Term Information

Effective Term: Spring 2013  
Previous Value: Summer 2012

Course Change Information

What change is being proposed? (If more than one, what changes are being proposed?)
Correct exclusion field- error from semester conversion.

What is the rationale for the proposed change(s)?
Semester conversion clean-up

What are the programmatic implications of the proposed change(s)?
(e.g. program requirements to be added or removed, changes to be made in available resources, effect on other programs that use the course)?
None

Is approval of the request contingent upon the approval of other course or curricular program request? No
Is this a request to withdraw the course? No

General Information

Course Bulletin Listing/Subject Area: Education: Teaching & Learning  
Fiscal Unit/Academic Org: School of Teaching & Learning - D1275  
College/Academic Group: Education & Human Ecology  
Level/Career: Graduate  
Course Number/Catalog: 8751  
Course Title: Survey and Critical Analysis of Research in STEM Education  
Transcript Abbreviation: Srvy&AnlySTEMRsrch  
Course Description:
Examines critical issues associated with conducting and analyzing research in STEM education including formulating and evaluating the following: research questions, methodologies, data collection instruments, and analysis techniques.
Semester Credit Hours/Units: Fixed: 3

Offering Information

Length Of Course: 14 Week  
Flexibly Scheduled Course: Never  
Does any section of this course have a distance education component? No  
Grading Basis: Letter Grade  
Repeatable: No  
Course Components: Seminar  
Grade Roster Component: Seminar  
Credit Available by Exam: No  
Admission Condition Course: No  
Off Campus: Never  
Campus of Offering: Columbus

Prerequisites and Exclusions
Cross-Listings

Prerequisites/Corequisites
Exclusions

Preceding Value

Subject/CIP Code

Subject/CIP Code
Subsidy Level
Intended Rank

Quarters to Semesters

Quarters to Semesters

Give a rationale statement explaining the purpose of the new course

Sought concurrence from the following Fiscal Units or College

Requirement/Elective Designation

The course is an elective (for this or other units) or is a service course for other units

Course Details

Course goals or learning objectives/outcomes

• Become aware of the shifts and trends that have and are occurring in STEM educational research
• Encourage a careful reading and analysis of published STEM education research
• Help the doctoral students and coming researchers judge whether the reported research had been conducted or reported well
• Study the effect that standards-based instruction has had on the research in STEM education
• Become familiar with research designs prominently used in STEM education research such as: Teaching Experiments, Clinical Interviews, Mixed Methods, Computer Modeling Studies and cognitive science methods relevant to STEM learning
• Become experienced in instrument development and evaluation in conducting STEM research
• Gain knowledge about the analyses involved with the application of qualitative and quantitative research designs in STEM
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Previous Value
Not open to students with credit for 968.23.
**Content Topic List**

- Purposes and methods of research
- Trends and issues
- Epistemological basis of research in STEM
- Mixed methods in STEM
- Design experiments in STEM
- Teaching experiments
- Task based interviews
- Video analysis
- Expert/Novice knowledge analysis
- Critical review and evaluation of STEM Education research
- Writing for STEM Education journal publication

**Attachments**

**Comments**

**Workflow Information**

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<td>10/09/2012 04:55 PM</td>
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<td>Mercerhill, Jessica Leigh</td>
<td>10/12/2012 02:42 PM</td>
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