Course Specification (TQF3)
BMA3302: Innovation and Technology for Mathematics Education
Credits: 3(3-0-5)

Lecturers: Assoc.Prof.Chaweewan Kaewsaiha

Mr. Luechai Tiprungsri

Course Outline

- A framework for 21st century education; Structuring and managing ICT-enabled learning environment; The scaffolding technological pedagogy content knowledge lesson design model; Learning with social media; Massive Open Online Course (MOOC) in mathematics; Instructional materials using technology to support assessment and evaluation.

Learning Outcomes

� **Domain 1**: Morals and Ethics

➤ **Domain 2**: Knowledge

➤ **Domain 3**: Cognitive Skills

➤ **Domain 4**: Interpersonal Skills and Responsibility

➤ **Domain 5**: Numerical Analysis, Communication
and Information Technology Skills

➤ **Domain 6**: Learning Management Skills

Morals and Ethics

(1) Have integrity, honesty and teaching profession ethics;
(2) Have discipline, self and social responsibility;
(3) Have knowledge and understanding of education law.

Knowledge

(1) Be able to use the basic knowledge of educational concept, theory, technology and innovation that promote the learning quality development in mathematics;

(2) Be able to select, develop and produce media and instrument that promote learning in mathematics;

(3) Be able to demonstrate the relationship between the Education Standards and the new ways of learning in mathematics.

Cognitive Skills

(1) Be able to organize activities that promote learning and using creativity and thinking tools in mathematics;

(2) Be able to manage learning resources and network;

(3) Be able to prepare innovation design, creation, implementation, evaluation, and improvement in mathematics.

Learning Skills

critical thinking   creativity   collaboration   communication

Interpersonal Skills and Responsibilities

(1) Have responsibility for building positive
    attitude towards using educational
    innovation and information technology;
(2) Have knowledge and understanding of
    human relations to work in team both as
    leader or follower;
(3) Be able to identify problems and seek
    best solutions to strengthen teachers'
    potentiality and capabilities in academic
    and professional career.

Numerical Analysis, Communication and Information Technology Skills

(1) Be able to apply numerical analysis in problem solving;
(2) Have concepts, principles, and theories of technology and innovation that promote the learning quality in mathematics;
(3) Be able to design, create, implement, and evaluate innovation for improvement learning environment based on education quality.

Learning Management Skills

(1) Be able to design learning activities and learning environments for learner's development;

(2) Be able to provide the learners with essential opportunities to enhance learning concepts and motivate active engagement in mathematical process for problem solving through innovation and technology;

(3) Be able to locate a variety of learning resources to promote the learning by learners.

Learning Activities

- Active Learning: Demonstration, Group Work, Problem-Based Learning, Blended Learning, Technology Based Learning, Discussion.

- Internet-Based Learning

- Presentation

Learning Assessment

- Class Attendance
- Quiz
- Assignment
- Midterm Examination
- Final Examination
- Report and Presentation

Grading

Scores	Grade	Value
86.00 –100	A	4.00
82.00 – 85.00	A-	3.75
78.00 – 81.00	B+	3.50
74.00 – 77.00	B	3.00
70.00 – 73.00	B-	2.75
66.00 – 69.00	C+	2.50
62.00 – 65.00	C	2.00
58.00 – 61.00	C-	1.75
54.00 – 57.00	D+	1.50
50.00 – 53.00	D	1.00
46.00 – 49.00	D-	0.75
0.00 – 45.00	F	0
	I	Incomplete
	W	Withdraw