# COURSE SYLLABUS
## ILSE 617 Emerging Technology for Learning
### Semester A (2022), 2(2-0-4) credit hours

**Course coordinator:**
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**Instructors:**

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**Class period:** August – November 2022 (Wednesday, 13-15hrs)
**Office:** Room 220, Institute for Innovative Learning, Mahidol University
**Course Description:**

บทบาทของเทคโนโลยีต่อการพัฒนากระบวนการเรียนรู้ การใช้เทคโนโลยีในการจัดการเรียนการสอน จริยธรรมกับการใช้เทคโนโลยีการศึกษาเพื่อการเรียนรู้ เทคโนโลยีสำหรับการวัด และประเมินผลทางการศึกษา ความสัมพันธ์ระหว่างเทคโนโลยี วิทยาศาสตร์และสังคม

Relationship between technology, specific content, and pedagogy; role of technology in the development of learning process; using emerging technology in learning and teaching; technology for context- aware learning; ethics in using educational technology for learning; technology for measurement and evaluation in education

**Course Learning Outcomes:** At the end of this course, students will be able to:

| Outcomes | MSc | | PhD | |
|---|---|---|---|---|
| | ELO | Sub-ELO | ELO | Sub-ELO |
| 1. Demonstrate innovative way of developing learning and teaching process through integration of technology. แสดงให้เห็นถึงวิธีการใหม่ ๆ ในการพัฒนาการเรียนรู้และกระบวนการจัดการเรียนการ | 2 | 2.1, 2.2 | 2 | 2.1, 2.2 |

| Outcomes | MSc | | PhD | |
|---|---|---|---|---|
| | ELO | Sub-ELO | ELO | Sub-ELO |
| สอนผ่านการบูรณาการเทคโนโลยี | | | | |
| 2. Become familiar with using technology for assessing learning achievement. สร้างความคุ้นเคยกับการใช้เทคโนโลยีในการประเมินผลสัมฤทธิ์ทางการเรียน | 3 | 3.1, 3.2 | 3 | 3.1, 3.2 |
| 3. Bridge communities through technology, science and society. เชื่อมชุมชนการเรียนรู้ผ่านการใช้เทคโนโลยี วิทยาศาสตร์ และสังคม | 3 | 3.1, 3.2 | 3 | 3.1, 3.2 |
| 4. Be aware of using technology for enhancing learning both in classroom and outside classroom. ตระหนักถึงการใช้เทคโนโลยีเพื่อเสริมสร้างการเรียนรู้ทั้งในห้องเรียนและนอกห้องเรียน | 7 | 7.1, 7.2 | 7 | 7.1, 7.2 |

**Venue:** Fully online-learning by Webex and Google Classroom or other platforms where Webex is not possible

**Online:**https://mahidol.webex.com/mahidol/j.php?MTID=mb896bd04313cc9a81ce629d2fc3a51f9
Meeting number: 2642 897 7239
Password: ILSE617
Host key: 900255

**Learning Materials:** Google Classroom class code "sn3xvmz"

| Week | Date | Topic | CLO | Instructor 2022 | Teaching approach (Online) |
|---|---|---|---|---|---|
| 1 | 17 Aug | Course Introduction Technology Integration Models (TPACK) | 4 | MP, PS | Lecture; Discussion |
| 2 | 24 Aug | Instructional Design Storyboard for E-Learning | 2, 4 | MP, PS | Lecture; Discussion |
| 3 | 31 Aug | Instructional Design Storyboard for E-Learning and Your educational application** | 1, 3, 4 | MP, PS | Discussion |
| 4 | 7 Sep | Immersive technology and its features | 2, 4 | WW NS | Lecture; Discussion |
| 5 | 14 Sep | Immersive technology and its effective learning strategies* | 1, 2, 3, 4 | WW WK NS | Lecture; Discussion; Case study |

| Week | Date | Topic | CLO | Instructor 2022 | Teaching approach (Online) |
|------|------|-------|-----|-----------------|---------------------------|
| 6 | 21 Sep | Immersive technology and Your educational application** | 1, 2, 3, 4 | WW WK NS | Discussion |
| 7 | 28 Sep | Digital Game and its features | 2, 4 | WW WK NS | Lecture; Discussion |
| 8 | 5 Oct | Digital Game and its effective learning strategies* | 1, 2, 3, 4 | WW WK NS | Lecture; Discussion; Case study |
| 9 | 12 Oct | Digital Game and Your educational application** | 1, 2, 3, 4 | WW WK NS | Discussion |
| 10 | 19 Oct | Personalized web-based learning system and its features | 2, 4 | SS | Lecture; Discussion |
| 11 | 26 Oct | Personalized web-based learning system and its effective learning strategies I* | 1, 2, 3, 4 | SS | Lecture; Discussion; Case study |
| 12 | 2 Nov | Personalized web-based learning system and Your educational application** | 1, 2, 3, 4 | SS | Discussion |
| 13 | 9 Nov | Simulation and its features | 2, 4 | MP PL | Lecture; Discussion |
| 14 | 16 Nov | Simulation and its effective learning strategies* | 1, 2, 3, 4 | MP PL | Lecture; Discussion; Case study |
| 15 | 23 Nov | Simulation and Your educational application ** | 1, 2, 3, 4 | MP PL | Discussion |
| 16 | 30 Nov | Final Exam >> Students' Presentation (Student selects one interested emerging Technology, and created his/her Storyboard educational application) | 1, 2, 3, 4 | All | Presentation; Discussion |

**Readings:** Readings will consist of articles drawn from the primary literature to the higher literature of enhancing learning through technology and some chapters from the books. Copies of some articles will be provided by the instructors.

**Course Assignments:**
*Effective strategies in enhancing learning through technology* (CLOs 1, 2, 3, 4)
　　　　The students will be asked to analyze article about enhancing learning through technologies (i.e., simulation, digital game, personalized web-based learning system, and immersive technology). Then, the students must discuss in aspect of enhancing learning through technology in the classroom together.

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*\*\*Design educational context through technology* (CLOs 1, 2, 3, 4)

The students will be asked to elaborate the features and effective learning strategies of each technology (i.e., simulation, digital game, personalized web-based learning system, and immersive technology). *Then, the students must design their own educational context by applying such technology and post it on the online learning space of the course.*

**Evaluation Criteria:**

*1. Participation (20%)*:

| Aspect | Level | | | |
|---|---|---|---|---|
| | **4** | **3** | **2** | **1** |
| 1. Contributions | <u>Routinely</u> provides useful ideas when participating in classroom discussion. A <u>definite</u> leader who contributes a lot of effort. | <u>Usually</u> provides useful ideas when participating in classroom discussion. A <u>strong</u> student who tries hard. | <u>Sometimes</u> provides useful ideas when participating in classroom discussion. A <u>satisfactory</u> student who does what is required. | <u>Rarely</u> provides useful ideas when participating in classroom discussion. A student may <u>refuse</u> to participate. |
| 2. Presentation session | <u>Routinely</u> listens to, shares with, and supports the efforts of others. | <u>Usually</u> listens to, shares with, and supports the efforts of others. | <u>Often</u> listens to, shares with, and supports the efforts of others, but sometimes is not actively listening or responding. | <u>Rarely</u> listens to, shares with, and supports the efforts of others. Often disrupts or discourages others' attempts. |
| 3. Behavior | Student is alert and engaged in class on <u>a daily basis</u>, and shows no disruptive behavior. | Student is alert and engaged in class <u>nearly every day</u>, and shows no disruptive behavior. | Student is alert <u>most of the time</u> bus has fallen asleep or done nothing for a few classes. Student shows no disruptive behavior. | Student <u>frequently</u> sleeps and/or disrupts class. |

*2. Effective strategies in enhancing learning through technology (25%)*:

| Item | Level | | | | | | |
|---|---|---|---|---|---|---|---|
| | **7**<br>**Strongly Agree** | **6**<br>**Agree** | **5**<br>**Slightly Agree** | **4**<br>**Neither agree nor disagree** | **3**<br>**Slightly Disagree** | **2**<br>**Disagree** | **1**<br>**Strongly Disagree** |
| 1. Student is able to explain technology to find more information. | | | | | | | |
| 2. Student is able to explain technology to plan and monitor learning. | | | | | | | |
| 3. Student is able to explain technology to construct different forms  of knowledge representation. | | | | | | | |
| 4. Student is able to explain facilitating learning with each other using technology. | | | | | | | |

*3. Design educational context through technology (25%):*

| Item | Level | | | | | | |
|---|---|---|---|---|---|---|---|
| | **7**<br>**Strongly Agree** | **6**<br>**Agree** | **5**<br>**Slightly Agree** | **4**<br>**Neither agree nor disagree** | **3**<br>**Slightly Disagree** | **2**<br>**Disagree** | **1**<br>**Strongly Disagree** |
| 1. Student is  able to list down the technology tool. | | | | | | | |
| 2. Student is able to explain features of the technology tool. | | | | | | | |
| 3. Student is able to use the technology tool. | | | | | | | |
| 4. Student is able to list down learning tasks. | | | | | | | |
| 5. Student is able to reflect on learning strategies. | | | | | | | |

| Item | Level | | | | | | |
|---|---|---|---|---|---|---|---|
| | **7** | **6** | **5** | **4** | **3** | **2** | **1** |
| | **Strongly Agree** | **Agree** | **Slightly Agree** | **Neither agree nor disagree** | **Slightly Disagree** | **Disagree** | **Strongly Disagree** |
| 6. Student is able to explain technology to find more information. | | | | | | | |
| 7. Student is able to explain technology to plan and monitor learning. | | | | | | | |
| 8. Student is able to explain technology to construct different forms of knowledge representation. | | | | | | | |
| 9. Student is able to explain facilitating learning with each other using technology. | | | | | | | |

*4. Final Examination (30%)*

| Item | Level | | | | | | |
|---|---|---|---|---|---|---|---|
| | **7** | **6** | **5** | **4** | **3** | **2** | **1** |
| | **Strongly Agree** | **Agree** | **Slightly Agree** | **Neither agree nor disagree** | **Slightly Disagree** | **Disagree** | **Strongly Disagree** |
| 1. Student is able to list down the technology tool. | | | | | | | |
| 2. Student is able to explain features of the technology tool. | | | | | | | |
| 3. Student is able to use the technology tool. | | | | | | | |
| 4. Student is able to list down learning tasks. | | | | | | | |
| 5. Student is able to reflect on learning strategies. | | | | | | | |

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| Item | Level | | | | | | |
|------|-------|---|---|---|---|---|---|
| | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| | Strongly Agree | Agree | Slightly Agree | Neither agree nor disagree | Slightly Disagree | Disagree | Strongly Disagree |
| 6. Student is able to explain technology to find more information. | | | | | | | |
| 7. Student is able to explain technology to plan and monitor learning. | | | | | | | |
| 8. Student is able to explain technology to construct different forms of knowledge representation. | | | | | | | |
| 9. Student is able to explain facilitating learning with each other using technology. | | | | | | | |
| 10. Student is able to formulate in-depth discussion about the content knowledge and facilitate learning with appropriate technology. | | | | | | | |
| 11. Student is able to explain designing learning tasks about the content knowledge and represent them through technology to engage learning. | | | | | | | |
| 12. Student is able to explain structuring activities to help constructing different representations of content knowledge using appropriate technology tool. | | | | | | | |
| 13. Student is able to explain designing activities to guide making sense of the content knowledge with appropriate technology tool. | | | | | | | |

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

| | | |
|---|---|---|
| 90-100% | = | A |
| 80-89% | = | B+ |
| 70-79% | = | B |
| 60-69% | = | C+ |
| 50-59% | = | C |

Please note that any formal appeal made to raise concern about the courses including learning, teaching, and assessment methods, as well as the IL programme including facilities and infrastructure can be made through the Education website (https://il.mahidol.ac.th/eng/education/)