

EDUCATION - DOCTOR OF PHILOSOPHY (PHD)

Overview

The School of Education offers a single doctoral degree in Education. The degree has seven program areas of emphasis, from which a student chooses:

- Educational Foundations, Policy and Practice
- Equity, Bilingualism and Biliteracy
- Learning Sciences and Human Development
- Literacy Studies
- Research and Evaluation Methodology
- STEM Education
- Teacher Learning, Research and Practice

Requirements

Required Courses and Credits

Students must successfully complete 56 credit hours of approved coursework, with 12 credit hours of core courses (see below) taken as a doctoral cohort during the first two years of study. The remaining 44 credits are completed in the student's area of emphasis. Students work with their faculty advisor to develop an individualized, coherent program of study that includes advanced theoretical, methodological and writing experiences.

Students must maintain at least a B (3.0) average with no grade lower than a B- while enrolled.

Students must complete 30 hours of dissertation credit. Students must be registered for a minimum of 5 dissertation hours per semester after successful completion of their comprehensive exam.

All PhD students are required to take the following four courses in their first and second years:

Code	Title	Credit Hours
EDUC 8210	Ways of Knowing in Educational Research	3
EDUC 8220	Introduction to Educational Research and Policy	3
EDUC 8230	An Introduction to Quantitative Methods in Educational Research	3
EDUC 8250	Qualitative Methods I	3
Total Credit Hours		12

Area of Emphasis Course Requirements

Code	Title	Credit Hours
Educational Foundations, Policy and Practice		
<i>Specialty Seminar</i> ¹		2
EDUC 6929	Readings in Educational Foundations Policy and Practice	
<i>Writing Seminar</i>		3
EDUC 8940	Scholarly Writing for Graduate Students	

or EDUC 8950 Proposal and Dissertation Writing

Educational Foundations 15

Course options (examples):

EDUC 5015	International / Comparative Education
EDUC 5075	Sociology of Education
EDUC 5085	History of American Education
EDUC 6210	Education Policy and the Law
EDUC 6220	Gender Issues in Education
EDUC 6230	Ethics in Education
EDUC 6240	African American Education in the United States
EDUC 6250	Higher Education in the United States
EDUC 6260	Transnational Migration, Education, and Citizenship
EDUC 6325	Anthropology of Education
EDUC 7055	Philosophy of Education
EDUC 7446	Policy Issues in Education
EDUC 8045	Philosophical Issues in Educational Research
EDUC 8055	Theoretical Issues in Education Policy
EDUC 8125	Seminar. Radical Education Theories

Advanced Methods 9

Minimum nine hours of advanced research methods courses; these courses may be in advanced qualitative or advanced quantitative methods and may be taken in the School of Education or in other departments of the University. Students concentrating in History of Education or Philosophy of Education may choose to fulfill this requirement with courses in historiography or philosophical inquiry, respectively. These must be chosen in consultation with the faculty advisor.

COMM 6410	Discourse Analysis
EDUC 7386	Educational Evaluation
EDUC 7396	Latent Variable and Structural Equation Modeling
EDUC 7456	Multilevel Modeling
EDUC 7456	Multilevel Modeling
EDUC 8710	Measurement in Survey Research
EDUC 8720	Advanced Topics in Measurement
EDUC 8730	Advanced Qualitative Data Analysis
SOCY 7026	Feminist Research Methods
SOCY 7121	Qualitative Analysis

*Electives*³ 15

Total Credits 44

Equity, Bilingualism, and Biliteracy

*Specialty Seminar*¹ 2

EDUC 6927	Readings in Equity, Bilingualism and Biliteracy	
<i>Studies in Equity, Bilingualism, and Biliteracy</i>		18
EDUC 5615	Second Language Acquisition ²	
EDUC 5635	Education and Sociolinguistics ²	
EDUC 8615	Language Issues in Education Research	
EDUC 8620	Language and Power	

EDUC 8630	Bilingual and Biliterate Development in Children and Adolescents	
EDUC 8640	Rethinking Disability	
Advanced Methods		12
Minimum twelve hours in advanced methodology, preferably aligned with the methods to be used during dissertation research. Possible School of Education courses include the courses listed below, but methodology classes may be taken outside of the School of Education.		
<i>Choose from:</i>		
EDUC 6504	Issues and Methods in Cognitive Science	
EDUC 7336	Methods of Survey Research and Assessments	
EDUC 7346	Ethnographic Methods in Educational Research	
EDUC 7386	Educational Evaluation	
EDUC 7396	Latent Variable and Structural Equation Modeling	
EDUC 7456	Multilevel Modeling	
EDUC 8710	Measurement in Survey Research	
EDUC 8720	Advanced Topics in Measurement	
EDUC 8730	Advanced Qualitative Data Analysis	
EDUC 8348	Human Development in Cultural, Historical, and Sociopolitical Contexts	
or COMM 6410	Discourse Analysis	
Non-Education Courses		6
Minimum of six hours must be taken outside of the School of Education. Courses should be selected in consultation with your advisor and are typically at the 6000 or higher level.		
Electives		6
These courses must be selected in consultation with the faculty advisor and are typically at the 6000-level or higher.		
Total Credits		44
Learning Sciences and Human Development		
Specialty Seminar¹		2
EDUC 6928	Readings in Learning Sciences and Human Development	
Advanced Topics in Learning Sciences and Human Development		12
Twelve hours selected with the faculty advisor's approval from 8000-level.		
Advanced Methods		6
Minimum two advanced methods courses above and beyond EDUC 8210, 8220, 8230, and 8250.		
Electives³		24
Minimum six elective hours must be outside Learning Sciences and Human Development, and must be courses other than those used to satisfy the core requirements and the advance topics requirements. These electives may be used to satisfy requirements toward the Institute for Cognitive Sciences certificate.		
Total Credits		44
Literacy Studies		
Specialty Seminar¹		2
EDUC 6925	Readings in Curriculum and Instruction	

Literacy Doctoral Seminars		12
Minimum twelve hours of the advanced doctoral courses in literacy studies are required to be taken within the first four years. Depending on the content focus of the course offerings, a course number may be taken more than once with approval of literacy studies faculty. These seminars will be offered minimum of once per academic year. Please plan for these courses in consultation with the faculty advisor.		
Advanced Methods		3-6
Minimum six hours of coursework in qualitative, quantitative, and/or mixed methodologies. Courses must be graduate level and may be taken within or outside of the School of Education. For those also pursuing the Teacher Learning, Research and Practice area of emphasis, one advanced methods requirements can be met through either EDUC 8135 or EDUC 7115. Note that one of these two courses could be fulfilled in conjunction with the Cognate Requirement.		
Writing Seminar		3
EDUC 8950	Proposal and Dissertation Writing	
or EDUC 8940	Scholarly Writing for Graduate Students	
Cognate Requirement		3-6
Minimum six hours taken outside of the School of Education. Choose a minimum of two courses in an area of specialization to be taken outside of the School of Education. The courses related to a student's specialty area may be defined by discipline (e.g., linguistics, anthropology, English literature) or by focus (e.g., critical theories of race; Latinx studies; queer studies; poetry; digital humanities). Note that one of these two courses could be fulfilled in conjunction with the Advanced Methods Requirement.		
Electives³		18
Minimum nine hours within the School of Education to be chosen in consultation with advisor and in context of interests and developing expertise.		
Total Credits		44
Research and Evaluation Methodology		
Specialty Seminar¹		2
EDUC 6926	Readings in Research and Evaluation Methodology	
Research and Evaluation Methodology Required Courses		21
EDUC 7326	Quasi-Experimental Design in Causal Inference in Social Sciences	
EDUC 7386	Educational Evaluation	
EDUC 7396	Latent Variable and Structural Equation Modeling	
EDUC 7456	Multilevel Modeling	
EDUC 8240	Quantitative Methods II	
EDUC 8710	Measurement in Survey Research	
EDUC 8720	Advanced Topics in Measurement	
Qualitative Methods		3
An additional qualitative methods course to be taken following the completion of EDUC 8260.		
Non-Education Courses		6
Minimum of six hours must be taken outside of the School of Education. Courses should be selected in consultation with your advisor and are typically at the 6000 or higher level.		

<i>Electives</i> ³	12
Minimum 12 hours within the School of Education to be chosen in consultation with advisor and in context of interests and developing expertise.	
<i>Total Credits</i>	44
STEM Education	
<i>Specialty Seminar</i> ¹	2
EDUC 6925	Readings in Curriculum and Instruction
<i>STEM Doctoral Seminars</i>	9
EDUC 8177	Advanced Seminar in Curriculum and Policy in Mathematics & Science Education
EDUC 8178	Advanced Seminar on Learning in Math & Science Education
EDUC 8179	Advanced Seminar in Mathematics and Science Teaching & Teacher Education
<i>Advanced Methods</i>	6
Minimum six hours in either qualitative or quantitative methods. Options within and outside of the School of Education may be chosen in consultation with advisor.	
EDUC 8710	Measurement in Survey Research
EDUC 8720	Advanced Topics in Measurement
EDUC 8730	Advanced Qualitative Data Analysis
COMM 6410	Discourse Analysis
<i>Writing Seminar</i>	3
EDUC 8950	Proposal and Dissertation Writing
<i>Electives</i> ³	24
A minimum six hours within the School of Education. Additional electives may be completed outside the School of Education in consultation with advisor.	
<i>Total Credits</i>	44
Teacher Learning, Research and Practice	
<i>Specialty Seminar</i> ¹	2
EDUC 6925	Readings in Curriculum and Instruction
<i>TLRP Seminar Courses</i>	12
EDUC 7115	Critical Inquiry into Becoming a Teacher Educator
EDUC 8115	History and Policy Issues in Teaching and Teacher Education
EDUC 8135	Theories and Methodologies for Examining Teacher Learning
EDUC 8145	Designing for Teacher Learning and Teacher Education
<i>Advanced Methods</i>	3
In addition to EDUC 7115 and EDUC 8135, three hours of advanced methods (qualitative or quantitative) are required. The three remaining credit hours are met through a course selected from within or outside the School of Education in consultation with the faculty advisor. Although there are several courses that might fulfill this requirement, examples might include but are not limited to those noted below.	
Course options (examples):	
ANTH 7300	Seminar: Research Methods in Cultural Anthropology
COMM 6410	Discourse Analysis

EDUC 8710	Measurement in Survey Research
EDUC 8730	Advanced Qualitative Data Analysis
LING 6310	Sociolinguistic Analysis
LING 7800	Open Topics in Linguistics
SOCY 6121	Qualitative Methods
SOCY 7026	Feminist Research Methods
SOCY 7171	Special Topics
WGST 6190	Feminist Methodology

<i>Writing Seminar</i>	3
EDUC 8950	Proposal and Dissertation Writing
or EDUC 8940	Scholarly Writing for Graduate Students

<i>Cognate Requirement</i>	12
Students design a pathway that best aligns with their goals. Students might, for example, select a complementary program area of study within the CU Boulder School of Education and complete the twelve (12) hours of Graduate Seminar coursework housed in that program. Or, students might select a cognate area that allows them to explore a specialty area defined by discipline (e.g., linguistics, anthropology, English literature) or by focus (e.g., critical approaches to race, class and gender; urban studies). For either of these pathways, the remaining hours might serve as Elective credits chosen in consultation with the advisor and in the context of students' interests and developing expertise. Regardless of how the student chooses to design this element of the program, we strongly recommend that at least one course be taken outside of the School of Education. Note, too, that these credits may potentially overlap with Advanced Methods.	

<i>Electives</i>	12
<i>Total Credits</i>	44

¹ Each program area of emphasis requires a one-credit, specialty seminar course to be taken both fall and spring semesters of the first year. Additionally, first year PhD students participate in a "Professional Seminar" that meets five times each semester. This course is required to fulfill the credits earned in the fall and spring "Readings" (specialty seminar) course.

² (Studies in Equity, Bilingualism and Biliteracy) These courses are required if not already taken prior to entering PhD program.

³ For students also pursuing the Teacher Learning, Research and Practice area of emphasis, all elective requirements will be met through the Teacher Learning, Research and Practice required seminars.

Dissertation Credit

All doctoral students must take a minimum of 30 dissertation hours (EDUC 8994 Doctoral Dissertation).

Students are allowed to take up to 10 hours prior to passing their comprehensive exam. Once students pass their comprehensive exam, they must be registered for a minimum of 5 dissertation hours every semester. Students may be registered for 3 hours if they are "off-campus" status, meaning they are not on appointment and are not taking any coursework hours.

Students must be registered for a minimum of 5 dissertation hours during the semester they defend.

Publishable Paper Requirement

In addition to coursework requirements, doctoral students should be immersed in ongoing research with faculty as early in their program as possible. All doctoral students in the School of Education (SOE) are required to complete, at a minimum, one “publishable paper” by May of their third year in the program.

Please see the School of Education Student Handbook (<https://www.colorado.edu/education/student-handbook/>) for more information on this requirement.

Comprehensive Examination

Students must schedule comprehensive examinations or “comps” with the SOE by completing an application for candidacy form and emailing soe.gradvise@colorado.edu with the names of their committee members and the date of their exam at the beginning of the semester they plan to take their comprehensive exams. Students should also request a room booking at this time. For remote examinations, the chair must set up the Zoom room for the event. The comps committee shall consist of the major advisor and two additional SOE or CU Boulder faculty members. The SOE Associate Dean of Students and the Associate Dean for Research serve as additional pro-forma (non-examining) committee members. The chair must have a regular Graduate Faculty appointment. Other committee members must have regular or special Graduate Faculty appointments. The student must be registered during the semester that the comprehensive examination is taken.

Please see the School of Education Student Handbook (<https://www.colorado.edu/education/student-handbook/>) for more information on this requirement.

Proposal Committee

Once students have successfully passed their comprehensive exam, they should consult their faculty advisor to propose their dissertation proposal committee.

The dissertation/proposal chair must be a faculty member who is rostered in the doctoral candidate's program area who holds a regular Graduate Faculty Appointment (GFA). In the event that the doctoral candidate would like a dissertation chair from another program area, they may be invited to serve as a co-chair. Once the candidate and the dissertation advisor have agreed on the topic of the dissertation, they should proceed together to identify the full dissertation/proposal committee.

Consistent with the Graduate School's requirements, the dissertation/proposal committee must include at least five faculty:

- Three committee members (out of 5) must be CU Boulder faculty, and could all be SOE faculty members
- One committee member (out of 5) must be CU Boulder faculty, a.k.a. “outside member,” who is *not* an SOE faculty member
 - The Grad School defines “outside member” as someone who has a regular GFA (i.e., a CU Boulder faculty member) but is not in the student's home department; in our School, the “home department” is the SOE.
- Up to two committee members (out of 5) could be external to CU Boulder (i.e., not faculty members at CU Boulder) as long as they have appropriate GFAs.

The Chair must have regular membership on the graduate faculty. The other members must have regular or special memberships on

the graduate faculty. Note that if a student is pursuing a joint or dual-degree, at least two of the faculty must hold graduate appointments in the student's SOE program area. Special membership, which includes faculty from other institutions, requires the approvals of the Associate Dean of Students and the Graduate School. The entire list of prospective committee members must be submitted to the Graduate Program Coordinator at soe.gradvise@colorado.edu and approved by the Associate Dean of Students at the start of the semester during which the proposal will be defended, and then re-approved at the start of the semester during which the dissertation will be defended.

Please check the deadlines sheet for dates.

Please see the School of Education Student Handbook (<https://www.colorado.edu/education/student-handbook/>) for more information.

Dissertation Proposal and Oral Defense

The dissertation proposal is a forward-looking document that outlines the doctoral candidate's proposed terrain of study through elaborating the following: a justification for the study; the conceptual framework and review of relevant literature; and the methodology. The written document should provide a clearly articulated and defensible stance, one which will provide the basis for further discussion among and planning by the proposal committee.

The dissertation proposal must describe the proposed study in sufficient detail so that members of the committee can judge the significance of the intended research and the adequacy of the planned study methods.

The oral defense of the dissertation proposal is a meeting where the candidate and five members of the committee agree to the purpose and methods of the proposed study. All members of the PhD examining committee (“dissertation/proposal committee”) are expected to participate in the proposal oral defense and sign the formal proposal examination form. After the dissertation committee members have reviewed the proposal and signed the proposal signature page it must be sent electronically to soe.gradvise@colorado.edu.

If the proposed study involves human subjects, the doctoral candidate must obtain the approval of the University of Colorado Boulder Institutional Review Board (IRB). A copy of the IRB approval of the proposed research must accompany the signed proposal signature page when it is submitted to the Graduate Programs Coordinator.

Please see the School of Education Student Handbook (<https://www.colorado.edu/education/student-handbook/>) for more information.

Dissertation Committee and Final Defense

Consistent with the Graduate's School's requirements for the final PhD examination, the dissertation/proposal committee must include at least five faculty:

- Three committee members (out of 5) must be CU Boulder faculty, and could all be SOE faculty members
- One committee member (out of 5) must be CU Boulder faculty, a.k.a. “outside member,” who is *not* an SOE faculty member
 - The Grad School defines “outside member” as someone who has a regular GFA (i.e., a CU Boulder faculty member) but is not in the student's home department; in our School, the “home department” is the SOE.

- Up to two committee members (out of 5) could be external to CU Boulder (i.e., not faculty members at CU Boulder) as long as they have appropriate GFAs.

The Chair must have regular membership on the graduate faculty. The other members must have regular or special memberships on the graduate faculty. Note that if a student is pursuing a joint or dual-degree, at least two of the faculty must hold graduate appointments in the student's SOE program area. Special membership, which includes faculty from other institutions, requires the approvals of the Associate Dean of Students and the Graduate School. The entire list of prospective committee members must be submitted to the Graduate Program Coordinator at soe.gradvise@colorado.edu and be re-approved by the Associate Dean of Students at the start of the semester during which the dissertation will be defended.

All members of the final PhD examining committee ("dissertation committee") are expected to participate in the dissertation oral defense and sign the formal final examination form.

Doctoral candidates must deliver the final dissertation text to all committee members at least three weeks before the scheduled dissertation defense. This allows the committee two weeks to review and evaluate the dissertation. The Chair will request that committee members provide substantive feedback, preferably in writing, about the dissertation whether the document is defense-ready. If it is not ready, the candidate is given more time to work on it and the defense will be rescheduled.

Please check the deadlines sheet for dates, and the School of Education Student Handbook for more information.

After successful completion of dissertation defense, the completed dissertation must be uploaded to the Graduate School according to Graduate School procedures and deadlines. Please see the Graduate School website for deadlines details.

Transfer Credit

Transfer credit is defined as any credit earned at another accredited institution, credits earned on another campus of the CU system, or credits earned as a nondegree student within the CU system.

The maximum amount of work that may be transferred from another accredited institution to CU Boulder is 21 credit hours, and is accepted only after approval of the faculty advisor and the Graduate Programs Coordinator, in consultation with the Associate Dean of Students. All courses accepted for transfer must be graduate-level courses. A course in which a grade of B- or lower was received will not be accepted for transfer.

Transfer coursework must have been completed in the five years prior to acceptance to the program. Credit may not be transferred until the student has completed 6 credits of graduate-level coursework as a degree-seeking student on the CU Boulder campus with a 3.0 GPA. Students who have applicable credits to transfer to their PhD degree program must complete the transfer of credit paperwork.

Time Limit

The doctoral degree must be completed within six years, including defending the dissertation and submitting it to the Graduate School. A one-year extension may be granted if formally requested in writing, recommended by the student's faculty advisor, and approved by the Associate Dean of Students and the Dean of the Graduate School. The extension request must show valid reasons as to why an extension is

needed. If an extension is granted, all degree requirements must be completed within the extended time period.

Establishing State Residency

PhD students who move to Colorado from another state need to petition for Colorado in-state tuition classification within one year so they are eligible for in-state tuition during second year of graduate study. Proof of residency includes a Colorado driver's license and vehicle registration, voter registration, filing Colorado income taxes and proof of employment. Students should save a signed copy of their Graduate Student Assistantship offer letter to serve as proof of employment.

Detailed instructions on how to apply for Colorado residency (also called domicile) can be found on the Office of the Registrar's State Residency webpage (<http://www.colorado.edu/registrar/students/state-residency/>).

Areas of Emphasis

Educational Foundations, Policy, and Practice

The Educational Foundations, Policy, and Practice (EFPP) program area of emphasis focuses on policy analysis and the application of academic disciplines—anthropology, history, law, philosophy and sociology—to the analysis of education. Programs are devoted to the critical examination of the relations among education, society, culture and government, with special emphasis on issues of equity along lines of race, ethnicity, social class, gender, sexual diversity, (dis)ability, and intersections of these.

The EFPP program area of emphasis prepares students for university faculty positions and other careers requiring deep knowledge of research.

Equity, Bilingualism, and Biliteracy

The Equity, Bilingualism, and Biliteracy (EBB) program area of emphasis stresses analysis, evaluation and implementation of educational programs for students who represent diverse learning needs within the public school system. School culture, language policies and the social and political context of schooling are examined across emphases. Policies that affect the assessment, placement and services provided for exceptional children also are examined.

EBB is specifically geared to preparing researchers and leadership personnel in the field of bilingual multicultural education. Program graduates are typically employed in schools of education as faculty and/or researchers. Other graduates also serve in professional positions with state and federal education agencies, as well as local school districts.

Learning Sciences and Human Development

Faculty and students in the Learning Sciences & Human Development (LSHD) program area of emphasis study how people learn in the context of organizing for more equitable, sustainable social futures. Researchers consider how the practice of research can inform social change that can improve learning and teaching for K–12 students and their teachers, for undergraduates and the organization of higher education pathways, and in community contexts. Working in partnership with school and community partners is a key component of the approach taken to understanding educational problems and their possible solutions.

The LSHD program prepares graduate students to research and inform collective efforts to improve conditions of learning, particularly for young people from non-dominant communities and the adults (including teachers, community organizers and community members) who work with them. The program emphasizes:

- How a strong foundation in psychological perspectives on education and human development can inform efforts to improve conditions for learning in school and out of school contexts.
- The need to go beyond psychological perspectives to interpret learning and development in social, cultural and historical contexts.
- Social justice as a central concern in studying and informing efforts to improve conditions of learning.
- Humanistic approaches to research that draw on interpretive, phenomenological and social practice theories of human action.

Students work with faculty members who conduct research in a range of settings, including schools, preservice teacher education programs, after-school programs, museums, community organizations, workplaces and grassroots social movements.

Literacy Studies

Faculty and graduate students in the Literacy Studies program study and design literacies in print and multimodal modes and in varied contexts. Literacies are framed as central to envisioning and enacting expansive and justice-centered theories and practices for teaching, learning, imagination, and self-expression in K-12 schools, informal learning spaces, and communities. Grounded in critical, social and interpretive conceptions of literacy, our program highlights the interrelations among theory, research, practice, policy and the potential for equitable social change.

Through multiple methodologies, research in the program occurs in partnership with children, youth, families and teachers in ways that honor and attend to experiences and identities at the intersections of race, language, gender, sexuality, ability and economic opportunity. Doctoral students collaborate with faculty on a range of research projects, engage in community outreach, and work in teacher education programs emphasizing social justice and humanizing approaches to curriculum and instruction that center and address the interests and needs of all learners. The program prepares graduate students for careers in research and teaching in university settings, educational leadership in schools and community organizations, and research and development in the private or nonprofit sector.

Students will have the opportunity to:

- Develop an expansive understanding of literacy and its implications for children, youth, and their families and communities.
- Understand the theoretical perspectives informing literacy research currently and historically.
- Critically examine and apply research methodologies to questions of significance to them and to the field of literacy studies.
- Collaborate with faculty, peers, youth, communities and other educators to pursue research and pedagogical goals.
- Deepen their understanding of theories and practices that situate literacy as essential for dismantling systems of oppression and building toward anti-racist, anti-oppressive, and affirming futures for children and youth, teachers, teacher educators, schools and communities.

Research and Evaluation Methodology

The Research and Evaluation Methodology (REM) program is a place for intellectually curious and motivated students who want to learn about deep research methodology with an eye toward influencing education policy and practice. The most common methodological specializations are:

- Psychometrics and educational assessment
- Applied statistics

The program is a full-time commitment, and all admitted students are supported with five years of funding, including tuition remission and a stipend for living expenses. Students participate in graduate research assistant-ships each semester and can expect to work with faculty on research projects as part of CADRE (<http://www.colorado.edu/cadre/cadre-projects-and-resources/>), the Center for Assessment, Design, Research and Evaluation.

STEM Education

The STEM Education program offers students an opportunity to build their understanding and expertise in STEM (predominantly science and mathematics) topics, with a special focus on diversity and justice in STEM education. The program helps teachers develop their content knowledge, as well as greater understanding of how learning environments can be designed to foster students' understanding of and participation in mathematics and science. Our faculty work in deep partnership with STEM faculty in other departments at CU Boulder, as well as with teachers, schools, districts, and community members. The PhD prepares students for careers in research and teaching in university settings, educational and public leadership and services to schools, or research and development in the private or nonprofit sectors.

The STEM Education program is centered on and takes an interdisciplinary stance to:

- Learning beyond cognitive change towards participation in sociopolitical learning environments that involve issues of identity and power.
- Collaboration with teachers and public schools as partners in broadening and re-envisioning STEM education to include more humanizing experiences and outcomes.
- Recognition that current values and traditions of STEM disciplines need to be de-settled to expand what counts as knowing and to be a knower.
- Exploration of the generation of knowledge among learning communities of all types and the negotiation of shared visions and integrity among their members.
- Building and studying programs that engage and sustain learners and their communities through engagement in meaningful and relevant STEM questions.
- Youth empowerment and agency by drawing on scientific knowledge and practices to explore meaningful questions in their communities.

Teacher Learning, Research and Practice

The Teacher Learning, Research & Practice (TLRP) program offers a rigorous pathway for those interested in becoming teacher educators who conduct research and support the practice of teaching and teacher education. The TLRP program takes seriously this hybrid role of teacher educator as both researcher and practitioner, as well as the historical legacy of inequalities perpetuated by teacher education. This program prepares graduate students for careers as researchers and teachers in university settings with a particular emphasis on equity and justice, as educational leaders in schools and community organizations, and as researchers and developers in private and nonprofit sectors.

The TLRP program is grounded in a commitment to the practice, study, and transformation of teacher education in ways that forward and honor humanizing thinking and action. Doctoral students enjoy opportunities to work in and with the school's multiple teacher education programs

and to collaborate with faculty, doctoral students, and other stakeholders (e.g., school partners; community organizations) in the critical design and study of these programs. Conducting research with members of this community provides additional opportunities to deepen understandings from coursework and to pose and pursue questions using innovative research methodologies and methods.