MED 599 Action Research Project
Section 970: Hours Arranged
Spring 2010

Faculty Information

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Greeley, CO 80639-0098

Course Specifications

Credits: 1 Semester Credit (Repeatable three times)
As a one-credit master’s level course, I will attempt to keep the course’s workload to 45 hours, which is determined by the conventional ratio of two hours of homework for every hour of class. Since this is an on-line course, the 15 hours of “contact” time and 30 hours of out-of-class time are figured into amount of time I expect you to work on the course. The maximum amount of time you should work on this course is 60 hours (using a 3:1 ratio).

Prerequisites: Graduates Only

Course Description:
Participants will research a current problem in secondary mathematics education that is relevant to their own teaching situation. They will develop goals, review relevant literature and plan the project as they progress through the program.

Required Texts:
Powers, R. A. (2006). *The action research project guide and evaluation rubric.* (Available from the University of Northern Colorado, School of Mathematical Sciences, Campus Box 122, Greeley, CO 80631-0098; also available in the Course Materials on Blackboard)

Optional Texts:

Technical Requirements:
Access to a computer with high-speed Internet access.
Means of storing files (e.g., floppy disk, zip disk, USB Flash Drive)
Acrobat Reader (Available at [www.adobe.com](http://www.adobe.com))
Word Processor (capable of saving files in Microsoft Word)
Course Goals:
♦ To make substantial progress toward completion of the Action Research Project.
♦ To advance understanding of action research in secondary mathematics education.

Course Overview:
As the course goals above indicate, there are two main aims for the course. The primary aim of the course is to assist you in making substantial progress on your Action Research Project. As indicated in the course requirements below, the major outcome of the course is a working draft of one of the chapters of the Action Research Project. For participants enrolled in the course for the first or second credit (typically working on the introduction or review of literature), this includes locating and reviewing at least four research- or practitioner-based journal articles as well as completing a working draft chapter.

The second aim is to increase your understanding of action research, no matter what background you have. That is, if you have no knowledge of action research, then the purpose of the course is to help you become familiar with what action research is: its purposes and its processes. On the other extreme of the spectrum, if you have already conducted action research, and thus are quite familiar with it, then the purpose of the course is to expand your notions of what action research is.

Evaluation
Grading allotment:
For participants working on Course 1 or Course 2:
♦ 60 points Assignments/Article Summary and Critiques
♦ 40 points Action Research Project Chapter Draft

For participants working on Course 3:
♦ 60 points Assignments/Progress Checks
♦ 40 points Action Research Project Chapter Draft

Final grade assignment by points:
♦ 90 ≤ A ≤ 100
♦ 80 ≤ B < 90
♦ 70 ≤ C < 80
♦ 60 ≤ D < 70
♦ 0 ≤ F < 60

Assignments:
All assignments for the course are posted in the Assignment section on Blackboard. The recommended assignments for the first, second, or third credit of the course are posted in Course 1, Course 2, or Course 3, respectively. Assignments include specific readings, writing tasks, and activities that are designed to help you progress through each aspect of the Action Research Project. The table below provides a guide for how each assignment relates to the Action Research Project report.
<table>
<thead>
<tr>
<th>Course Assignment</th>
<th>Pertinent Chapter</th>
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<tbody>
<tr>
<td>Assignment 1 – What is Action Research?</td>
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<tr>
<td>Assignment 2 – Area of Focus</td>
<td>Chapter 1 Introduction</td>
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<tr>
<td>Assignment 3 – Finding the Literature</td>
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<td>Assignment 4 – Research Plan</td>
<td>Chapter 1 Introduction</td>
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<tr>
<td>Assignment 5 – Educational Beliefs</td>
<td>Chapter 2 Review of Literature</td>
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<tr>
<td>Assignment 6 – Literature Review</td>
<td>Chapter 2 Review of Literature</td>
</tr>
<tr>
<td>Assignment 7 – Data Collection Plan</td>
<td>Chapter 3 Plan of Action</td>
</tr>
<tr>
<td>Assignment 8 – Reliability and Validity</td>
<td>Chapter 3 Plan of Action</td>
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<tr>
<td>Assignment 9 – Quantitative Data Analysis</td>
<td>Chapter 4 Data Analysis</td>
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<td>Assignment 10 – Qualitative Data Analysis</td>
<td>Chapter 4 Data Analysis</td>
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<tr>
<td>Assignment 11 – Personal Implications</td>
<td>Chapter 5 Summary and Discussion</td>
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<tr>
<td>Assignment 12 – Professional Implications</td>
<td>Chapter 5 Summary and Discussion</td>
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</table>

**Article Summary and Critique:**
For participants who are working on Chapter 1, Introduction, or Chapter 2, Review of Literature, (i.e., typically taking the course for the first or second time), you are required to locate and read, the summarize and critique at least four research- or practitioner-based journal articles related to an aspect of mathematics education that you plan to investigate for your action research project.

**Action Research Project Chapter Draft:**
The primary goal of the course is to facilitate the writing of a working draft of one of the chapters of the Action Research Project. The five chapters of the Action Research Project are the introduction, review of literature, plan of action, data analysis, and the summary and discussion. Satisfactory progress in the writing of the chapter includes obtaining the level of developing on each of the performance indicators of the Action Research Project Rubric and obtaining the level of proficient on the written communication performance indicator located in the presentation section. The rubric is located in the Course Materials section on Blackboard.

**Professional Conduct**

**Disability Support Services:**
Students who believe they may need accommodations in this class are encouraged to contact the Disability Support Services (970) 351-2289 as soon as possible to better ensure that such accommodations are implemented in a timely fashion.

**Honor Code:**
All members of the University of Northern Colorado community are entrusted with the responsibility to uphold and promote five fundamental values: *Honesty, Trust, Respect, Fairness, and Responsibility*. These core elements foster an atmosphere, inside and outside of the classroom, which serves as a foundation and guides the UNC community's academic, professional, and personal growth. Endorsement of these core elements by students, faculty, staff, administration, and trustees strengthens the integrity and value of our academic climate.
University Policies:
UNC's policies and recommendations for academic misconduct will be followed. Please refer to Academic Expectations Related to Student Conduct in your Student Handbook (www.unco.edu/dos/handbook/stuhndbk.htm).

Course Schedule

Each evaluated task (i.e., assignment, summary and critique, or progress check) will be due every two weeks. Draft chapters are due on Monday of Finals Week. All tasks are due by 5:00 PM on the Monday indicated in the tables below. Work may be submitted in the Submissions section on Blackboard, via e-mail (bill.blubaugh@unco.edu), via FAX, or mailed by the posted due date.

Recommended assignments may be substituted for other assignments with prior approval from the instructor.

Course 1 Timeline:

<table>
<thead>
<tr>
<th>Course Task</th>
<th>Due Date</th>
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<tbody>
<tr>
<td>Assignment 1 – What is Action Research?</td>
<td>January 25, 2010</td>
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<tr>
<td>Assignment 2 – Area of Focus</td>
<td>February 8, 2010</td>
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<tr>
<td>Assignment 3 – Finding the Literature</td>
<td>February 22, 2010</td>
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<tr>
<td>Summary and Critique I</td>
<td>March 8, 2010</td>
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<tr>
<td>Assignment 4 – Research Plan</td>
<td>March 29, 2010</td>
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<tr>
<td>Summary and Critique II</td>
<td>April 12, 2010</td>
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<tr>
<td>Draft Chapter</td>
<td>May 3, 2010</td>
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Course 2 Timeline:

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<tr>
<th>Course Task</th>
<th>Due Date</th>
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<tr>
<td>Assignment 5 – Educational Beliefs</td>
<td>January 25, 2010</td>
</tr>
<tr>
<td>Summary and Critique III</td>
<td>February 8, 2010</td>
</tr>
<tr>
<td>Assignment 6 – Literature Review</td>
<td>February 22, 2010</td>
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<tr>
<td>Summary and Critique IV</td>
<td>March 8, 2010</td>
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<tr>
<td>Assignment 7 – Data Collection Plan</td>
<td>March 29, 2010</td>
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<tr>
<td>Assignment 8 – Reliability and Validity</td>
<td>April 12, 2010</td>
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<tr>
<td>Draft Chapter</td>
<td>May 3, 2010</td>
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Course 3 Timeline:

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<tr>
<th>Course Task</th>
<th>Due Date</th>
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<tbody>
<tr>
<td>Assignment 9 – Quantitative Data Analysis†</td>
<td>January 25, 2010</td>
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<tr>
<td>Assignment 10 – Qualitative Data Analysis†</td>
<td>February 8, 2010</td>
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<tr>
<td>Progress Check 1 (Required)</td>
<td>February 22, 2010</td>
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<tr>
<td>Assignment 11 – Personal Implications‡</td>
<td>March 8, 2010</td>
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<tr>
<td>Assignment 12 – Professional Implications‡</td>
<td>March 29, 2010</td>
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<tr>
<td>Progress Check 2 (Required)</td>
<td>April 12, 2010</td>
</tr>
<tr>
<td>Draft Chapter</td>
<td>May 3, 2010</td>
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</tbody>
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†Assignments 9 and 10 are optional; they require that data collection has already begun.
‡Assignments 11 and 12 are optional; they require that data analysis has already begun.
Project Timeline:

**Fall Semester 1**
Take MED 600 Introduction to Educational Research in Mathematics
Learn about educational research that is used in MED 599.

**Spring Semester 1**
Course 1: Introduction to Action Research
Select an area of focus
Write a draft chapter 1

**Fall Semester 2**
Course 2: Literature Review and Data Collection Plan
Complete the review of literature, decide on innovation, and plan for data collection
Write a draft chapter of either 2 or 3

Prior to data collection you will need to make an appointment with your committee either in person or via a conference call to obtain approval for your project plan prior to implementation. Your project plan is a draft of chapters 1, 2 and 3. *This must happen prior to course 3.*

Implement innovation and collect data. Ideally this should happen prior to course 3, but is often done during course 3.

**Spring Semester 2**
Course 3: Data Analysis and Implications
Complete data analysis and discussion of implications of results
Write a draft chapter of either 4 or 5

**Process for Completing ARP**
Apply for graduation
Submit first draft of ARP to advisor at least 6 weeks prior to presentation
After receiving comments from advisor and making changes, submit presentation draft of the ARP to committee at least 2 weeks prior to presentation
Present and defend ARP to committee and receive final editing comments
Submit final bound copy of ARP