



TQF. 3 Course Specification

Course Code : MTP5103

Course Title : Psychology for Mathematics Teachers

Credits : 3(3-0-6)

Semester /Academic Year : 1/ 2015

Students : Master of Arts Program in Mathematics Education

Lecturer : Assoc. Prof. Chaweewan Kaewsaiha

International College, Suan Sunandha Rajabhat University

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Section 1 General Information

1. Code and Course Title : MTP5103 Psychology for Mathematics Teachers

2. Credits : 3(3-0-6)

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. Lecturer:

Assoc. Prof. Chaweewan Kaewsaiha

5. Year / Semester

Graduate Student Year 1 / Semester 1/2015

6. Prerequisite Course

None

7. Co-requisite Course :

None

8. Learning Location

Building Number : 26

Tuesday 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 explain the nature of learners and learning theories in mathematics;
- (2) Able to assist the learners to learn mathematics and develop according to their potentiality;
- (3) Able to provide learners with guidelines and assistance to gain and improve quality of life;
- (4) Able to provide strategies and tools of motivation to promote learners' aptitude and interest in learning mathematics.

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 psychology for teachers and learning management consisting of :

Essence of Knowledge

- (1) Basic psychology relating to human development;
- (2) Educational psychology;
- (3) Guidance and counseling psychologies;

Competencies

- (1) Understand the nature of learners;
- (2) Able to assist the learners to learn and develop according to their potentiality;
- (3) Able to provide learners with guidelines and assistance to have improved quality of life;
- (4) Able to promote learners' aptitude and interest;

Section 3 Course Structure

1. Course Outline

Introduction to educational psychology; Student development and student diversity; learning and motivation; Guidance and counseling psychology; Theory and research about human learning and development.

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

Lecture	Practice/ Field Work/Internship	Self Study	Remedial Class
48 hours+	-	96 hours	3+ (if any)

3. Time Length per Week for Individual Academic Consulting and Guidance

1 hour / week

Section 4 Developing Student's Learning Outcomes

Learning Standards/Outcomes	Learning Activities	Learning Assessment
<p>1. Ethics and Morals To have ethic behavior (personal responsibility , corporate responsibility) and moral reasoning.</p>	<p>Work in group to design effective learning environment to manage routine misbehavior and good behavior from case studies.</p>	<p>1. Individual portfolio 2. Group discussion</p>
<p>2. Knowledge 2.1 To identify the goal of educational psychology. 2.2 To describe how educational psychology research and theory can enhance teaching practice. 2.3 To identify the attitudes and skills of effective teachers in teaching mathematics.</p>	<p>1. Introduce the educational psychology, student development and student diversity, learning and motivation, guidance and counseling psychology, theory and research about human learning and development. 2. Discuss about psychology's role in mathematics education to enhance teaching and learning. 3. Have the students develop their plans to increase students' motivation to learn mathematics.</p>	<p>1. Term papers 2. Group report presentation</p>
<p>3. Cognitive Skills (1) Have ability to search for knowledge : research on psychology's role in teaching and learning mathematics . (2) Have analytical</p>	<p>1. Use research-based learning and internet-based learning to construct cognitive skills in solving mathematics classroom problems.</p>	<p>1. Individual portfolio 2. Term papers 3. Group report presentation</p>

Learning Standards/Outcomes	Learning Activities	Learning Assessment
<p>thinking : analyze educational psychology associated with the art of teaching in mathematics.</p>	<p>2. Discussion and presentation of research findings – students write reports, and other forms of work documentation to include in their portfolios or oral presentation their findings from discussion / searching information.</p>	
<p>4. Interpersonal Skills and Responsibilities 4.1 Have responsibility for assignment : examine the characteristics of effective teachers 4.2 Can adjust to work in team both as leader or follower</p>	<p>Use scenario demonstration model to construct learning: 1. Students work in group of five. They plan scenario in which they demonstrate inappropriate and appropriate interpersonal skills and responsibility in a variety of mathematics classroom. 2. Students use interpersonal skills and responsibility to share and express appropriate opinion in solving student’s misbehavior.</p>	<p>1. Checklists 2. Interviews</p>
<p>5. Numerical Analysis, Communication and Information Technology Skills (1) Have statistical and mathematical skills</p>	<p>Use research-based learning and internet-based learning to analyze student’s learning style in mathematics classroom.</p>	<p>1. Individual portfolio 2. Term papers 3. Group report presentation</p>

Learning Standards/Outcomes	Learning Activities	Learning Assessment
<p>to present research finding on enhance student learning.</p> <p>(2) Can use correct language in communication both in oral and written.</p> <p>(3) Can use computer and IT to follow the progress of educational psychology for mathematics teachers.</p>		
<p>6. Learning Management Skills</p> <p>(1) Be able to design learning activities and learning environments within the context of a unit of mathematics and real world.</p> <p>(2) Be able to develop the learners with essential opportunities to enhance learning concepts and motivate active engagement in mathematical process for problem solving.</p>	<p>1. Use basic techniques for learning management skills: integration of contents for learning group, integration for group learning, and learner-oriented learning management.</p> <p>2. Discussion and presentation of learning activities to motivate and promote students in mathematical process for problem solving.</p>	<p>1. Individual portfolio</p> <p>2. Term papers</p> <p>3. Group report presentation</p>

Section 5 Lesson Plan and Assessment

1. Lesson Plan

Week	Topic/Outline	Hours	Learning Activities and Medias
1-3	Unit 1 Introduction to Educational Technology - Learning Theories	9	<ol style="list-style-type: none"> 1. Introduce scope of educational psychology for teacher to study , learning theories: Behaviorism, Cognitivism, Social Learning, Social Constructivism, Multiple Intelligences, Brain-Based Learning 2. Students discuss case studies in groups of five about classroom phenomena with an emphasis on theories of learning.
4-5	Unit 2 Student development and student diversity	6	<ol style="list-style-type: none"> 1. Introduce student development : thinking skills . and student diversity: cultural differences, socio-economic status and achievement, underrepresented ethnic groups and underachievement, gender and gender bias, etc. by using audio-visual aids and case studies. 2. Students discuss case studies in groups of five about classroom phenomena.
6-7	Unit 3 Effective Learning and Motivation	6	<ol style="list-style-type: none"> 1. Introduce principles of learning and motivation, types of reinforcers by using audio-visual aids and case studies. 2. Students discuss case studies in groups of five about classroom phenomena.

Week	Topic/Outline	Hours	Learning Activities and Medias
8	Mid-Term Examination	3	Paper-Test
9-10	Unit 4 Guidance and Counseling Psychology	6	1. Introduce guidance and counseling theory and practice by using audio-visual aids and case studies. 2. Students discuss case studies in groups of five about classroom phenomena.
11-12	Unit 5 Theory and Research in Learning Mathematics	6	1. Introduce theory and research about student learning in mathematics by using internet-based research documents and discussion. 2. Students work in groups of five about psychology of learning in mathematics education research.
13-14	Unit 6 Theory and research in Learning with Technology	6	1. Introduce theory and research about student learning with technology by using internet-based/research documents and discussion. 2. Students work in groups of five about psychology of learning in educational technology research.
15-16	Unit 7 Research in Learning Mathematics with Technology	6	1. Students present interesting technology in learning mathematics. 2. Prepare data based for research proposal individually.
17	Final Examination	3	Paper-Test
Total of Hours		48+	Remedial Class 1 or 2 Weeks

2. Learning Assessment Plan

Learning Outcomes	Assessment Activities	Time Schedule (Week)	Proportion for Assessment (%)
<p>1. Ethics and Morals To have ethic behavior (personal responsibility , corporate responsibility) and moral reasoning.</p>	<p>1. Individual portfolio 2. Group discussion</p>	<p>Throughout semester</p>	<p>5 %</p>
<p>2. Knowledge 2.1 To identify the goal of educational psychology. 2.2 To describe how educational psychology research and theory can enhance teaching practice. 2.3 To identify the attitudes and skills of effective teachers in teaching mathematics.</p>	<p>1. Term papers 2. Group report presentation</p>	<p>Throughout semester</p>	<p>40 %</p>
<p>3. Cognitive Skills (1) Have ability to search for knowledge : research on psychology's role in teaching and learning mathematics . (2) Have analytical thinking : analyze educational psychology associated with the art of teaching in mathematics.</p>	<p>1. Individual portfolio 2. Term papers 3. Group report presentation</p>	<p>Throughout semester</p>	<p>30 %</p>

Learning Outcomes	Assessment Activities	Time Schedule (Week)	Proportion for Assessment (%)
<p>4. Interpersonal Skills and Responsibilities</p> <p>4.1 Have responsibility for assignment : examine the characteristics of effective teachers</p> <p>4.2 Can adjust to work in team both as leader or follower</p>	<p>1. Checklists 2. Interviews</p>	<p>Throughout semester</p>	<p>5 %</p>
<p>5. Numerical Analysis, Communication and Information Technology Skills</p> <p>(1) Have statistical and mathematical skills to present research finding on enhance student learning.</p> <p>(2) Can use correct language in communication both in oral and written.</p> <p>(3) Can use computer and IT to follow the progress of educational psychology for mathematics teachers.</p>	<p>1. Individual portfolio 2. Term papers 3. Group report presentation</p>	<p>Throughout semester</p>	<p>10 %</p>

Learning Outcomes	Assessment Activities	Time Schedule (Week)	Proportion for Assessment (%)
<p>6. Learning Management Skills</p> <p>(1) Be able to design learning activities and learning environments within the context of a unit of learning and real world.</p> <p>(2) Be able to provide the learners with essential opportunities to enhance learning concepts and motivate active engagement in mathematical process for problem solving.</p> <p>(3) Be able to develop the assessment and evaluation for learners' performance growth.</p>	<ol style="list-style-type: none"> 1. Individual portfolio 2. Term papers 3. Group report presentation 	<p>Throughout semester</p>	<p>10 %</p>

Section 6 Learning and Teaching Resources

1. Textbook and Main Documents

- Fetsco, T. & McClure, J.(2005). **Educational Psychology : An Integrated Approach to Classroom Decision**. Boston: Pearson Education, Inc.
- Santrock, John W.(2008). **Educational Psychology:3rd ed.** Boston: McGraw-Hill.

2. Important Documents for Extra Study

- Bergeson, Terry. (2000). **Using Research to Shift From the “Yesterday” Mind to the “Tomorrow”Mind : Teaching and Learning Mathematics**. Retrieved March 21, 2013, from <http://www.k12.wa.us>

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

- Prakash, J. (2013). What is the important of Educational Psychology for Teachers. Retrieved March 21, 2013, from <http://www.preservearticles.com>

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 observe the class and discuss the results as follow:

- (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 are 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.