistical techniques in a given analysis

**RMTD 482 Introduction to Linear Models (3 Credit Hours)**

This course covers simple/multiple regression, one- and two- way analysis of variance (ANOVA) followed by multiple comparisons, and analysis of covariance (ANCOVA). Knowledge of basic algebra is required; knowledge of calculus is not required.

*Course equivalencies:* RMTD482 / CPSY493

*Outcomes:*

Students will be able to identify and justify the use of particular univariate statistical techniques for a given research question, to analyze quantitative data using SPSS, and to interpret the results of a statistical analysis in written and oral presentations

**RMTD 483 Multivariate Statistics (3 Credit Hours)**

*Pre-requisites:* RMTD 421 (B or Better)

This course covers multiple regression, multivariate analysis of variance (MANOVA), multivariate analysis of covariance (MANCOVA), repeated MANOVA, discriminant analysis, canonical correlation and possibly principal components/factors analysis. Knowledge of basic algebra and univariate inferential statistical techniques is required; knowledge of calculus is not required.

*Course equivalencies:* RMTD483 / CPSY492

*Outcomes:*

This course equips students with knowledge and hands-on experience for conducting valid quantitative research focusing on multivariate statistics; Students will be able to identify and justify the use of particular multivariate statistical techniques for a given research question, to analyze multivariate data using SPSS, and to interpret and communicate the results of a statistical analysis in written and oral presentations

**RMTD 484 Hierarchical Linear Models (3 Credit Hours)**

This course examines the conceptual, substantive, and methodological issues in analyzing multilevel data (i.e., on individuals in organizational settings such as schools, corporations, hospitals, communities) using methods for hierarchical linear models.

*Course equivalencies:* RMTD484 / CPSY491

*Outcomes:*

Students will be able to identify and justify the use of hierarchical linear models for a given research question, to analyze multilevel data using a statistical computing package, to interpret and communicate the results of a hierarchical linear model in written and oral presentations, and to critique the assumptions and limitations of the use of hierarchical linear models in a given analysis

**RMTD 487 Factor Analysis (3 Credit Hours)**

No course description is available

**RMTD 488 Meta-Analysis (3 Credit Hours)**

This course introduces statistical methods in the design and analysis of quantitative research syntheses.

*Outcomes:*

Students will be able to design and plan a small-scale research review, to locate and evaluate the studies for a review, to code and organize the studies for a review, to analyze the effect sizes from a review, and to produce a comprehensive written synthesis of the study results

**RMTD 520 Research Seminar I (3 Credit Hours)**

This course will provide doctoral students with an intro to their PhD/EdD program as well as an intro to the dissertation process. The course will focus on methods and processes involved in developing a prospectus and review of literature for a dissertation.

*Outcomes:*

Students will develop a plan of study for their degree as well as prospectus for their dissertation

**RMTD 530 Seminar in Tests & Measurements (3 Credit Hours)**

Educational and psychological tests are commonly used to measure latent traits (e.g., knowledge, aptitude, achievement, attitude, and personality), often with the goal of making inferences on individuals or groups of individuals. Item response theory (IRT) measurement models are useful tools in examining the quality of the data that arises from the administration of such tests, which in turn allows us to make judgements about the validity of the test scores (or latent trait estimates) and the quality of the tests (are the items confusing and/or are they biased). This course will introduce students to commonly used IRT models for analyzing dichotomous (e.g., 0=incorrect and 1=correct) and polytomous (0=never, 1=sometimes, 2=always) test data. While much of the course will be application oriented, some technical details that facilitate the understanding of the IRT and highlight the advantages of it over classical test theory (CTT) will be provided. Knowledge of basic algebra, linear modeling, and CTT is required.

*Course equivalencies:* RMTD530 / CPSY590

**RMTD 580 Selected Topics (3 Credit Hours)**

What is the role of qualitative critical research when the need for social justice has never been greater? (p. 1) ask Denzin and Lincoln (2017). In this course, we will begin by reviewing systems of inquiry within research in general explore as a basis for our deep dive into the importance of qualitative critical inquiry. We will focus on the meaning and discourses around critical qualitative research by exploring four methodologies: counter-storytelling, PhotoVoice, Youth Participatory Action Research, and Portraiture. Guest scholars who specialize in such methods will describe their purpose and process with qualitative critical research. Students will reflect on readings, write an article critique, and collaboratively present on a methodology and conceptual framework. Students will leave this course able to speak the language of qualitative research in new, robust, and meaningful ways coupled with a better understanding of who they are as researchers and the possibilities of social transformation through qualitative design.

**RMTD 590 Seminar: Advanced Mixed Methods (3 Credit Hours)**

*Pre-requisites:* RMTD 420, 421

This course explores the theory and practice of mixed methods research in program evaluation and applied social science research.

*Course equivalencies:* RMTD590 / CPSY580

*Outcomes:*

Students will become familiar with selected roots of the contemporary interest in mixed methods research and evaluation, as well as various approaches to mixing research paradigms, purposes, designs, analyses, methods, and so on; Students will develop knowledge for identifying and critiquing mixed method research; They will also be able to develop a mixed methods study