Course syllabus
ILSE 615 Developing Learning Media Using Modern Information Technology
MAP-C (2022), 3(2-2-5) credit hours

1. Course Coordinator

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2. Instructors

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3. Course description

Information and communication technology and learning in the 21st century; concept of using modern information technology (IT) in learning and teaching; analysis of case study on using modern IT in learning activity; learning media design; application for authoring learning media; learning media development and evaluation

Expected Learning Outcomes (ELO) of M.Sc. [Ph.D.] Program

ELO1   Display moral and ethical behavior for science and technology educators
      Sub-ELO 1.1) Display moral and ethical behavior that aligns with the code of conduct for science and technology educators

ELO 2   Apply principle in science and technology education to design and implement learning activities in science and/or technology classes appropriately
      Sub-ELO 2.1) Adopt instructional sciences to improve learning in science and technology education

ELO 3 Synthesize solutions to learning problems in the field of study
      Sub-ELO 3.1) Analyze learning problems in the field of study

ELO 5 Improve [Create] innovation in science and technology education consistent to knowledge in the field of study and social contexts
      Sub-ELO 5.3) Propose ways and/or means to improve the existing innovation
      Sub-ELO 5.4) Use the improved innovation for others' benefits and/or applicable to social contexts

ELO 6 Evaluate [Enhance] knowledge of oneself
      Sub-ELO 6.2) Reflect oneself against the criteria

ELO 7 Display the ability to control and improve oneself
      Sub-ELO 7.2) Display the ability to improve oneself

ELO 8 Display leadership quality and ability to effectively collaborate with others
      Sub-ELO 8.2) Display ability to effectively collaborate with others

4. **Course Learning Outcomes**

Learners should be able to

1) Analyze the suitability of modern technologies to improve learning media in science and technology (ELO2, sub-ELO2.1)
2) Adopt modern technologies to improve a learning media in science and technology education (ELO2, sub-ELO2.1)
3) Analyze learning media needs of target users (ELO3, sub-ELO3.1)
4) Reflect self-learning while developing a learning media (ELO6, sub-ELO6.2)
5) Develop a learning media using appropriate resources and tools to meet the needs of target users (ELO5, sub-ELO5.3)
6) Tryout and evaluate a developed learning media (ELO5, sub-ELO5.4)
7) Display the ethical concern while developing a learning media (ELO1, sub-ELO1.1)
8) Display ability to give feedback with peers (ELO8, sub-ELO8.2)
9) Display the ability to improve oneself in the process of developing a learning media (ELO7, sub-ELO7.1)

***Remark: This course will be instructed in Thai language**. ***

5. **Course schedule**

No.	Date	Date	hrs.	Topic	Lecturers
1	SUN 11 Sep 2022	9.00-16.00	6	Morning session: • Introduction to the course • Overview of Design thinking concept Afternoon session: • Empathizing: Role play • Constructing Empathy Map	PS SS
2	SUN 18 Sep 2022	9.00-16.00	6	Morning session: • Users' needs identification • Problem identification Afternoon session: • Problem statement • Ideation (Collect data from one's own classroom and submit a draft of Empathy map and Problem identification table within 2 Oct 2022)	PS SS

No.	Date	Date	hrs.	Topic	Lecturers
3	SUN 2 Oct 2022	9.00-16.00	6	Morning session: • Six thinking hats • Empathy Map and Problem identification table peer review Afternoon session: • Meeting experts and brainstorm #1 • Prototype sketch	SS PS
4	SUN 9 Oct 2022	9.00-16.00	6	Morning session: • Five Aspects of Reflection-in-action • Reflection on the prototype sketch Afternoon session: • Meeting experts and brainstorm #2 • Final prototype sketch	SS PS

5	TUE 11 Oct 2022	17.00-20.00	3	Modern information technology for developing learning media #1
				   - Powerpoint with audio
				   - Infographic and Animation
					SS PS Guest speaker

6	THU 13 Oct 2022	17.00-20.00	3	Modern information technology for developing learning media #2
				   - Pawtoon
				   - Chatbot
					SS PS Guest speaker

7	SAT 15 Oct 2022	9.00-16.00	6	Morning session: Developing prototype Afternoon session: Product testing plan	SS PS
8	TUE 25 Oct 2022	9.00-12.00	3	Idea testing (fieldwork)	PS SS
9	MON 7 Nov 2022	9.00-16.00	6	Developing and testing (fieldwork)	PS SS
10	SUN 13 Nov 2022	9.00-12.00	3	Developing poster (fieldwork)	PS SS
11	SUN 27 Nov 2022	9.00-16.00	6	Morning session: Online gallery walk Afternoon session: After action review	SS PS

6. Assessment

6.1 Class attendance and participation
- Attendance   10%
- In-class assignment   30% submitted on Sun 18 Sep 2022
- In-class peer review   10% submitted on Sun 2 Oct 2022

6.2 Product development   40% submitted on Sun 7 Nov 2022

6.3 After action review   10% submitted 14-days after Sun 27 Nov 2022

7. Assessment Criteria

Criteria for class attendance (10%)

Details	Score	Mark
1. Maintain a good working relationship with colleagues	5	
2. Willing to exchange ideas and values with colleagues and outsiders	5	
3. Pay respect to the professional knowledge and skills of others	5	
4. Develop new ways to work across all phases of interaction with colleagues	5	
Total	**20**	

Criteria for in-class peer review (10%)

Details	Score	Mark
1. Provide logical and well-reasoned critiques	5	
2. Provide a good balance of comments addressing major issues together with minor concerns	5	
3. Provide clear, specific and offer suggestions for revision	5	
4. Show supports and encouraging remarks	5	
Total	**20**	

Criteria for in-class assignment (30%)

Details	Score	Mark
1. Clearly identify targeted users and explain users' persona	10	

2. User-centric design
  a. Explain how the product will achieve users' satisfaction
  b. Value facts rather than opinion
  c. Address emotional and social jobs, and specify unsatisfied jobs, unsolved pains and unrealized gains
  d. Always test design information with targeted users
	10	

3. Clear solution(s) related to users' pains and gains
  a. Describe users' jobs, their pains and gains that matter most to them
  b. Prioritize and target a few jobs, pains, and gains
  c. Align the problem and the solution
	10	

4. Creativity
  a. Consider a variety of possible solutions
  b. Show an initiative that substantially outperforms the competitors on at least one dimension
  c. Propose the solution that is difficult to copy
	5	

5. Presentation
  a. Finish within 10 minutes
  b. Cover all relevant criteria
	5	

Total	**40**	

Criteria for product development (40%)

Details	Score	Mark
1. State clear and appropriate objectives of the media relating to pain and gain	10	
2. Explain how the product can solve pain and gain of the students	10	
3. Discuss how modern technology could or will be integrated into the product	5	
4. Describe the features of the product regarding how the students will gain learning experiences from using it	10	
5. Explain how the product will be implemented in the classroom (or outside of the classroom)	10	
6. Flow and form of poster presentation (easy to follow, appropriate for online presentation, attractive)	5	
Total	**50**	

Criteria for after action review (10%)

Details	Score	Mark
1. Provide a summary of the product testing	5	
2. Clearly explain the context of testing situations	5	
3. Identify the successful steps taken toward achieving the objectives	5	
4. Identify what could be done differently in similar situations in the future to ensure success	5	
Total	**20**	

8. Grading

Final grade in the course will be determined by the total points earned, that is,

>80%	A
71–80%	B+
65–70%	B
< 65	I

In addition, a student's final grade may be higher than the suggested guideline if the student's score is close enough ($< 1\%$ gap) to the next high score. That is, close scores will likely earn the same final grade.