

# EDUCATION SCIENCES CERTIFICATE

The following requirements are in addition to, or further elaborate upon, those requirements outlined in The Graduate School Policy Guide (<https://catalogs.northwestern.edu/tgs/academic-policies-procedures/>).

## Certificate

**Total Units Required:** 9-18

The Multidisciplinary Program in Education Sciences (MPES) is designed for PhD students who want to pursue a research career studying critical policy and practice issues in the field of education. The program provides a unified system of research mentoring and coursework for students from a diverse set of academic fields. Students acquire knowledge of related work in a group of core related disciplines and engage in education-related research informed by the resulting cross-disciplinary insights.

Note, in many cases, students would complete some of these courses while meeting the typical requirements for their home program. Thus, although we have listed nine required courses, few students would need take nine *additional* courses.

### Course Requirements:

#### Methods (4 required courses)

Take **one** of the following general courses:

Course	Title
HDSP 410-0	Quantitative Methods I: Probability and Statistics
LRN_SCI 410-0	Quantitative Methods I: Probability and Statistics
PSYCH 451-1	Statistics in Experimental Design

Take **two** of the following more specialized courses on quantitative methods:

Course	Title
STAT 356-0	Hierarchical Linear Models
HDSP 411-0	Quantitative Methods II: Regression Analysis
LRN_SCI 411-0	Quantitative Methods II: Regression Analysis
HDSP 412-0	Quantitative Methods III: Empirical Tools for Causal Quantitative Analysis
PSYCH 405-0	Psychometric Theory
PSYCH 454-0	Psychological Measurement (Structural Equation Modeling)
STAT 439-0	Meta-Analysis
STAT 461-0	Advanced Topics in Statistics (Cluster Randomized Experiments)

Take **one** of the following qualitative methods courses:

Course	Title
ANTHRO 389-0	Ethnographic Methods and Analysis
HDSP 432-0	Field Methods (Qualitative Research Methods)
SOCIOL 403-0	Field Methods
HDSP 430-0	Economics of Social Policy
HDSP 451-0	Topics in Human Development & Soc Policy (Advanced Qualitative Methods)

### Cognition and Student Learning

Take **one** of the following courses:

Course	Title
LRN_SCI 401-0	Knowledge Representation for the Learning Sciences (Cognition and Learning)
LRN_SCI 403-0	Foundations of the Learning Science (Cognitive Science Foundations of the Learning Sciences)
PSYCH 462-0	Cognitive Development
PSYCH 466-0	Analogy and Similarity

### Human Development

Take **one** of the following courses:

Course	Title
HDSP 402-0	Child Development and Social Policy
HDSP 404-0	Adult Development and Aging

### Policy and Social Contexts of Learning

Take **two** of the following courses:

Course	Title
HDSP 451-0	Topics in Human Development & Soc Policy (Analyzing Educational Policy)
HDSP 427-0	Sociology of Education
HDSP 430-0	Economics of Social Policy
SOC_POL 330-0	Economics of Social Policy

### Diversity, Equity, and Inclusion

Take **one** of the following courses:

Course	Title
SOC_POL 331-0	Economics of Inequality and Discrimination
LRN_SCI 451-0	Topics in Learning Sciences (Culture, Learning, and Poverty)
SESP 351-0	Special Topics (Analyzing Intersections of Tech, Ethics, Race, and Power)