Ph.D Programs in Teaching & Teacher Education (TTE)
Concentration: Environmental Learning and Sustainability Education

The degree consists of a minimum of 50 units (plus 18 dissertation units). 26 of those units (52%) are common for all students.

**Common Curriculum (26 units) (52% of total units not including dissertation)**

**TTE Major Core (7 units)**
- First Year Doctoral Seminar (TTE 696C) (1 unit)
- Research on Teaching (TTE 696B) (3 units)
- Research on Teacher Education (TTE 696A) (3 units)

**Research Methods (Minimum of 13 units)**
- Quantitative/Inferential Methods in Education (EDP 541) (4 units)
- Qualitative Methods in Education (LRC 605 or HED 605) (3 units)
- Advanced Quantitative or Qualitative Course (selected in consultation with advisor) (3 units)
- Dissertation Proposal Design (TTE 602) (3 units)

**Research Experience (6 units)**
- Internship: Classroom Research TTE 793 (6 units)

**Concentrations (24 units) (48% of total units not including dissertation)**

**Subplan “Environmental Learning”**
**Major Supporting Coursework (minimum of 15 units)**
- Required: Environmental Learning (TTE 530, 3 units)
- Required: Education and Sustainability (TTE 560, 3 units)
- Optional: Comparative Education (TTE 596c, 3 units)
- Optional: Earth Education (TTE 596c, 3 units)
- Optional: Internship (TTE 593, 3 units)
- Optional: relevant courses selected in consultation with advisor

**Minor (9 units)**
- A minor in Anthropology, Ecology, Environmental Science, Environmental Studies, Geography, Natural Resources, Sustainable Architecture and Design, and other related fields or a minor with Teaching and Teacher Education.

**Subplan “Science Education”**
**Major Supporting Coursework (minimum of 15 units)**
- Required: Learning in Science and Mathematics (TTE 519, 3 units)
- Required: Equity, Diversity, and Social Justice in Math/Science Education (TTE 541, 3 units)
- Required: School Mathematics and Science: History, Curriculum, and Reform (TTE 596c, 3 units)
- Optional: Research on Preparing Elementary Teachers in Mathematics and Science (TTE 538, 3 units)
- Optional: Groupwork in Diverse Classrooms (TTE 592, 3 units)
- Optional: Indigenous Knowledge in Mathematics and Science (TTE 596c, 3 units)
- Optional: Discourse and Identity (TTE 596c, 3 units)
- Optional: relevant courses selected in consultation with advisor

**Minor (9 units)**
- A minor in a science department or a minor within Teaching & Teacher Education.
Subplan “Mathematics Education”
Major Supporting Coursework (minimum of 15 units)
Required: Learning in Science and Mathematics (TTE 519, 3 units)
Required: Equity, Diversity, and Social Justice in Math/Science Education (TTE 541, 3 units)
Required: School Mathematics and Science: History, Curriculum, and Reform (TTE 596c, 3 units)
Optional: Research on Preparing Elementary Teachers in Mathematics and Science (TTE 538, 3 units)
Optional: Groupwork in Diverse Classrooms (TTE 592, 3 units)
Optional: Indigenous Knowledge in Mathematics and Science (TTE 596c, 3 units)
Optional: Discourse and Identity (TTE 596c, 3 units)
Optional: relevant courses selected in consultation with advisor
Minor (9 units)
A minor in Mathematics or a minor within Teaching & Teacher Education.

Subplan “Teaching Mexican American Students”
Major Supporting Coursework (minimum of 15 units)
Required: Teaching Mexican American Students (TTE 596c, 3 units)
Required: Equity in Schools and Society (TTE 537, 3 units)
Required: Education of Latina/os (TTE/MAS 575, 3 units)
Optional: Immigration and Education (LRC 641, 3 units)
Optional: Foundations of Second Language Acquisition (LRC 510, 3 units)
Optional: Public History in Mexican American Communities (MAS 595, 3 units)
Optional: The U.S.-Mexican Borderlands in Comparative Perspective (MAS 529, 3 units)
Optional: Assessment of Bilingual Exceptional Learners (SERP 535)
Optional: Teaching Bilingual Exceptional Learners (SERP 536)
Optional: relevant courses selected in consultation with advisor
Minor (9 units)
A minor in Language, Reading & Culture; Mexican American Studies; or other relevant department, or a minor within Teaching & Teacher Education.

Subplan “Early Childhood Education”
Major Supporting Coursework (minimum of 15 units)
Optional: Developing Programs for Young Children (TTE 528, 3 units)
Optional: Theories of Development in Early Childhood (TTE 596c, 3 units)
Optional: Observation and Documentation as Tools for Assessing Children and Family Stories (LRC 595a, 3 units)
Optional: Early Literacy Curriculum & Instruction (LRC 532, 3 units)
Optional: Art of the Picture Book (LRC 582, 3 units)
Optional: Literature and Literacy for the Young Child (LRC 584, 3 units)
Optional: Language Acquisition and Development (LRC 652, 3 units)
Optional: Written Language Development (LRC 653, 3 units)
Optional: Early Childhood Perspectives on Language Socialization across Cultures (LRC 595a, 3 units)
Optional: relevant courses selected in consultation with advisor
Minor (9 units)
A minor in a relevant department, or a minor within Teaching & Teacher Education.