Curriculum Proposal System Oregon State OSU

New Graduate Option
Science/Mathematics Education
Status: Pending Review - Graduate Council Chair

1. Review - College Approver - Education

Approved by [Randy Bell](#) Assoc Dean-Academic Affairs / College of Education, *March 9, 2016 1:15pm*

2. Review - Curriculum Coordinator

Approved by [Cheryl Hagey](#) Administrative Program Assist / Acad Prgms/Assess/Accred, *March 10, 2016 10:12am*

Comments

Cheryl Hagey (Curriculum Coordinator) March 10, 2016 10:12am
SUMMARY: This NEW Graduate Option seeks to provide students with a new PhD opportunity in the Education major.

CIP number 130101 has been added to the proposal.

All Components per Faculty Senate Curriculum Council are met.

3. Review - Graduate Council Chair

Your Decision: ○ Approve
　　　　　　　　 ○ Send Back

Your Comment:　(optional) NOTE: These comments are visible to everyone

[text box]

[Submit]

More Queued Reviews (5)

Graduate School; CC Rep - Education; Curriculum Council Chair; Academic Programs; Catalog Coordinator

Proposal

Proposal ID:	97391
Type:	New Option/Minor
Submission Date:	March 9, 2016 11:19am
Effective Term:	Summer 2016
Justification:	Currently, there are two separate majors that offer doctoral degrees (PhD): Science Education (6100) and Mathematics Education (5620). Because the College of Education re-organization is reducing the number of majors offered, these two majors will be terminated. Instead, doctoral students pursuing PhD degrees in Science Education or Mathematics Education will now be able to enroll in the new Science/Mathematics Education option in the Education major (2310). In reality, Science Education and Mathematics Education doctoral students take all of their courses together. This new option will make this explicit in the catalog.
Comments:	*None*

Originators

NAME	TITLE	DEPARTMENT/SCHOOL
[Susan Helback](#)	Instructor	Teacher/Counselor Eductn

Contacts

NAME	TITLE	DEPARTMENT/SCHOOL
[Jennifer Bachman](#)	Coordinator-Academic Program 2	College of Education
[Kok-Mun Ng](#)	Professor	College of Education

Liaisons

LIAISON	STATUS	REQUIRED

Randy Bell - Assoc Dean-Academic Affairs / College of Education	Responded	Yes
I approve of this change as part of the CoE reorganization. (Responded on Mar 8, 2016)		
Paula Dungjen - Exec Asst to the Dean / College of Education	Responded	Yes
I approve the proposed New Option/Minor subject to the final approval of the deans. (Responded on Mar 8, 2016)		

Program Information

Program Title:	Science/Mathematics Education
CIP Code:	130101
College/Department or College/School:	College of Education / No Department
Program Type:	Graduate Option
Associated Major:	Education - EDD, EDM, MS, PhD
Description:	

Science/Mathematics Education

The Science/Mathematics Education PhD option has a primary focus of preparing candidates to assume various positions in collegiate/university, K-12, or free-choice education organizations. Working with faculty advisors, candidates create and implement a program of study that fosters theory-based knowledge and skills and practical research experience necessary for future career ambitions in STEM education.

Requirements:

Content Specialty (18 credits)
SED 607. Seminar (6)
SED 611. Survey of Research on Teaching (3)
SED 613. Learning Theory (3)
SED 621. Survey of Research on Learning (3)
SED 623. Curriculum Theory (3)

Electives: Two additional research methods courses and other courses approved by the major professor.

Documents

FILE NAME	FILE SIZE	COMMENT	DATE ADDED
PhD Degree in Education Major 2310.docx	16.52 Kb	Here is a complete PhD description for the Education Major (2310). It includes all of the three new options, including Science/Mathematics Education.	Mar 03, 2016 3:46 pm
Doctoral Assessment Plan for Science_Math Education Option.docx	18.05 Kb	This is the assessment plan that the Graduate Council requested.	Mar 03, 2016 4:03 pm

Education (2310)

Education Graduate Major
The College of Education offers graduate work leading to the Masters of Education (EdM), Masters of Science in Education (MS), Doctor of Education (EdD) and Doctor of Philosophy (PhD) degrees with a major in Education.

Doctor of Philosophy (PhD)
The PhD in Education provides advanced theory and methods in educational research and in specific content areas. This is a research-oriented degree intended for students interested in becoming educational researchers and assume faculty positions in colleges or university teacher education programs. This program is designed for students already possessing education beyond the undergraduate level (master's degree or equivalent).

The PhD degree aims to prepare professional researchers, scholars, or scholar practitioners. Students develop competencies in educational scholarship and research that focus on acquiring new knowledge.

The Education PhD degree requires at least 108 credits, including a core curriculum in quantitative and qualitative research, practicum, and dissertation/thesis. At least 12 additional credits are taken in a content area specific to each option.

Applicants to the PhD program must have significant experience in an education-related setting such as teaching, leadership administration, curriculum specialist, supervisor, or in a setting where the primary function is education. Some knowledge of educational research methodology is highly desirable.

There are three options offered in the PhD degree: Agricultural Education, Language Equity and Educational Policy, and Science/Mathematics Education. All options are on-campus in Corvallis.

Options (currently available for PhD only)
    Agricultural Education
    Language Equity and Educational Policy
    Science/Mathematics Education

Core Courses (48 credits)
SED 580. Research and Evaluation (3)
SED 603. Dissertation (36)
      or ED 603. Thesis (36)
      or AED 603. Dissertation (36)
SED 612. Quantitative Research Design and Critical Analysis (3)
SED 615. Practicum in Mathematics/Science in College Teaching (3)
      or ED 609. Practicum/Clinical Experience (3)
SED 622. Qualitative Research Techniques (3)

Agricultural Education
The Agricultural Education PhD option has a primary focus of preparing candidates to assume faculty positions in colleges or university agricultural education programs. Candidates assemble an individual program of study that provides a comprehensive knowledge of the teaching and learning process with a strong theoretical foundation and practical research experience in agricultural education.

Content Specialty (13 credits)
AED 501. Research (4)
AED 553. Applied Instructional Strategies (3)
AED 556. Link Research, Teaching, and Practice (3)
AED 640. Instrumentation and Data Collection in Social Science (3)

Electives: Two additional research methods courses and any other courses as approved by the major professor.

Language Equity and Educational Policy
The Language Equity and Educational Policy (LEEP) PhD option has a primary focus of preparing candidates to assume various positions in post-secondary education, leadership in community education, faculty positions in colleges or university, or teacher education programs. Working with faculty advisors, candidates create and implement a program of study that provides comprehensive knowledge of research with bi/multilingual communities, equity in education contexts, and educational policies.

Content Specialty (14 credits)
ED 607. Seminar (2)
ED 650. Equity and Education Policy (3)
ED 651. Research Bilingualism and Multilingualism (3)
ED 652. Ethnographic Methods (3)
ED 653. Discourse, and Identity in Education (3)

Electives: One additional research methods courses and any other courses as approved by the major professor.

Science/Mathematics Education
The Science/Mathematics Education (PhD) option has a primary focus of preparing candidates to assume various positions in collegiate/university, K-12, or free-choice education organizations. Working with faculty advisors, candidates create and implement a program of study that fosters theory-based knowledge and skills and practical research experience necessary for future career ambitions in STEM education.

Content Specialty (18 credits)
SED 607. Seminar (6)
SED 611. Survey of Research on Teaching (3)
SED 613. Learning Theory (3)
SED 621. Survey of Research on Learning (3)
SED 623. Curriculum Theory (3)

Electives: Two additional research methods courses and any other courses as approved by the major professor.

Total Credits = 108 (*may include faculty-approved coursework completed for master's degree*)

Graduate Doctoral Program Assessment Plan (Science/ Mathematics Education PhD)

Process

How does your unit reflect on the assessment data gathered and who is involved? How do the results of your assessment efforts relate to strategic planning and overall program review?

Our unit meets roughly 3 times/term, with 1 of these meetings/term devoted to reflecting on/reviewing the assessment data gathered. This assessment is done by all program faculty at that meeting, or electronically if not in attendance. The results directly impact our strategic efforts regarding recruitment and preparation/education of unit candidates and discussions with college administration towards realizing these efforts. Data-driven decision-making is the cornerstone of all unit work.

What data are archived? Where, how and for what duration?

The College of Education collects application and program information in an electronic database on applicants and admitted students. From this data, we figure admission rates, matriculation rates, graduation rates, and years to completion for programs within the College back to 1989.

Program Outcomes, Measures and Benchmarks or Milestones

List the university and program level student learning outcomes (GLO).	Produce and defend an original significant contribution to knowledge	Demonstrate mastery of subject material	Conduct scholarly or professional activities in an ethical manner	Demonstrate leadership in Sci/Math Ed research or teaching
What year will you report on this outcome? (Every outcome must be assessed at least once every five years.)	Yearly	Yearly	Yearly	2016-17
List the measures/methods /instruments to be used to assess the outcome. Identify measures, methods, and/or instruments as being direct (D) or indirect (I). (At least one of these must be direct measures.)	Dissertation document and defense (D) Research proposal (D) Written and oral exams (D)	Dissertation document and defense (D) Research proposal (D) Written and oral exams (D)	Dissertation document and defense (D) CITI training in SED 580 (D)	Doctoral Report of Satisfactory Progress (I) (self and **Science Ed or Math Ed** advisor yearly evaluation)
What benchmarks/milestones will you use to determine if the outcome has been satisfactorily met by the students?[z]	Candidates defend dissertation meeting committee's approval Candidates complete research proposal and advancement to next step in program Candidates complete written and oral exams meeting committees' approval	Candidates defend dissertation meeting committee's approval Candidates complete research proposal and advancement to next step in program Candidates complete written and oral exams meeting committees' approval	Candidates defend dissertation meeting committee's approval Candidates complete CITI training in SED 580 (must earn at least 80% on test).	Show progress yearly and meet **Sci/Math Ed** GLO by the end of their program

[z] Examples include courses, workshops, program of study, internship/externship, research proposal, presentations of research or project results, project or thesis defense, final report or thesis. This is not an exhaustive list of possibilities.

[y] Programs especially with options will likely have specific learning outcomes (competencies, goals, etc.). State those and how they are being assessed.

Graduate Program Annual Reporting - Assessment and Reflection on Graduate Learning Outcomes (GLO)

List the university and program level graduate learning outcomes (GLO).	Produce and defend an original significant contribution to knowledge	Demonstrate mastery of subject material	Conduct scholarly or professional activities in an ethical manner	Program level GLO 1
Is this GLO new or revised since the last year you reported on it? (write no, new, or revised)				
What do the data show about student learning or success relative to the outcomes you are reporting on this year?				
Describe any course-level changes related to this outcome that will result /have resulted from assessment activities in this reporting year. Include timelines.				
Describe any program/degree level (e.g. curricular, outcomes, goals, objectives) changes related to this outcome that have resulted/will result from GLO assessment activities in this reporting year and/or from other impetuses (e.g. feedback from accreditors).				
How did your program reflect on the data you are reporting and who was involved? Were there any challenges or concerns? How are the results of your assessment efforts related to strategic planning and overall program review?				

Plans

Describe the program's assessment plans for the upcoming year.	

Attachments- Please share any relevant attachments related to the items/results you are reporting in this report.