



TQF 3 Course Specification

Course Code : MTP5104

Course Title: Educational Research and Classroom Research

Credits: 3(2-2-5)

Semester /Academic Year : 1/2015

Students : Master of Arts Program in Mathematics Education

Lecturers : Asst. Prof. Dr. Supotch Chaiyasang

Dr. Kanokrat Kunasaraphan

International College, SuanSunandhaRajabhat University

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Section 1 General Information

1. Code and Course Title:MTP5104 Educational Research and Classroom Research

2. Credits: 3(2-2-5)

3. Curriculum and Course Category :

This course of Master of Arts ,International College, SSRU is categorized in *Requirement Course: Cluster in International Teaching Profession.*

4. Lecturers:

Asst. Prof. Dr. Supotch Chaiyasang

Dr. Kanokrat Kunasaraphan

5. Year / Semester

Graduate Student Year 1 / Semester 1/2015

6. Prerequisite Course

None

7. Co-requisite Course:

None

8. Learning Location

Building Number: 21

Wednesday 9.00 – 12.00 Room No. 2122

9. Last Date for Preparing and Revising this Course:

May 15, 2015

Section 2 Objectives and Purposes

1. Course Objectives

At the end of this course, the student will be able to perform in the following areas of performance :

- (1) Able to apply research results to the instructional management;
- (2) Able to conduct research for instructional development and improvement of learners.

2. Purposes for Developing / Revising Course (content / learning process / assessment / etc.)

According to TQF (Thailand Quality Framework: HEd.) and the Teachers' Council of Thailand with the standards of professional knowledge and experience for requirement courses, graduate students program in mathematics education should have essence of knowledge and competencies in educational research consisting of :

Essence of Knowledge

- (1) Research theory;
- (2) Research model;
- (3) Research Design;
- (4) Research Process;
- (5) Statistics for research
- (6) Classroom action research;
- (7) Research training;
- (8) Research presentations;
- (9) Search and study on research for development of learning management process;
- (10) Use of research process for problem solving;
- (11) Project proposals for research.

Competencies

- (1) Able to apply research results to the instructional management;

(2) Able to conduct research for instructional development and improvement of learners.

Section 3 Course Structure

1. Course Outline

Research theory, model, design and process; Statistics for research; Classroom action research; Planning and conducting research; Writing research report and article.

2. Time Length per Semester (Lecture – hours / Practice – hours / Self Study – hours)

Lecture	Practice/ Field Work/Internship	Self Study	Remedial Class
32 hours	32 hours	90 hours	3+ (if any)

3. Time Length per Week for Individual Academic

Consulting and Guidance

2 hours / week

Section 4 Developing Student's Learning Outcomes

Learning Standards/Outcomes	Learning Activities	Learning Assessment
1. Ethics and Morals To have ethic behavior (personal responsibility, corporate responsibility) and moral reasoning.	Work in group to discuss on research aspects of teachers and teaching; and research ethics (or morals).	Group discussion; Report
2. Knowledge 2.1 To describe research theory, model, design, and	1. Introduce the research theory, model, design, and process.	Draft of research proposal (concept

Learning Standards/Outcomes	Learning Activities	Learning Assessment
<p>process.</p> <p>2.2 To identify statistics for research and classroom action research.</p>	<p>2. Compare and contrast among classical research and classroom research.</p> <p>3. Have the students develop their plans to use research process for problem solving in mathematics classroom.</p>	<p>paper)</p>
<p>3. Cognitive Skills</p> <p>3.1 Have ability to search for knowledge: research on teaching and learning mathematics.</p> <p>3.2 Have analytical thinking to select the research topics for development of learning mathematical process.</p>	<p>1. Use research-based learning and internet-based learning to search information about related research for doing classroom research.</p> <p>2. Discussion and presentation of research findings – students write reports, and present their findings.</p>	<p>Written report and oral presentation</p>
<p>4. Interpersonal Skills and Responsibilities</p> <p>4.1 Have responsibility for assignment: review related research from online data base.</p> <p>4.2 Can adjust to work in team both as leader or follower.</p>	<p>1. Use internet-based learning on mathematics education research.</p> <p>2. Students work in group of five. They plan to use PBL technique to search information demonstrate interpersonal skills and responsibility.</p>	<p>1. Term papers</p> <p>2. Group report presentation</p>
<p>5. Numerical Analysis, Communication and Information Technology Skills</p> <p>5.1 Have statistical and mathematical skills to present research finding on mathematics education.</p> <p>5.2 Can use correct language in oral and written</p>	<p>1. Use research-based learning and internet-based learning to analyze research results imply to mathematics class.</p> <p>2. Students work in group of five. They plan to use technology to analyze data and present their report both in oral and written.</p>	<p>1. Individual portfolio</p> <p>2. Term papers</p> <p>3. Group report presentation</p>

Learning Standards/Outcomes	Learning Activities	Learning Assessment
presentations. 5.3 Can use computer and IT to review related topics for action research in math classroom.		
6. Learning Management Skills Be able to design research model and process for enhancing learners' achievement in mathematics.	Discussion and presentation research theory, model and process to improve learners and solve problems in math classroom.	1. Individual portfolio 2. Term papers 3. Group report presentation

Section 5 Lesson Plan and Assessment

1. Lesson Plan

Week	Topic/Outline	Hours	Learning Activities and Medias
1-2	Unit 1 Introduction to Educational Research	8	1. Introduce theory and model of educational research : research problem, ethics and research, variables and hypotheses, reviewing the literature, sampling, instrumentation, validity and reliability, internal validity 2. Students work with a group of five and work individually to discuss about related topics in mathematics education..
3-5	Unit 2 Statistics for Research	12	1. Introduce types of statistics: descriptive statistics, inferential statistics, types of data.

Week	Topic/Outline	Hours	Learning Activities and Medias
6 - 10	Unit 3 Research Methodology	20	<p>1. Introduce research categories of research method: experimental research, single-subject research, correlational research, causal comparative research, survey research, content analysis research, qualitative research, quantitative research, historical research, classroom action.</p> <p>2. Students study the application of statistics used in research method by using hands-on / computer program for computation.</p>
11 - 13	Unit 4 Preparing Research Proposals and Reports	12	Introduce the components of research proposals (according to Graduate School Handbook) focus on using innovation and technology for learners to achieve good learning.
14 - 16	Unit 5 Research by Practitioners	12	<p>1. Introduce about doing research in mathematics classroom</p> <p>2. Students review literature about action research and article writing.</p>
Total		64	

Remark: Reserve 1 – 2 weeks for searching related topics.

2. Learning Assessment Plan

Learning Outcomes	Assessment Activities	Time Schedule (Week)	Proportion for Assessment (%)
<p>1. Ethics and Morals</p> <p>To have ethic behavior (personal responsibility , corporate responsibility) and moral reasoning.</p>	<p>1.Individual portfolio</p> <p>2.Group discussion</p>	Throughout semester	5 %
<p>2. Knowledge</p> <p>2.1 To analyze research theory, model, and process.</p> <p>2.2 To develop research proposal using appropriate method and statistics.</p>	<p>1.Term papers</p> <p>2.Group report presentation</p>	Throughout semester	40 %
<p>3. Cognitive Skills</p> <p>Have ability to search for knowledge: research on teaching and learning mathematics.</p>	<p>1. Individual portfolio</p> <p>2. Term papers</p> <p>3. Group report presentation</p>	Throughout semester	30 %
<p>4. Interpersonal Skills and Responsibilities</p> <p>4.1 Have responsibility for assignment.: select ideas in educational research from different theoretical perspectives, application to mathematical education.</p> <p>4.2 Can adjust to work in team both as leader or follower.</p>	<p>1. Checklists</p> <p>2. Interviews</p>	Throughout semester	5 %

Learning Outcomes	Assessment Activities	Time Schedule (Week)	Proportion for Assessment (%)
<p>5. Numerical Analysis, Communication and Information Technology Skills</p> <p>5.1 Have statistical and mathematical skills to present research finding on mathematics</p> <p>5.2 Can use correct language in oral and written presentations.</p> <p>5.3 Can use computer and IT to search related topics for Thesis preparation.</p>	<p>1. Individual portfolio</p> <p>2. Term papers</p> <p>3. Group report presentation</p>	Throughout semester	10 %
<p>6. Learning Management Skills</p> <p>Be able to design research proposal for development of learning management process and learners' achievement.</p>	<p>1. Individual portfolio</p> <p>2. Term papers</p> <p>3. Group report presentation</p>	Throughout semester	10 %

Section 6 Learning and Teaching Resources

1. Textbook and Main Documents

Isaac, S. & Michael, W.(2003). *Handbook in Research and Evaluation* (3rd Edition). San Diego, CA: Edits Publishing.

2. Important Documents for Extra Study

Creswell, J. (2003). *Research Design Qualitative, Quantitative, and Mixed Methods Approach*. CA: Sage Publication.

3. Suggestion Information (Printing Materials/Website/CD/

Others)

Gorski, P.C. (2006). Teacher Action Research. Retrieved from <http://www.exchange.org/multicultural/tar/illustration.html>. Feb. 2008.

Segal, S.U. (2009). Action Research in Mathematics Education: A Study of Master's Program for Teachers. Retrieved from <http://arexpenditions.Montana.edu/index.php>. Jan. 2008.

Section 7 Course Evaluation and Revising

1. Strategies for Course Evaluation by Students

Using survey questions to collect information from the students' opinions to improve the course and enhance the curriculum. Examples of questions:

- (1) Content objectives were made clear to the students.
- (2) The content was organized around the objectives.
- (3) Content was sufficiently integrated.
- (4) Content was sufficiently integrated with the rest of the first year curriculum.
- (5) The instructional materials used were effectively.
- (6) The learning methods appropriate assessed the students' understanding of the content.
- (7) Overall, Students are satisfied with the quality of this course .
..... etc.

2. Strategies for Course Evaluation by Lecturer

2.1 Lecturers team observes the class and discuss the results as

follows:

- (1) The lecturer is well prepared for class sessions.
- (2) The lecturer answers questions carefully and completely.
- (3) The lecturer uses examples to make the materials easy to understand.
- (4) The lecturer stimulated interest in the course.
- (5) The lecturer made the course material interesting.
- (6) The lecturer is knowledgeable about the topics presented in this course.
- (7) The lecturer treats students respectfully.
- (8) The lecturer is fair in dealing with students.
- (9) The lecturer makes students feel comfortable about asking question.
- (10) Course assignment is interesting and stimulating.

(11) The lecturer's use of technology enhanced learning in the classroom.

..... etc.

1.2 The director / head of program construct assessment items to evaluate four dimensions of lecturer's competencies : teaching skills, organization and presentation of materials, management of the learning environment, and teaching attitudes.

3. Teaching Revision

Lecturer revises teaching / learning process based on the results from the students' survey questions, the lecturer team's observation, and classroom research.

4. Feedback for Achievement Standards

International College Administrator Committee monitor to assessment process and Grading.

5. Methodology and Planning for Course Review and Improvement

(1) Revise and develop course structure and process every two years.

(2) Assign different lecturers teach this course to enhance students' performance.