

# Educational Foundations and Research

M.S. in Educational Studies (<http://und-public.courseleaf.com/graduateacademicinformation/departments/courses/programs/education/efr/efr-ms>)

Ph.D. in Educational Foundations and Research (<http://und-public.courseleaf.com/graduateacademicinformation/departments/courses/programs/education/efr/efr-phd>)

Certificate in Learning Analytics (<http://und-public.courseleaf.com/graduateacademicinformation/departments/courses/programs/education/efr/efr-cert-la>)

Certificate in Quantitative Research Methods (<http://und-public.courseleaf.com/graduateacademicinformation/departments/courses/programs/education/efr/efr-cert-qrm>)

## Courses

### EFR 500. Introduction to the Foundations of Education. 3 Credits.

A problem-centered class dialogue on those philosophical, social, political and historical concepts of educational thought that have shaped the development of the learning experience. F,S,SS.

### EFR 501. Psychological Foundations of Education. 3 Credits.

A study of the learning process with secondary emphasis on how the learning process is affected by individual differences, growth and development, and personality. A background in undergraduate Educational Psychology is assumed. Both theories of learning and theories of instruction are considered. Prerequisites: EFR 500 or consent of instructor.

### EFR 502. Issues and Trends in Education. 3 Credits.

Examination of contemporary issues of pre-K-12 and higher education and some of the philosophical, political, social, and historical foundations which influence their development. Students will engage in public scholarship through issue advocacy projects. Prerequisites: EFR 500 or consent of instructor. On demand.

### EFR 503. Historical Foundations of Education. 3 Credits.

An historical examination of the concepts of the meaning, nature, process, and purposes of education as evolved in different historical periods and social contexts with emphasis on the learners, ideas and changing institutions. Prerequisites: EFR 500 or consent of instructor.

### EFR 504. Philosophical Foundations of Education. 3 Credits.

A study of the representative schools of thought which have structured major philosophies of education. Prerequisites: EFR 500 or consent of instructor.

### EFR 505. Sociological Foundations of Education. 3 Credits.

The study of individuals, schools and education in their social contexts such as community, polity, equity, race, class, gender, and social reproduction. Focuses on the development of the field, its theories, and applications for educators. Prerequisites: EFR 500 or consent of instructor. On demand.

### EFR 506. Multicultural Education. 3 Credits.

A review of the conceptual, historical and theoretical aspects of multicultural education. A major goal will be to provide educators with processes for incorporating multicultural education into educational environments; to meet the needs of culturally diverse students and to increase the cultural awareness and sensitivity of all students. North Dakota/Native American issues are primary elements of this course. Prerequisites: EFR 500 or consent of instructor.

### EFR 507. Gender, Sexuality and Education. 3 Credits.

A critical feminist analysis of the history, philosophy, theory, curriculum, and practice of education. The roles of educators, students, society, biology, and policy are considered in the education of those of diverse sexes, genders and sexualities. Prerequisites: EFR 500 or consent of instructor. On demand.

### EFR 508. Anthropological Foundations of Education. 3 Credits.

Students will examine the convergence of anthropology and education through an analysis of education as cultural transmission and a review of enculturation and acculturation processes in traditional and modern societies. Prerequisites: EFR 500 or consent of instructor.

### EFR 509. Introduction to Educational Research. 3 Credits.

An introduction to the research methodologies used to study education. The course covers quantitative as well as qualitative types of research. The paradigms of both types of research will be contrasted and the application of the methodologies in actual research investigated.

### EFR 510. Qualitative Research Methods. 3 Credits.

Qualitative research methods are naturalistic and contextual. The methodology derives from Anthropology and other social sciences, and seeks to understand human behavior from the actors' perspective. Students are to learn the fundamental data collection methods: observation, participant observation, and interviewing, as well as data analysis through coding and categorizing.

### EFR 511. Program Evaluation. 3 Credits.

An interdisciplinary course which studies the theoretical models of program evaluation as well as professional standards. Emphasis is on the analysis of models for implementation and application in various social and public policy fields, as well as education. S.

### EFR 512. Survey and Test Design. 3 Credits.

An introduction to designing surveys for social science research and tests in educational settings. Students gain theory and skills in construction, data collection, and evaluation of surveys and educational tests. S, even years.

### EFR 513. Large Dataset Management and Analysis. 3 Credits.

A study of educational and social science statistics involving gathering, managing, manipulation and analysis of large data sets, both local and national, using SPSS and/or SAS. Prerequisite or Corequisite: EFR 515 or consent of instructor. On demand.

### EFR 514. Discourse Analysis. 3 Credits.

Discourse analysis is a research methodology used to analyze naturally occurring language use, whether in writing or in speech. It draws from and is practiced in many social science and humanities disciplines related to the foundations of education, including linguistics, sociology, anthropology, communications, and cognitive and social psychology. This course will provide students with the building blocks of performing discourse analysis, including instruction in its philosophical foundations, its practices, and its implications.

### EFR 515. Statistics I. 3 Credits.

An introduction to basic statistical methods, focusing primarily on descriptive statistics and inferential statistics up to and including two-way analysis of variance.

### EFR 516. Statistics II. 3 Credits.

An in-depth study of inferential statistics with primary emphasis on analysis of variance models, multiple regression techniques, analysis of covariance and other higher-order statistical procedures. Prerequisites: EFR 515 or consent of instructor. S,SS.

### EFR 517. Advanced Research Methodologies. 3 Credits.

Both qualitative and quantitative aspects of research are considered for a variety of topics, including ethics in research, use of data banks, Q-methodology, survey research, Bayesian concepts, critical theory, longitudinal research and research consultation. Comprehensive examinations in educational research are addressed. This is a capstone course in educational research. Previous or concurrent involvement in research is highly desirable. Available for doctoral level students only.

### EFR 518. Multivariate Analysis. 3 Credits.

Multiple regression in generalized problem solving; discriminant analysis, factor analysis, multivariate analysis, canonical analysis, and multivariate analysis of covariance. Students are encouraged to analyze their own data including student-generated computer applications.

### EFR 519. Research Seminar. 1-4 Credits.

Experimental Design--An in-depth treatment of analysis of variance designs including factorial designs, treatment by subjects designs, groups within treatment designs, latin squares, higher dimensional designs, mixed effect designs, analysis of covariance, and trend analysis. Emphasis is placed on underlying linear models. Other seminars are held on specific research topics, particularly research proposals. May be repeated. Repeatable.

### EFR 520. Advanced Qualitative Research Methods. 3 Credits.

Advanced Qualitative Research Methods will engage students in more in-depth and complex theoretical and practical issues associated with the methodology. Students will conduct mini-research studies and examine qualitative studies conducted by others. Knowledge about IRB requirements will also be addressed. Prerequisites: EFR 510 or consent of instructor.

**EFR 522. Mixed-Methods Research. 3 Credits.**

Mixed-methods research is the practice of combining quantitative and qualitative analysis within a single study. Students will learn the history and conceptual underpinnings of this methodological practice, read exemplary empirical studies that use mixed-methods, and explore the major mixed-methods designs. To apply these understandings, students will conduct a mixed-methods study on a topic of their own interests. Prerequisites: EFR 510 and EFR 516, or consent of instructor. S.

**EFR 523. Structural Equation Modeling. 3 Credits.**

This course builds from analyses underpinning structural equation modeling (SEM), such as reliability, exploratory factor analysis, and multiple regression, to SEM topics including path analysis, model specification and identification, goodness of fit, confirmatory factor analysis, structural models, mediation, multiple group invariance testing, and more. To apply these lessons, students will gain skills using SEM software. Prerequisite: EFR 516 or permission of the Instructor. On demand.

**EFR 524. Needs Assessment. 3 Credits.**

Needs assessment is a common evaluation method. This interdisciplinary course will study the concept of needs as well as the processes and techniques of conducting needs assessment. A set of techniques for implementation and application of needs assessment in various community, education, social work, public health, business/industry settings, government, and non-profit agencies will be reviewed. F.

**EFR 525. International and Comparative Education. 3 Credits.**

An overview of the major issues, concepts and methods of comparative and international education. Focuses on the development of the field, the uses of comparison, the impact of globalization, and policy and practice development around the world at all levels of education. Prerequisites: EFR 500 or consent of instructor.

**EFR 530. Learning Analytics. 3 Credits.**

Learning analytics is the collection, management, analysis, and reporting of meaningful patterns in data about learners, aimed at optimizing learning and the environments in which it occurs. This course will provide students with the building blocks of learning analytics, including history, concepts and theories, question development, common data sources, tools and techniques, challenges, ethics, applications, case studies, and presenting to educational audiences for decision-making. F, even years.

**EFR 535. Data Analytics and Visualization with R. 3 Credits.**

R is an increasingly popular, open-source programming language with powerful packages for data analytics and visualization. In this course, students will first master the fundamentals of R, including installation, programing techniques, reading data files, and basic statistics. The fundamentals of data visualization will then be covered, such as theory, applications, and examples. Finally, students will develop skills in data visualization techniques using R packages. Prerequisite or Corequisite: EFR 515 or equivalent. S, even years.

**EFR 584. Internship in Educational Research. 1-8 Credits.**

Practical experience in the conduct of educational research, analyzing data, and writing reports. Available for doctoral level students only. May be repeated. Prerequisites: Appropriate coursework in educational research and consent of the adviser and department chair. Repeatable.

**EFR 590. Special Topics in Education. 1-4 Credits.**

Exploration of special topics in the study of education not regularly included in available course offerings. May be repeated for different topics. Prerequisite: Consent of instructor or advisor. Repeatable.

**EFR 591. Readings in Education. 1-4 Credits.**

Designed primarily for advanced graduate students. May be repeated for different topics. Prerequisite: Consent of instructor or advisor. Repeatable.

**EFR 592. Individual Research in Education. 1-4 Credits.**

May be repeated. Prerequisite: Consent of instructor or advisor. Repeatable.

**EFR 995. Scholarly Project. 2 Credits.**

The scholarly project demonstrates critical analysis and application of information and experiences gained throughout the program of study. The project allows students to demonstrate scholarly skills in an integrated manner. The scholarly project must be approved by the student's adviser. Prerequisite: Consent of the student's advisor. S/U grading. On demand.

**EFR 996. Continuing Enrollment. 1-12 Credits.**

Repeatable. S/U grading.

**EFR 997. Independent Study M Ed & M S. 2 Credits.****EFR 998. Thesis. 1-9 Credits.****EFR 999. Dissertation. 1-15 Credits.**

Repeatable to 15 credits.