



# General *Education*

**General Education (2023 Revision)**

**International Program**



หมวดวิชาศึกษาทั่วไป  
สำหรับหลักสูตรนานาชาติ  
(ฉบับปรับปรุง พ.ศ. 2566)

สำนักวิชาศึกษาทั่วไป  
สถาบันเทคโนโลยีพระจอมเกล้าเจ้าคุณทหารลาดกระบัง

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**หมวดวิชาศึกษาทั่วไป**  
**สถาบันเทคโนโลยีพระจอมเกล้าเจ้าคุณทหารลาดกระบัง**  
**ฉบับปรับปรุง พ.ศ. 2566**

**หมวดที่ 1 ข้อมูลทั่วไป**

**1. ชื่อหมวดวิชา**

ชื่อภาษาไทย : หมวดวิชาศึกษาทั่วไป

ชื่อภาษาอังกฤษ : General Education Program

**2. หน่วยงานรับผิดชอบ**

สำนักวิชาศึกษาทั่วไป สถาบันเทคโนโลยีพระจอมเกล้าเจ้าคุณทหารลาดกระบัง

**3. จำนวนหน่วยกิต**

ไม่น้อยกว่า 24 หน่วยกิต

**4. ภาษาที่ใช้**

หลักสูตรจัดการศึกษาเป็นภาษาอังกฤษ และภาษาต่างประเทศอื่นตามแต่ละรายวิชาภาษา

**5. สถานภาพของหมวดวิชาศึกษาทั่วไปและการพิจารณาอนุมัติ/เห็นชอบหลักสูตร**

5.1 หมวดวิชาศึกษาทั่วไปสำหรับหลักสูตรนานาชาติ (ฉบับปรับปรุง พ.ศ. 2566) หมวดวิชาศึกษาทั่วไป สำหรับหลักสูตรนานาชาติ (ฉบับปรับปรุง พ.ศ.2564) กำหนดให้ใช้ในภาคการศึกษาที่ 1 ปีการศึกษา 2566 เป็นต้นไป

5.2 หมวดวิชาศึกษาทั่วไปสำหรับหลักสูตรนานาชาตินี้ ผ่านการพิจารณาของคณะกรรมการพัฒนาหลักสูตร เมื่อวันที่ 8 กันยายน พ.ศ. 2565

5.3 หมวดวิชาศึกษาทั่วไปสำหรับหลักสูตรนานาชาตินี้ ได้ผ่านการพิจารณากลับกรองโดยคณะกรรมการสภาวิชาการสถาบันเทคโนโลยีพระจอมเกล้าเจ้าคุณทหารลาดกระบัง ในการประชุมครั้งที่ 9/2565 เมื่อวันที่ 27 กันยายน พ.ศ. 2565

5.4 หมวดวิชาศึกษาทั่วไปสำหรับหลักสูตรนานาชาตินี้ ได้รับอนุมัติ/เห็นชอบหลักสูตรจากสภาสถาบันเทคโนโลยีพระจอมเกล้าเจ้าคุณทหารลาดกระบัง ในการประชุมครั้งที่ 10/2565 เมื่อวันที่ 18 ตุลาคม พ.ศ. 2565

#### 6. สถานที่จัดการเรียนการสอน

- สถาบันเทคโนโลยีพระจอมเกล้าเจ้าคุณทหารลาดกระบัง กรุงเทพฯ
- สถาบันเทคโนโลยีพระจอมเกล้าเจ้าคุณทหารลาดกระบัง วิทยาเขตชุมพรเขตรอุดมศักดิ์
- สถานที่ตามที่คุณสอนระบุเป็นเงื่อนไขให้ผู้เรียนทราบ (ในกรณีการใช้ช่องทางการจัดการเรียนทางไกลและแบบผสมผสาน)

## หมวดที่ 2 ข้อมูลเฉพาะของหมวดวิชาศึกษาทั่วไป

### 1. หลักการและเหตุผลในการปรับปรุง

การจัดการศึกษาแบบมุ่งเน้นผลลัพธ์การเรียนรู้ (Outcome-based Education) และการจัดการเรียนรู้แบบใช้สมรรถนะเป็นฐาน (Competency-based Learning) ที่ดำเนินการในสถาบันเทคโนโลยีพระจอมเกล้าเจ้าคุณทหารลาดกระบัง มุ่งเน้นให้นักศึกษาได้ฝึกทักษะต่างๆ เพื่อสร้างบัณฑิตที่มีความสามารถและทักษะที่ใช้ได้จริงในยุคศตวรรษที่ 21 โดยกลุ่มรายวิชาศึกษาทั่วไปเป็นกลุ่มรายวิชามุ่งเน้นการพัฒนาทักษะของนักศึกษาให้เป็นผู้ที่มีความสามารถในการแสวงหาความรู้เพื่อสามารถดำรงชีวิตได้ในศตวรรษที่ 21 มีทักษะพื้นฐานสำหรับการพัฒนาตนเองและส่งเสริมความก้าวหน้าทางวิชาชีพ มีทักษะด้านการจัดการและมีภาวะความเป็นผู้นำ มีทักษะในการสื่อสาร มีความสามารถในการใช้เทคโนโลยีสารสนเทศ และเป็นผู้ดำเนินชีวิตตามอัตลักษณ์ของสถาบัน “ซื่อสัตย์ ใฝ่รู้ สู้งาน”

การปรับปรุงหมวดวิชาศึกษาทั่วไปของ สจล. ฉบับปรับปรุง พ.ศ. 2566 ดำเนินการตามมาตรฐานหลักสูตรการศึกษาระดับอุดมศึกษา พ.ศ. 2565 และ เกณฑ์มาตรฐานหลักสูตรระดับปริญญาตรี พ.ศ. 2565 และการจัดการศึกษาในหมวดนี้ยังเป็นไปตามกรอบมาตรฐานคุณวุฒิระดับอุดมศึกษาแห่งชาติ พ.ศ. 2565 ซึ่งมุ่งเน้นผลลัพธ์การเรียนรู้ (Learning Outcomes) ของบัณฑิตอย่างน้อยสี่ด้าน ดังต่อไปนี้ ด้านความรู้ ด้านทักษะด้านจริยธรรม ด้านลักษณะบุคคล โดยแบ่งผลลัพธ์การเรียนรู้ของหมวดวิชาศึกษาทั่วไปเป็น 11 กลุ่มทักษะ (KMITL General Education Skills) ดังนี้

1. การคิดวิเคราะห์และการคิดอย่างมีวิจารณญาณ (Analytical and Critical Thinking)
2. การแก้ปัญหาเชิงซับซ้อน (Complex Problem Solving)
3. การคิดสร้างสรรค์ (Creative Thinking)
4. การบริหารความสัมพันธ์กับผู้อื่น (Interpersonal Management)
5. ความซื่อสัตย์และความพากเพียรพยายาม (Integrity and Perseverance)
6. การเรียนรู้เชิงรุกและการใฝ่รู้ (Active Learning & Learning Strategies)
7. ความอดทน ยืดหยุ่น และฟื้นตัวจากสภาวะความเครียด (Resilience, Stress, Tolerance and Flexibility)
8. การเป็นผู้นำและผู้เปลี่ยนแปลงสังคม (Leadership and Social Influence)
9. การสื่อสารอย่างมีประสิทธิภาพ (Effective Communication)
10. การเป็นผู้ประกอบการและการลงทุน (Entrepreneurship and Investment)
11. การรู้เท่าทันดิจิทัลและการผลิตสื่อดิจิทัล (Digital Quotient Literacy and Digital Media Production)

จากหลักการและเหตุผลดังกล่าวข้างต้น หมวดวิชาศึกษาทั่วไป ฉบับปรับปรุง พ.ศ.2566 จึงได้รับการออกแบบที่โดดเด่น มีความทันสมัยโดยเน้นเรื่องของการพัฒนาทักษะเป็นหลัก แต่ยังคงมีเป้าหมายที่ครอบคลุมหลักการต่างๆไว้อย่างครบถ้วน เพื่อสร้างบัณฑิตที่สามารถดำรงชีวิตอยู่ในศตวรรษที่ 21 อย่างมีคุณภาพ

## 2. ปรัชญาของหมวดวิชาศึกษาทั่วไป

หมวดวิชาที่เสริมสร้างความเป็นมนุษย์ที่สมบูรณ์ ให้พร้อมสำหรับโลกในปัจจุบันและอนาคต เพื่อให้เป็นบุคคลผู้ใฝ่รู้และมีทักษะทางสังคม (Soft Skills) ที่จำเป็นสำหรับศตวรรษที่ 21 อย่างครบถ้วน เป็นผู้มีความรอบรู้อย่างกว้างขวาง เข้าใจ และเห็นคุณค่าของตนเอง ผู้อื่น สังคม ศิลปวัฒนธรรม และธรรมชาติ สามารถบูรณาการศาสตร์ต่างๆ ในการพัฒนา หรือแก้ไขปัญหา เป็นผู้ที่ไม่ใจต่อความเปลี่ยนแปลงของสรรพสิ่ง พัฒนาตนเองอย่างต่อเนื่อง พร้อมให้ความช่วยเหลือเพื่อนมนุษย์ เป็นพลเมืองที่เข้มแข็ง รู้คุณค่าและรักษาชาติกำเนิด ดำเนินชีวิตอย่างมีคุณธรรมจริยธรรม และเป็นพลเมืองที่มีคุณค่าของสังคมไทยและสังคมโลก

## 3. วัตถุประสงค์ของหมวดวิชาศึกษาทั่วไป

1. เพื่อให้ให้นักศึกษาได้รับการพัฒนาและฝึกฝนทักษะที่จำเป็นในศตวรรษที่ 21 รวมทั้งการปลูกฝังอัตลักษณ์ของสถาบันฯ ที่สะท้อนถึงคุณลักษณะความซื่อสัตย์ ใฝ่รู้ สู้งาน และการเรียนรู้ตลอดชีวิต
2. เพื่อให้ให้นักศึกษาได้รับการพัฒนาและฝึกฝนทักษะด้านบุคคลที่เกี่ยวข้องกับกระบวนการคิด อารมณ์ ความรู้สึก รวมถึงทักษะการเรียนรู้ตลอดชีวิต เพื่อให้ นักศึกษาเป็นผู้ตระหนักรู้ถึงการบูรณาการศาสตร์ต่างๆ ในการพัฒนา หรือแก้ไขปัญหา
3. เพื่อให้ให้นักศึกษาได้รับการพัฒนาและฝึกฝนทักษะด้านการจัดการและภาวะความเป็นผู้นำ รวมทั้งทักษะการเป็นผู้ประกอบการยุคใหม่ เพื่อให้ นักศึกษาสามารถปรับตัวเข้ากับโลกที่มีความเปลี่ยนแปลงตลอดเวลา สามารถดำรงตนเป็นพลเมืองที่เข้มแข็ง ดำเนินชีวิตอย่างมีคุณธรรมจริยธรรม และเป็นพลเมืองที่มีคุณค่าของสังคมไทยและสังคมโลก
4. เพื่อให้ให้นักศึกษาได้รับการพัฒนาและฝึกฝนทักษะด้านภาษาและการสื่อสารซึ่งเป็นเครื่องมือสำคัญในการดำรงชีวิตและการทำงาน เพื่อให้ นักศึกษาเป็นผู้สื่อสารที่ดี สามารถฟังอย่างอย่างลึกซึ้ง และสื่อสารได้อย่างมีคุณภาพทั้งทางวจนภาษา และ อวัจนภาษา
5. เพื่อให้ให้นักศึกษาได้รับการพัฒนาทักษะที่จำเป็นต่อการใช้ชีวิตในอนาคต เพื่อให้ นักศึกษาทักษะในการใช้เทคโนโลยีสารสนเทศรวมถึงการตระหนักรู้ทางด้านดิจิทัล

## 4. ผลลัพธ์การเรียนรู้

ผลลัพธ์การเรียนรู้หมวดวิชาศึกษาทั่วไป ตามกรอบมาตรฐานคุณวุฒิระดับอุดมศึกษาแห่งชาติ พ.ศ. 2565 กำหนดดังนี้

### PLO 1 ความรู้

PLO 1.1 มีความรู้ ความเข้าใจเกี่ยวกับมนุษย์ วิธีการดำเนินชีวิต ในโลกปัจจุบัน

PLO 1.2 มีความรู้ ความเข้าใจในธรรมชาติ ความเป็นวิทยาศาสตร์ และการใช้เทคโนโลยีในชีวิตประจำวัน



- PLO 1.3 มีความรู้ ความเข้าใจในด้านบริหารจัดการ เศรษฐกิจ สังคม และการเมือง เพื่อการอยู่ร่วมกันในสังคม
- PLO 1.4 มีวิสัยทัศน์ในการมองสิ่งต่างๆ รอบตัวเพื่อนำมาปรับใช้ในการดำเนินชีวิต
- PLO 1.5 มีความรู้ ความเข้าใจ และเคารพในความเหมือนและความต่างของตนเอง ผู้อื่น สังคมและศิลปวัฒนธรรม
- PLO 2 ทักษะ
- PLO 2.1 มีทักษะการแสวงหาความรู้ตลอดชีวิตเพื่อพัฒนาตนเองอย่างต่อเนื่อง
- PLO 2.2 มีทักษะในการประเมินความรู้ ความสามารถของตนเอง และกำหนดเป้าหมายการเรียนรู้ที่ต้องการพัฒนาอย่างต่อเนื่องได้
- PLO 2.3 มีทักษะในการใช้ความรู้อย่างสร้างสรรค์
- PLO 2.4 มีทักษะในการคิดเป็นเหตุเป็นผล และเชื่อมโยงความคิดในภาพรวมได้
- PLO 2.5 มีทักษะในการเลือกใช้วิธีการคิด และตีความ ประเมินค่าเพื่อการตัดสินใจในการแก้ไขปัญหา
- PLO 2.6 มีทักษะในการใช้เทคโนโลยีสารสนเทศอย่างมีจรรยาบรรณ
- PLO 2.7 มีทักษะการสื่อสารได้อย่างมีประสิทธิภาพ
- PLO 3 จริยธรรม
- PLO 3.1 มีความซื่อสัตย์ สุจริต
- PLO 3.2 มีความขยัน อดทน สู้งาน มีระเบียบวินัย
- PLO 3.3 มีความตระหนักในความพอเพียง
- PLO 3.4 มีความเสียสละ และเป็นแบบอย่างที่ดี
- PLO 3.5 มีจิตสำนึกในการทำความดีเพื่อสังคม
- PLO 4 ลักษณะบุคคล
- PLO 4.1 มีจิตอาสาโดยมุ่งให้ความช่วยเหลือในการแก้ไขปัญหาเพื่อส่วนรวม
- PLO 4.2 มีสำนึกสาธารณะ โดยรู้จัก ดูแล เอาใจใส่ รักษาสมบัติของส่วนรวม
- PLO 4.3 มีภาวะผู้นำและผู้ตาม สามารถปฏิบัติตนได้เหมาะสมตามบทบาทหน้าที่
- PLO 4.4 มีความเข้าใจในบทบาทหน้าที่การเป็นพลเมืองที่ดี และสามารถเป็นที่พึ่งของตนเองและสังคมได้
- PLO 4.5 มีความซาบซึ้งในความงามของศิลปะ และสุนทรียศาสตร์

## 5. กำหนดการเปิดสอน

การจัดการเรียนการสอนหมวดวิชาศึกษาทั่วไปตามรายวิชาในฉบับนี้ สามารถดำเนินการได้ ตั้งแต่ภาคการศึกษาที่ 1 ปีการศึกษา 2566 เป็นต้นไป

## 6. อาจารย์ผู้สอน

อาจารย์ผู้สอนในหมวดวิชาศึกษาทั่วไป ได้แก่ อาจารย์ประจำของสถาบันเทคโนโลยีพระจอมเกล้าเจ้าคุณทหารลาดกระบังจากทุกคณะ/วิทยาลัย/วิทยาเขต โดยอาจมีวิทยากร และอาจารย์พิเศษที่สถาบันฯ เชิญเป็นผู้สอนตามความเหมาะสมและความจำเป็น

## 7. นักศึกษา

หลักสูตรปรับปรุงใหม่จะใช้สำหรับนักศึกษาเข้าศึกษาที่สถาบันฯ ในปีการศึกษา 2566 เป็นต้นไป โดยนักศึกษาที่เข้าศึกษาในสถาบันฯ ก่อนปีการศึกษา 2566 สามารถลงทะเบียนเรียนและเทียบโอนรายวิชา หรือเลือกลงทะเบียนเรียนเป็นวิชาเลือกเสรีได้ นอกจากนี้ยังเปิดให้บุคคลภายนอกที่มีความสนใจในการพัฒนาทักษะ (Upskill/Reskill) สามารถเลือกเรียนในรูปแบบการสะสมหน่วยกิตได้

## หมวดที่ 3 ระบบการจัดการศึกษา การดำเนินการและโครงสร้างของหมวดวิชาศึกษาทั่วไป

### 1. ระบบการจัดการศึกษา

โดยทั่วไป ใช้ระบบการศึกษาแบบทวิภาค โดยใน 1 ปีการศึกษาแบ่งเป็น 2 ภาคการศึกษา ในแต่ละภาค การศึกษามีระยะเวลาการศึกษาไม่น้อยกว่า 15 สัปดาห์หรืออาจยืดหยุ่นในการจัดเวลาเรียนแต่ต้องเก็บสะสม เวลาเรียนให้ครบเทียบเท่ากับหน่วยกิตของวิชานั้นๆ ทั้งนี้ในภาคการศึกษาพิเศษอาจมีการจัดการเรียนการสอน ซึ่งข้อกำหนดต่างๆ เป็นไปตามข้อบังคับสถาบันฯ ว่าด้วยการศึกษาระดับปริญญาตรี พ.ศ. 2559

### 2. การดำเนินการหลักสูตร

2.1 สำหรับรายวิชาที่เปิดในสถาบัน ฯ จะเปิดสอนและวัดผลในวันและเวลาทำการของสถาบันฯ โดยสำนัก วิชาศึกษาทั่วไปเป็นผู้ประกาศตารางสอนและตารางสอบวิชาศึกษาทั่วไปในระบบของสำนักทะเบียนฯ

2.2 สำหรับการเทียบโอนหน่วยกิตจากการศึกษาในรูปแบบอื่นๆ ให้เป็นไปตาม ข้อบังคับสถาบันฯ ว่า ด้วยการศึกษาระดับปริญญาตรี โดยจะต้องผ่านการพิจารณาจากคณะกรรมการของสำนักวิชาศึกษา ทั่วไป

\* หลักสูตรจัดแผนการศึกษาตามที่กำหนดไว้ในภาคผนวก D

### 3. โครงสร้างหมวดวิชาศึกษาทั่วไป

3.1 หมวดวิชาศึกษาทั่วไป มีจำนวนหน่วยกิตรวมไม่น้อยกว่า 24 หน่วยกิต

3.2 เกณฑ์การผ่านหมวดวิชาศึกษาทั่วไป

เกณฑ์การผ่านหมวดวิชาศึกษาทั่วไป นักศึกษาต้องลงทะเบียนเรียนให้ครบ 24 หน่วยกิต ตามที่ แผนการศึกษาของหลักสูตรได้ระบุไว้ โดยหลักสูตรสามารถเลือกแผนการศึกษาได้ดังนี้

#### 3.2.1 แผน ก.

เลือกใช้รายวิชา 96641004 – 96641007 Team-Project 1-3

#### 3.2.1.1 โครงสร้างหลักสูตร

A. General Education Courses	24 Credits
- KMITL Identity Skills Courses	12 Credits
- Language and Communication Courses	3 Credits
- General Education Selective Courses	9 Credits

#### 3.2.1.2 รายวิชา

##### KMITL Identity Skills Courses

รหัสวิชา	รายวิชา	หน่วยกิต
*96641004	TEAM-PROJECT 1	1 (0-2-1)
*96641005	TEAM-PROJECT 2	1 (0-2-1)
*96641006	TEAM-PROJECT 3	1 (0-2-1)
*96641007	DIGITAL CITIZEN	3 (3-0-6)

รหัสวิชา	รายวิชา	หน่วยกิต
*96641009	INTERCULTURAL COMMUNICATION SKILLS IN ENGLISH 1	3 (3-0-6)
*96641010	INTERCULTURAL COMMUNICATION SKILLS IN ENGLISH 2	3 (3-0-6)

\*การประเมินผลใน 6 รายวิชา 96641004 – 96641010 จะใช้เกณฑ์ผลการเรียนเป็นผ่าน (S) หรือไม่ผ่าน (U)

#### Language and Communication Courses

รหัสวิชา	รายวิชา	หน่วยกิต
96644xxx or 969644xx	LANGUAGE AND COMMUNICATION COURSES	3 (x-x-x)

#### General Education Selective Courses

รหัสวิชา	รายวิชา	หน่วยกิต
9664xxxx or 96964xxx	GENERAL EDUCATION COURSES	9 (x-x-x)

### 3.2.2 แผน ข.

เลือกใช้รายวิชาของหลักสูตรหรือคณะ ที่มีผลลัพธ์การเรียนรู้เทียบกับรายวิชา 96641004 – 96641006 Team-Project 1-3

#### 3.2.1.1 โครงสร้างหลักสูตร

A. General Education Courses	24 Credits
- KMITL Identity Skills Courses	9 Credits
- Language and Communication Courses	3 Credits
- General Education Selective Courses	12 Credits

#### 3.2.1.2 รายวิชา

##### KMITL Identity Skills Courses

รหัสวิชา	รายวิชา	หน่วยกิต
*96641007	DIGITAL CITIZEN	3 (3-0-6)
*96641009	INTERCULTURAL COMMUNICATION SKILLS IN ENGLISH 1	3 (3-0-6)
*96641010	INTERCULTURAL COMMUNICATION SKILLS IN ENGLISH 2	3 (3-0-6)

\*การประเมินผลใน 3 รายวิชา 96641004 – 96641010 จะใช้เกณฑ์ผลการเรียนเป็นผ่าน (S) หรือไม่ผ่าน (U)

#### Language and Communication Courses

รหัสวิชา	รายวิชา	หน่วยกิต
96644xxx or 969644xx	LANGUAGE AND COMMUNICATION COURSES	3 (x-x-x)

#### General Education Selective Courses

รหัสวิชา	รายวิชา	หน่วยกิต
9664xxxx or 96964xxx	GENERAL EDUCATION COURSES	12 (x-x-x)

### 3.3 คำอธิบายระบบรหัสวิชา

รายละเอียดของระบบรหัสวิชาในหลักสูตรฉบับปรับปรุงนี้ มีรายละเอียดดังนี้

- รหัสตำแหน่งที่ 1 - 2 หมายถึง รหัสประจำหมวดวิชาศึกษาทั่วไป กำหนดเป็น 96 = สำหรับหลักสูตรนานาชาติ (International Program)
- รหัสตำแหน่งที่ 3 - 4 หมายถึง ปี พ.ศ. ที่เริ่มกำหนดใช้รายวิชา 64 = รายวิชา บังคับใช้ตั้งแต่ปี พ.ศ. 2564
- รหัสตำแหน่งที่ 5 หมายถึง รหัสประจำกลุ่มทักษะ
  - 1 = KMITL Identity Skills
  - 2 = Personal and Professional Skills
  - 3 = Management and Leadership Skills
  - 4 = Language and Communication Skills
- รหัสตำแหน่งที่ 6 - 8 หมายถึง ลำดับที่ของรายวิชา กำหนดเป็น 001 - 999 ในกลุ่มทักษะต่าง ๆ

### 3.4 รายวิชาในหมวดวิชาศึกษาทั่วไป

#### KMITL IDENTITY SKILLS

96641004	TEAM-PROJECT 1	1 (0-2-1)
96641005	TEAM-PROJECT 2	1 (0-2-1)
96641006	TEAM-PROJECT 3	1 (0-2-1)
96641007	DIGITAL CITIZEN	3 (3-0-6)
96641009	INTERCULTURAL COMMUNICATION SKILLS IN ENGLISH 1	3 (3-0-6)
96641010	INTERCULTURAL COMMUNICATION SKILLS IN ENGLISH 2	3 (3-0-6)

#### PERSONAL AND PROFESSIONAL SKILLS

96642001	PRACTICE UNDER PERSONAL AND PROFESSIONAL SKILLS 1	1 (0-2-1)
96642002	PRACTICE UNDER PERSONAL AND PROFESSIONAL SKILLS 2	2 (0-4-2)
96642003	PRACTICE UNDER PERSONAL AND PROFESSIONAL SKILLS 3	3 (0-6-3)
96642011	CRITICAL THINKING	3 (3-0-6)
96642012	DESIGN THINKING	3 (3-0-6)
96642013	INTEGRATED THINKING	3 (3-0-6)
96642014	INNOVATIVE AND SYSTEM THINKING	3 (3-0-6)
96642015	CREATIVE THINKING AND INNOVATION	3 (3-0-6)
96642017	INNOVATION UNBOXED	3 (3-0-6)
96642018	CREATIVE PRODUCTION TECHNOLOGY	3 (3-0-6)
96642019	BASIC CREATIVE STEM DESIGN	3 (3-0-6)
96642020	ADVANCE CREATIVE STEM DESIGN	3 (3-0-6)
96642021	JUNK DESIGN	3 (3-0-6)

96642022	PHILOSOPHY OF SCIENCE	3 (3-0-6)
96642024	PROFESSIONAL INFORMATION ANALYSIS AND ACADEMIC PRESENTATION	3 (3-0-6)
96642025	FACTS BEHIND NUMBERS	3 (3-0-6)
96642026	RESEARCH SKILL DEVELOPMENT	3 (3-0-6)
96642028	GAMBLING LITERACY	3 (3-0-6)
96642029	MEDICAL ETHICS, LAWS AND PROFESSIONALISM	3 (2-2-5)
96642030	ENGINEERING ETHICS AND LAW	3 (3-0-6)
96642031	PROFESSIONAL ETHICS AND LAWS	3 (3-0-6)
96642032	LAW FOR ENTREPRENEURS	3 (3-0-6)
96642033	LAW FOR NEW GENERATION	3 (3-0-6)
96642034	LAW AND REGULATION IN AVIATION INDUSTRY	3 (3-0-6)
96642035	INDUSTRIAL EXPERIENCE FOR ENGINEERS	3 (0-18-0)
96642036	PRE-ACTIVITIES FOR ENGINEERS	1 (0-3-0)
96642037	PROFESSIONAL SKILLS AND ISSUES	3 (3-0-6)
96642038	OCCUPATIONAL SAFETY AND HEALTH	3 (3-0-6)
96642039	QUICK-FIX @ HOME	3 (3-0-6)
96642040	COFFEE MANIA	3 (3-0-6)
96642041	DORM CHEF	3 (3-0-6)
96642042	SCIENCE AND ART OF MEATS	3 (3-0-6)
96642043	SCIENCE OF BURGER	3 (3-0-6)
96642044	WORLD OF SAUSAGES	3 (3-0-6)
96642045	BE MY BEV.	3 (3-0-6)
96642046	RICE-SARA	3 (3-0-6)
96642047	TREE DOCTOR	3 (3-0-6)
96642048	FUN WITH DRUGS AND HERBS	3 (3-0-6)
96642049	MICROBIAL UTILIZATION FOR DAILY LIFE	3 (3-0-6)
96642050	MEDICINAL PLANTS	3 (3-0-6)
96642051	BIOTECHNOLOGY FOR BETTER LIVING	3 (3-0-6)
96642052	GENES & GENETICS : FROM HELIX TO HEREDITARY	3 (3-0-6)
96642053	INTERESTING MOLECULAR GENETICS	3 (3-0-6)
96642054	GUARDIANS OF OUR BODIES	3 (3-0-6)
96642055	LIVING WITH MICROBES	3 (3-0-6)
96642056	EPIDEMICS IN THE 21 <sup>ST</sup> CENTURY	3 (3-0-6)
96642057	IMMUNITY THROUGH MEDIA	3 (3-0-6)
96642058	UNDERSTANDING HEALTH POLICY AND PUBLIC WELFARE	3 (3-0-6)
96642059	MEDICINE AND LITERATURE	3 (3-0-6)
96642060	SELF-DISCOVERY	3 (3-0-6)

96642061	WORLD OF INSECTS	3 (3-0-6)
96642062	ALL ABOUT FOOD	3 (3-0-6)
96642063	HOLISTIC HEALTH DEVELOPMENT	3 (3-0-6)
96642074	E-SPORTS	3 (2-2-5)
96642080	INTRODUCTION TO MUSIC COMPOSITION	3 (3-0-6)
96642081	RAP APPRECIATION	3 (3-0-6)
96642082	MUSIC APPRECIATION	3 (3-0-6)
96642083	FILM APPRECIATION	3 (3-0-6)
96642084	PHOTOGRAPHY APPRECIATION	3 (2-2-5)
96642085	CONTEMPORARY CULTURE	3 (3-0-6)
96642086	INTRODUCTION TO DESIGN CULTURE	3 (3-0-6)
96642087	WORLD CULTURE	3 (3-0-6)
96642088	TRADITIONAL CHINESE CULTURE	3 (3-0-6)
96642089	CHINESE SOCIETY, ECONOMY AND POLITICS	3 (3-0-6)
96642090	GLOBAL INSIDE	3 (3-0-6)
96642091	ASIAN STUDY	3 (3-0-6)
96642092	CIVIC EDUCATION	3 (3-0-6)
96642093	COMMUNITY ENGAGEMENT	3 (3-0-6)
96642094	PRINCIPLES OF COMMUNITY DEVELOPMENT	3 (3-0-6)
96642095	NATIONAL SECURITY DEVELOPMENT	3 (3-0-6)
96642096	MILITARY SCIENCE	3 (3-0-6)
96642097	APPLIED THAI WISDOMS	3 (3-0-6)
96642098	DYNAMICS OF THAI SOCIETY	3 (3-0-6)
96642099	ACTIVE AGING SOCIETY	3 (3-0-6)
96642101	REVIEWER	3 (3-0-6)
96642102	YOUTUBER	3 (3-0-6)
96642103	LIVING IN DIGITAL SOCIETY	3 (3-0-6)
96642106	DIGITAL STORYTELLING IN JOURNEY	3 (3-0-6)
96642107	DIGITAL MEDIA PRODUCTION	3 (3-0-6)
96642108	DIGITAL PHOTOGRAPHY TECHNOLOGY	3 (2-2-5)
96642109	INFOGRAPHIC DESIGN	3 (3-0-6)
96642110	FUN WITH DATA SCIENCE	3 (3-0-6)
96642111	FUN WITH CODING	3 (3-0-6)
96642112	FUN WITH AI	3 (3-0-6)
96642113	ROBOTICS AND AI	3 (3-0-6)
96642114	SMART FARMING	3 (3-0-6)
96642115	GREEN TECHNOLOGY AND ALTERNATIVE ENERGY	3 (3-0-6)
96642116	SMART CITY AND CITY INNOVATION	3 (3-0-6)

96642117	INFORMATION LITERACY SKILLS FOR THE 21st CENTURY	3 (3-0-6)
96642118	APPLICATION SOFTWARE FOR BUSSINESS	2 (1-2-3)
96642120	FROM EXCEL TO EXCELLENT	3 (3-0-6)
96642121	DATA ANALYSIS AND MANAGEMENT WITH COMPUTATIONAL PROGRAM	3 (3-0-6)
96642122	INTRODUCTION TO MICROCOMPUTER APPLICATION	3 (3-0-6)
96642123	TECHNOLOGY IN MUSICAL SEQUENCING	3 (3-0-6)
96642124	SCIENCE TECHNOLOGY AND SCIENCE INNOVATION FOR SDGs	3 (3-0-6)
96642125	LIVING IN FUTURE DISASTER AND CRISIS	3 (3-0-6)
96642126	SURVIVORS	3 (3-0-6)
96642127	THINK EARTH	3 (3-0-6)
96642128	ECOLOGY, CONSERVATION AND ENVIRONMENTALISM	3 (3-0-6)
96642129	ALTERNATIVE TOURISM	3 (3-0-6)
96642130	SPORTS TOURISM	3 (3-0-6)
96642131	THAI CULTURE AND TOURISM	3 (3-0-6)
96642132	CHUMPHON STUDY FOR TOURISM	3 (3-0-6)
96642133	CHUMPHON AREA STUDY	3 (3-0-6)
96642134	KING MONGKUT'S REIGN STUDY	3 (3-0-6)
96642135	PHILOSOPHY OF SUFFICIENCY ECONOMY	3 (3-0-6)
96642136	ETHICS AND AESTHETICS	3 (3-0-6)
96642137	SERIES IN DAILY LIFE	3 (3-0-6)
96642138	MEDITATION FOR LIFE DEVELOPMENT	3 (3-0-6)
96642140	IMMUNITY OF MIND	3 (3-0-6)
96642142	PSYCHOLOGY IN COMMUNICATION	3 (3-0-6)
96642143	DESIGNING YOUR LIFE	3 (3-0-6)
96642144	MAGIC MIRROR	3 (3-0-6)
96642145	POWER OF PERSONALITY	3 (3-0-6)
96642146	POWER OF CHANGE	3 (3-0-6)
96642147	HAPPINESS SKILLS	3 (3-0-6)
96642148	ARTS OF EMOTION DEVELOPMENT	3 (3-0-6)
96642149	IMAGINATIVE ART	3 (3-0-6)
96642150	ART IN EVERYDAY LIFE	3 (3-0-6)
96642151	MAN AND ART	3 (3-0-6)
96642152	JOY OF SHARING	3 (3-0-6)
96642153	UNDERSTANDING HUMAN BEHAVIOR	3 (3-0-6)
96642154	FAIL-ABLE	3 (3-0-6)
96642156	FENG SHUI	3 (3-0-6)
96642157	THAI ASTROLOGY	3 (3-0-6)



96642158	CONTEMPORARY SCIENCE AND TECHNOLOGY	3 (3-0-6)
96642159	INTRODUCTION TO PSYCHOLOGY	3 (3-0-6)
96642161	ELECTRONIC MUSIC HISTORY	3 (3-0-6)
96642162	READY TO WORK	3 (3-0-6)
96642163	STAND OUT WITH STRENGTHS	3 (3-0-6)
96642164	INTELLECTUAL PROPERTY LAWS FOR ENTREPRENEUR	3 (3-0-6)
96642165	HEALTH PROMOTION	2 (2-0-4)
96642166	INTRODUCTION TO MINDFULNESS	1 (1-0-2)
96642167	SLICE OF LIFE	3 (3-0-6)
96642168	INTERESTING TOPICS IN MEDICINAL PLANTS FOR WELLNESS AND AESTHETICS	3 (3-0-6)
96642169	CANNABIS FOR LIFE	3 (3-0-6)
96642170	INTRODUCTION TO LOGIC	3 (3-0-6)
96642175	PETANQUE	3 (2-2-5)
96642176	RUGBY FOOTBALL	3 (2-2-5)
96642177	SOCCER	3 (2-2-5)
96642178	SOFTBALL & BASEBALL	3 (2-2-5)
96642179	TENNIS	3 (2-2-5)
96642180	VOLLEYBALL	3 (2-2-5)
96642181	GOLF	3 (2-2-5)
96642182	BADMINTON	3 (2-2-5)
96642183	BASKETBALL	3 (2-2-5)
96642184	CHESS	3 (2-2-5)
96642185	KARATE	3 (2-2-5)
96642186	SHOOTING	3 (2-2-5)
96642187	TABLE TENNIS	3 (2-2-5)
96642188	TAEKWONDO	3 (2-2-5)
96642189	JUDO	3 (2-2-5)
96642190	DESIGN METHODS FOR INNOVATION	3 (3-0-6)
96642191	INTERPRETATION AND ARGUMENT	3 (3-0-6)
96642192	FENCING	3 (2-2-5)
96642193	FUTSAL	3 (2-2-5)
96642194	DANCESPORT	3 (2-2-5)
96642195	BRIDGE	3 (2-2-5)
96642196	PERSONAL TRAINER	3 (2-2-5)
96642197	DIVING FOR ECOTOURISM	3 (2-2-5)
96642198	CHORUS	3 (2-2-5)
96642199	INTEGRATED CREATIVE ART AND DESIGN	3 (1-4-4)

96642200	ASTROLOGY	3 (3-0-6)
96642999	CHARM SCHOOL	3 (3-0-6)

MANAGEMENT AND LEADERSHIP SKILLS

96643001	PRACTICE UNDER MANAGEMENT SKILLS 1	1 (0-2-1)
96643002	PRACTICE UNDER MANAGEMENT SKILLS 2	2 (0-4-2)
96643003	PRACTICE UNDER MANAGEMENT SKILLS 3	3 (0-6-3)
96643004	POSITIVE POWER LEADER	3 (3-0-6)
96643005	THE DISRUPTOR	3 (3-0-6)
96643006	MODERN MANAGEMENT AND LEADERSHIP	3 (3-0-6)
96643007	NEXT GEN LEADERSHIP	3 (3-0-6)
96643008	SCIENCE OF NEGOTIATION	3 (3-0-6)
96643010	CONTEMPORARY MARKETING	3 (3-0-6)
96643012	TEAMWORK	3 (3-0-6)
96643013	INDUSTRIAL MANAGEMENT	3 (3-0-6)
96643014	GENERAL BUSINESS	3 (3-0-6)
96643015	BUSINESS ACCOUNTING FOR NEW GEN	3 (3-0-6)
96643016	FUN WITH ONLINE BUSINESS	3 (3-0-6)
96643018	INTERNATIONAL BUSINESS	3 (3-0-6)
96643019	ECONOMICS AND ENTREPRENEURSHIP	3 (3-0-6)
96643020	INNOVATIVE ENTREPRENEURS	3 (3-0-6)
96643021	MODERN ENTREPRENEURS	3 (3-0-6)
96643022	SOCIAL ENTREPRENEURS	3 (3-0-6)
96643023	TECHNOPRENEURS	3 (3-0-6)
96643024	HAPPINESS FARMS	3 (3-0-6)
96643025	ROAD TO IPO	3 (3-0-6)
96643026	INVESTMENT PLANNING	3 (3-0-6)
96643027	MAN, MONEY AND MATH	3 (3-0-6)
96643028	SMART TIPS FOR BEGINNING INVESTERS	3 (3-0-6)
96643029	DIGITAL ECONOMY	3 (3-0-6)
96643030	GENERAL ECONOMICS AND PROJECT FEASIBILITY STUDY	3 (3-0-6)
96643031	CIRCULAR ECONOMIC LIFESTYLE FOR 21 <sup>st</sup> CENTURY	3 (3-0-6)
96643032	BCG ECONOMY IN ACTION	3 (3-0-6)
96643034	MANAGEMENT AND CREATIVITY	3 (3-0-6)
96643035	KNOWLEDGE MANAGEMENT FOR INNOVATION DEVELOPMENT	3 (3-0-6)
96643036	KNOWLEDGE MANAGEMENT FOR PROJECT MANAGEMENT	3 (3-0-6)
96643037	PUBLIC ADMINISTRATION AND PUBLIC POLICY IN THE 21 <sup>st</sup> CENTURY	3 (3-0-6)

96643038	REBRANDING	3 (3-0-6)
96643039	KMITL INNOVATION	3 (3-0-6)
96643040	LEADERSHIP AS A COACH	3 (3-0-6)
96643041	GLOBAL GOVERNANCE	3 (3-0-6)
96643042	HARD POWER AND SOFT POWER	3 (3-0-6)
96643043	MUSIC BUSINESS	3 (3-0-6)
96643044	LEAN STARTUP AND AGILE BUSINESS	3 (3-0-6)
96643045	INNOVATION MANAGEMENT	3 (3-0-6)

#### LANGUAGE AND COMMUNICATION SKILLS

96644001	PRACTICE UNDER LANGUAGE AND COMMUNICATION SKILLS 1	1 (0-2-1)
96644002	PRACTICE UNDER LANGUAGE AND COMMUNICATION SKILLS 2	2 (0-4-2)
96644003	PRACTICE UNDER LANGUAGE AND COMMUNICATION SKILLS 3	3 (0-6-3)
96644009	BASIC ENGLISH PRONUNCIATION	3 (3-0-6)
96644010	DEVELOPMENT OF READING AND WRITING SKILLS IN ENGLISH	3 (3-0-6)
96644011	ENGLISH FOR ACADEMIC PURPOSES	3 (3-0-6)
96644012	ENGLISH FOR COMMUNICATION	3 (3-0-6)
96644013	ENGLISH FOR COMMUNICATIVE WRITING	3 (3-0-6)
96644014	ENGLISH FOR PROFESSIONAL COMMUNICATION	3 (3-0-6)
96644015	ENGLISH FOR FURTHER STUDIES	3 (3-0-6)
96644016	ENGLISH FOR INDUSTRY	3 (3-0-6)
96644017	ENGLISH FOR BUSINESS	3 (3-0-6)
96644018	ENGLISH FOR MARKETING	3 (3-0-6)
96644019	ENGLISH FOR MANAGEMENT	3 (3-0-6)
96644020	ENGLISH FOR MEDIA	3 (3-0-6)
96644022	ENGLISH FOR PROFESSIONAL PURPOSES	3 (3-0-6)
96644023	ENGLISH FOR WORK PREPARATION	3 (3-0-6)
96644024	ENGLISH FOR TOURISM AND TRAVELLING	3 (3-0-6)
96644025	ENGLISH FOR ARCHITECTURAL ARTS & DESIGN COMMUNICATION	3 (3-0-6)
96644026	ENGLISH FOR ARCHITECTURAL ARTS & DESIGN PRESENTATION	3 (3-0-6)
96644027	ENGLISH FOR NARRATIVE WRITING	3 (3-0-6)
96644028	ENGLISH FOR DESIGN	3 (3-0-6)
96644029	ENGLISH FOR HEALTH PROFESSIONS	3 (2-2-5)
96644030	ENGLISH FOR PUBLIC RELATIONS	3 (3-0-6)
96644031	ENGLISH FOR SCIENCE AND TECHNOLOGY	3 (3-0-6)
96644032	ENGLISH FOR AVIATION	3 (3-0-6)
96644033	WRITING AND SPEAKING IN THE PROFESSIONS	3 (3-0-6)
96644034	TECHNICAL WRITING	3 (3-0-6)

96644035	ACADEMIC READING AND WRITING FOR HEALTH SCIENCES	3 (2-2-5)
96644036	ENGLISH SKILL DEVELOPMENT FOR LIFE-LONG LEARNING	3 (3-0-6)
96644037	CROSS CULTURAL COMMUNICATION	3 (3-0-6)
96644039	COMMUNICATION SKILLS THROUGH DEBATE	3 (3-0-6)
96644040	COMMUNICATION SKILLS THROUGH DRAMA	3 (3-0-6)
96644041	ENGLISH FROM ENTERTAINMENT MEDIA	3 (3-0-6)
96644042	PROFESSIONAL COMMUNICATION AND PRESENTATION	3 (3-0-6)
96644043	PUBLIC SPEAKING	3 (3-0-6)
96644044	BEST SPEECH	3 (3-0-6)
96644045	RESEARCH PAPER WRITING	3 (3-0-6)
96644046	LISTENING AND READING FOR IMPROVING LIFE QUALITY	3 (3-0-6)
96644047	DEVELOPMENT OF THAI CREATIVE WRITING SKILLS	3 (3-0-6)
96644048	LANGUAGE IN THAI SOCIETY	3 (3-0-6)
96644049	THAI LANGUAGE FOR CREATIVITY	3 (3-0-6)
96644050	THAI WRITING IN WORKPLACE	3 (3-0-6)
96644051	THAI FOR DENTAL PROFESSIONS	3 (3-0-6)
96644052	COMMUNICATION IN THAI FOR CULINARY PROFESSIONALS	3 (3-0-6)
96644053	FUNDAMENTAL CHINESE LISTENING AND SPEAKING	3 (3-0-6)
96644054	FUNDAMENTAL CHINESE READING AND WRITING	3 (3-0-6)
96644055	BASIC CHINESE GRAMMAR AND CHINESE IDIOMS AND PROVERBS	3 (3-0-6)
96644056	CHINESE CULTURE IDIOMS AND PROVERBS	3 (3-0-6)
96644057	CHINESE FOR COMMUNICATION	3 (3-0-6)
96644058	CHINESE FANDOM	3 (3-0-6)
96644059	CHINESE FOR TRAVEL	3 (3-0-6)
96644060	GERMAN FOR COMMUNICATION	3 (3-0-6)
96644061	GERMAN FOR WORK AND BUSINESS	3 (3-0-6)
96644062	JAPANESE FOR COMMUNICATION	3 (3-0-6)
96644063	JAPANESE FOR TRAVEL	3 (3-0-6)
96644064	KOREAN FOR TRAVEL	3 (3-0-6)
96644065	VIETNAMESE FOR TRAVEL	3 (3-0-6)
96644066	MALAY FOR TRAVEL	3 (3-0-6)
96644067	CHINESE CONVERSATION FOR IT	3 (3-0-6)
96644068	HOW TO MAKE MONEY WITH CHINESE	3 (3-0-6)
96644069	FOUNDATION JAPANESE	3 (3-0-6)
96644070	INNOVATIVE COMMUNICATION	3 (3-0-6)
96644071	INTRODUCTION TO SIGN LANGUAGE FOR COMMUNICATION	3 (3-0-6)

## หมวดที่ 4 มาตรฐานผลลัพธ์การเรียนรู้

### 1. ผลลัพธ์การเรียนรู้รายวิชาศึกษาทั่วไป

ผลลัพธ์การเรียนรู้รายวิชาศึกษาทั่วไป (General Education Learning Outcomes, GE-LO) ในแต่ละด้าน มาจากการศึกษางานวิจัยของ World Economic Forum และการเก็บข้อมูล จากผู้มีส่วนได้ส่วนเสีย รวมทั้งนักศึกษา อาจารย์ผู้สอน ผู้บริหาร และผู้ใช้บัณฑิต (พ.ศ.2560 - 2565) ซึ่งเป็นการเน้นที่ทักษะที่สำคัญ สำหรับการประกอบอาชีพและดำรงชีวิตในศตวรรษที่ 21 โดยมีทักษะ ตามตารางที่ 4.1

#### ตารางที่ 4.1 ผลลัพธ์การเรียนรู้รายวิชาศึกษาทั่วไป (KMITL General Education Learning Outcomes)

GE-LO	Skills
1	Analytical and Critical Thinking
2	Complex Problem Solving
3	Creative Thinking
4	Interpersonal Management
5	Integrity and Perseverance
6	Active Learning & Learning Strategies
7	Resilience, Stress, Tolerance and Flexibility
8	Leadership and Social Influence
9	Effective Communication
10	Entrepreneurship and Investment
11	(Digital Quotient Literacy and Digital Media Production)

### 2. ผลลัพธ์การเรียนรู้ตามกรอบมาตรฐานคุณวุฒิระดับอุดมศึกษาแห่งชาติ

ความเชื่อมโยงระหว่างผลลัพธ์การเรียนรู้ตามทักษะในตารางที่ 4.1 และผลลัพธ์การเรียนรู้ตามกรอบมาตรฐานคุณวุฒิระดับอุดมศึกษาแห่งชาติ พ.ศ. 2565 (TQF : HEEd) แสดงในตารางที่ 4.2 และแผนที่แสดงการกระจายความรับผิดชอบมาตรฐานผลการเรียนรู้ของหมวดวิชาศึกษาทั่วไป (Curriculum Mapping) ในตารางที่ 4.3 โดยจะเห็นได้ว่าผลลัพธ์การเรียนรู้รายวิชาศึกษาทั่วไป ครอบคลุมทุกทักษะตามที่วางกรอบไว้ พร้อมทั้งตอบโจทย์ปรัชญาการเรียนรู้วิชาศึกษาทั่วไปเป็นอย่างดี

ตารางที่ 4.2 ความเชื่อมโยงผลลัพธ์การเรียนรู้รายวิชาศึกษาทั่วไป (KMITL General Education Learning Outcomes) และผลลัพธ์การเรียนรู้ตามกรอบมาตรฐานคุณวุฒิระดับอุดมศึกษาแห่งชาติ

1. ความรู้	2. ทักษะ	3. จริยธรรม	4. ลักษณะบุคคล
1.1 มีความรู้ ความเข้าใจเกี่ยวกับมนุษย์ วิถีการดำเนินชีวิต ในโลกปัจจุบัน 1.2 มีความรู้ ความเข้าใจในธรรมชาติ ความเป็นวิทยาศาสตร์ และการใช้เทคโนโลยีในชีวิตประจำวัน 1.3 มีความรู้ ความเข้าใจในด้านบริหารจัดการ เศรษฐกิจ สังคม และการเมือง เพื่อการอยู่ร่วมกันในสังคม 1.4 มีวิสัยทัศน์ในการมองสิ่งต่างๆ รอบตัว เพื่อนำมาปรับใช้ในการดำเนินชีวิต 1.5 มีความรู้ ความเข้าใจ และเคารพในความเหมือนและความต่างของตนเอง ผู้อื่น สังคมและศิลปวัฒนธรรม	2.1 มีทักษะการแสวงหาความรู้ตลอดชีวิต เพื่อพัฒนาตนเองอย่างต่อเนื่อง 2.2 มีทักษะในการประเมินความรู้ ความสามารถของตนเอง และกำหนดเป้าหมายการเรียนรู้ที่ต้องการพัฒนาอย่างต่อเนื่องได้ 2.3 มีทักษะในการใช้ความรู้อย่างสร้างสรรค์ 2.4 มีทักษะในการคิดเป็นเหตุเป็นผล และเชื่อมโยงความคิดในภาพรวมได้ 2.5 มีทักษะในการเลือกใช้วิธีการคิด และตีความประเมินค่า เพื่อการตัดสินใจในการแก้ไขปัญหา 2.6 มีทักษะในการใช้เทคโนโลยีสารสนเทศอย่างมีจรรยาบรรณ 2.7 มีทักษะการสื่อสารได้อย่างมีประสิทธิภาพ	3.1 มีความซื่อสัตย์ สุจริต 3.2 มีความขยัน อดทน สู้งาน มีระเบียบวินัย 3.3 มีความตระหนักในความพอเพียง 3.4 มีความเสียสละ และเป็นแบบอย่างที่ดี 3.5 มีจิตสำนึกในการทำความดีเพื่อสังคม	4.1 มีจิตอาสาโดยมุ่งให้ความช่วยเหลือในการแก้ไขปัญหาเพื่อส่วนรวม 4.2 มีสำนึกสาธารณะ โดยรู้จัก ดูแล เอาใจใส่ รักษาสมบัติของส่วนรวม 4.3 มีภาวะผู้นำและผู้ตาม สามารถปฏิบัติตนได้เหมาะสมตามบทบาทหน้าที่ 4.4 มีความเข้าใจในบทบาทหน้าที่การเป็นพลเมืองที่ดี และสามารถเป็นที่พึ่งของตนเองและสังคมได้ 4.5 มีความซาบซึ้งในความงามของศิลปะ และสุนทรียศาสตร์

GE-LO	ผลลัพธ์การเรียนรู้ตามกรอบมาตรฐานคุณวุฒิระดับอุดมศึกษาแห่งชาติ พ.ศ. 2565																					
	1. ความรู้					2. ทักษะ							3. จริยธรรม					4. ลักษณะบุคคล				
	1.1	1.2	1.3	1.4	1.5	2.1	2.2	2.3	2.4	2.5	2.6	2.7	3.1	3.2	3.3	3.4	3.5	4.1	4.2	4.3	4.4	4.5
1. Analytical and Critical Thinking		√		√		√	√		√	√												
2. Complex Problem Solving								√	√	√								√				√
3. Creative Thinking				√				√	√													
4. Interpersonal Management	√		√		√						√	√										√
5. Integrity and Perseverance											√		√	√	√	√			√			
6. Active Learning & Learning Strategies				√		√				√												
7. Resilience, Stress, Tolerance and Flexibility	√			√	√		√				√	√		√	√	√					√	
8. Leadership and Social Influence	√		√					√		√					√	√	√	√	√	√	√	
9. Effective Communication					√						√											
10. Entrepreneurship and Investment			√														√	√		√	√	
11. Digital Quotient Literacy and Digital Media Production		√				√					√	√										

ตารางที่ 4.3 แผนที่แสดงการกระจายความรับผิดชอบมาตรฐานผลการเรียนรู้ของหมวดวิชาศึกษาทั่วไป (CURRICULUM MAPPING)

กลุ่มทักษะ	ผลลัพธ์การเรียนรู้ตามกรอบมาตรฐานคุณวุฒิระดับอุดมศึกษาแห่งชาติ พ.ศ. 2565																					
	1. ความรู้					2. ทักษะ							3. จริยธรรม					4. ลักษณะบุคคล				
	1.1	1.2	1.3	1.4	1.5	2.1	2.2	2.3	2.4	2.5	2.6	2.7	3.1	3.2	3.3	3.4	3.5	4.1	4.2	4.3	4.4	4.5
G1	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
G2	●	●		●		●	●	●	○		●	○	●	●						●		●
G3			●		●	○			●	●			○	○	●	●	●	●	●		●	
G4			○		○	○					○	●		○						○		○
หมวดวิชาศึกษาทั่วไป	●					●							●					●				

G1 = KMITL Identity Skills

G2 = Personal and Professional Skills

G3 = Management and Leadership Skills

G4 = Language and Communication Skills



### 3. คำนวณน้ำหนักของทักษะตามรายวิชา

เนื่องจากรายวิชาศึกษาทั่วไปเป็นการวัดผลด้วยทักษะ (Skill-based approach) การกำหนดเกณฑ์เพื่อใช้ในการพัฒนาผลลัพธ์การเรียนรู้และประเมินสำหรับแต่ละรายวิชา มีดังนี้

1. วิชาแต่ละวิชาจะมีค่าน้ำหนักรวมของทักษะที่ต้องการวัด 15 หน่วย (เป็นเกณฑ์ที่ตั้งขึ้นเพื่อให้สามารถนำมาใช้ คำนวณสำหรับการวัดผลรายวิชา)
2. ผู้ออกแบบรายวิชาจะใช้เกณฑ์นี้ในการกำหนดค่าน้ำหนักของแต่ละทักษะที่ต้องการพัฒนา
3. เมื่อแบ่งสัดส่วนค่าน้ำหนักของแต่ละทักษะที่ต้องการพัฒนา จะนำไปสู่การออกแบบกิจกรรมเพื่อพัฒนาผลลัพธ์การเรียนรู้ที่เหมาะสมต่อไป ค่าน้ำหนักที่กระจายไม่จำเป็นต้องเป็นทักษะใดทักษะหนึ่งหรือไม่จำเป็นต้องเป็นการกระจายอย่างสม่ำเสมอเท่า ๆ กันในทุก ๆ ทักษะ แต่เป็นวิธีการกระจายค่าน้ำหนักตามสัดส่วนที่รายวิชานั้น ๆ มุ่งเน้น

เนื่องจากทุกรายวิชาจะค่าน้ำหนักทั้งสิ้น 15 หน่วยเท่า ๆ กัน ดังนั้นค่าน้ำหนักจริงของแต่ละรายวิชาจะเท่ากับค่าน้ำหนักในแต่ละทักษะคูณกับหน่วยกิตของรายวิชานั้น ๆ แล้วหารด้วย 3 จึงทำให้เมื่อนักศึกษาเรียนครบตามเกณฑ์ (24 หน่วยกิต) แล้ว นักศึกษาจะมีผลน้ำหนักรวมของทุกทักษะเท่ากับ 120 หน่วย

### 4. กลยุทธ์การสอน

เพื่อให้การจัดการเรียนการสอนเป็นไปตามผลลัพธ์การเรียนรู้ที่ตั้งไว้ คณาจารย์ผู้สอนในหมวดวิชาศึกษาทั่วไปปรับเปลี่ยนกลยุทธ์การสอนและการประเมินเพื่อการวัดผลอย่างมีประสิทธิภาพ โดยการเรียนการสอนจะเป็นแบบเชิงรุก (Active Learning) คณาจารย์ผู้สอนทำหน้าที่เป็นผู้นำแนวทาง (Facilitator) ไม่เน้นการสอนแบบบรรยายตลอดเวลา เน้นให้นักศึกษาคิด เรียนจากบริบทที่ค้นคว้า (Teach Less Learn more) และเน้นสร้างกระบวนการเรียนรู้ (Process-based Learning) โดยฝึกให้นักศึกษาได้เข้าใจกระบวนการวิคิด ค้นคว้า ต่อยอดองค์ความรู้ในรายวิชาต่างๆ และเน้นให้นักศึกษาได้ทำกิจกรรมส่งเสริมการเรียนรู้ การลงมือปฏิบัติ เพื่อให้เข้าใจเนื้อหาองค์ความรู้อย่างชัดเจน (Learning by Doing) สำหรับการประเมินผลลัพธ์การเรียนรู้ จะเน้นประเมินจากการลงมือปฏิบัติตลอดระยะเวลาของการเรียนการสอน (Formative Assessment) ร่วมกับการใช้ข้อสอบวัดผลลัพธ์การเรียนรู้เมื่อเรียนจบรายวิชา (Summative Assessment) โดยสัดส่วนหลักจะเน้นที่ผลจากการปฏิบัติมากกว่าการสอบ

## 5. กลยุทธ์การประเมิน

สำหรับการประเมินผลสัมฤทธิ์การเรียนรู้ในทุกด้าน จะเน้นประเมินจากการลงมือปฏิบัติหรือการทำกิจกรรมในชั้นเรียนตลอดระยะเวลาของการเรียนการสอน (Formative Assessment) ร่วมกับการใช้ข้อสอบวัดผลสัมฤทธิ์การเรียนรู้เมื่อเรียนจบรายวิชา (Summative Assessment) โดยสัดส่วนหลักจะเน้นที่ผลจากการปฏิบัติมากกว่าการสอบ ทั้งนี้ การประเมินทั้งสองแบบจะใช้เครื่องมือที่วัดได้เพื่อให้เกิดการประเมินผลที่ถูกต้องและแม่นยำ

สำหรับการประเมินแบบ Formative Assessment โดยการเน้นประเมินทักษะ จะมีการใช้รูบรีคเพื่อให้เกิดการวัดระดับทักษะได้อย่างแท้จริง เมื่อนักศึกษาเรียนครบตามเกณฑ์ที่กำหนด และได้รับการประเมินการเรียนรู้แล้ว นักศึกษาจะได้ทราบถึงการพัฒนาทักษะทั้ง 11 ด้านในรูปแบบ Skills Mapping ภาพรวมของทักษะตามที่ได้ศึกษามา

ภาคผนวก

## ภาคผนวก A

### คำอธิบายรายวิชา

#### KMITL IDENTITY SKILLS

96641004	TEAM-PROJECT 1 PREREQUISITE : NONE Small teams of students can formulate and plan a project that will provide a solution to an identified real-world problem. Students undertake a feasibility study to justify project selection and presentation.	1 (0-2-1)
96641005	TEAM-PROJECT 2 PREREQUISITE : 96641004 TEAM-PROJECT 1 or EQUIVALENT SUBJECT Small teams of students undertake the design, implementation, testing, evaluation, and presentation of a specific project of size and complexity suitable for novice students.	1 (0-2-1)
96641006	TEAM-PROJECT 3 PREREQUISITE : 96641005 TEAM-PROJECT 2 or EQUIVALENT SUBJECT Small teams of students undertake the design, implementation, testing, evaluation, and presentation of a complete project/product/service.	1 (0-2-1)
96641007	DIGITAL CITIZEN PREREQUISITE : NONE Development of digital citizen skills, live safely and responsibly online, use technology creatively and morally, innovate and deliver digital media sensibly, understand modern investment, and live wisely in digital world.	3 (3-0-6)
96641009	INTERCULTURAL COMMUNICATION SKILLS IN ENGLISH 1 PREREQUISITE : NONE A development of intercultural communication competences through practices of English language communication with emphasis on listening practices, basic reading comprehension, idea summary, expressing opinions, in-group presentation, and basic paragraph writing skills.	3 (3-0-6)
96641010	INTERCULTURAL COMMUNICATION SKILLS IN ENGLISH 2 PREREQUISITE : INTERCULTURAL COMMUNICATION SKILLS IN ENGLISH 1 A development of intercultural communication competences through practices of English language communication with emphasis on listening practices, analytic reading, group discussions, public speaking, and different writing techniques such as expository writing, descriptive writing, persuasive writing, and narrative writing.	3 (3-0-6)

#### PERSONAL AND PROFESSIONAL SKILLS

96642001	PRACTICE UNDER PERSONAL AND PROFESSIONAL SKILLS 1	1 (0-2-1)
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PREREQUISITE : NONE

This course provides practice for working or industrial training or training or other related activities which reflect development of the personal and professional support skills at least 15 hours.

96642002 PRACTICE UNDER PERSONAL AND PROFESSIONAL SKILLS 2 2 (0-4-2)  
PREREQUISITE : NONE

This course provides practice for working or industrial training or training or other related activities which reflect development of the personal and professional support skills at least 30 hours.

96642003 PRACTICE UNDER PERSONAL AND PROFESSIONAL SKILLS 3 3 (0-6-3)  
PREREQUISITE : NONE

This course provides practice for working or industrial training or training or other related activities which reflect development of the personal and professional support skills at least 45 hours.

96642011 CRITICAL THINKING 3 (3-0-6)  
PREREQUISITE : NONE

This course explores issues about the nature and techniques of critical thought, viewed as a way to establish a reliable basis for our claims, beliefs, and attitudes about the world. We explore multiple perspectives, placing established facts, theories, and practices in tension with alternatives to see how things could be otherwise. Views about observation and interpretation, reasoning and inference, valuing and judging, and the production of knowledge in its social context are considered. Special attention is given to translating what is learned into strategies, materials, and interventions for use in students' own educational and professional settings.

96642012 DESIGN THINKING 3 (3-0-6)  
PREREQUISITE : NONE

Learn design thinking process and develop problem-solving skills by studying target group behavior, defining problem, using mind map. Learn techniques for interviewing and group discussion. Practice ideation which leads to creative solutions. Build, present and test prototypes and concepts of design. Learn to apply design thinking process to daily life and create innovation.

96642013 INTEGRATED THINKING 3 (3-0-6)  
PREREQUISITE : NONE

Study principles and various types of thinking; positive thinking lateral thinking, critical thinking, analytical thinking. Learn to develop thinking process through questioning, analyzing, synthesizing and evaluating. Learn to express logical ideas and create workpiece based on own thought.

96642014 INNOVATIVE AND SYSTEM THINKING 3 (3-0-6)  
PREREQUISITE : NONE

Creativity and innovativity; features of innovativity; innovative methods, motivation, example of innovation in health sciences, conceptual of systems thinking framework; principle of systems thinking; pattern of systems thinking, key phases of systems thinking approach, systems thinking design, example of systems thinking.

- 96642015 CREATIVE THINKING AND INNOVATION 3 (3-0-6)  
 PREREQUISITE : NONE  
 Process thinking, creative thinking, innovation, problem solving, applications of creative thinking and innovation to learning, applications of creative thinking and innovation to living.
- 96642017 INNOVATION UNBOXED 3 (3-0-6)  
 PREREQUISITE : NONE  
 Study importance and necessity of innovation; analysis of important concepts, theories, and principles concerning a development of innovation; usefulness of innovation to all levels of development, and study positive and negative factors on the development of innovation, with an adaptation or change in perspective to achieve innovative mindset, principles on analysis, synthesis, integration, and formation of innovation, and innovations from variety of applications of knowledge to various issues and situations.
- 96642018 CREATIVE PRODUCTION TECHNOLOGY 3 (3-0-6)  
 PREREQUISITE : NONE  
 A technology production for the creative process, are transcribed as learning of production tools, and methods of creative productions. Techniques in manufacturing processes and both traditional and innovative methods and tools are explored to define aesthetic perception and practices employ for production as art and design solution.
- 96642019 BASIC CREATIVE STEM DESIGN 3 (3-0-6)  
 PREREQUISITE : NONE  
 This is the first course in the two-course sequence constructed to give engineering students a chance to experience real-world design challenge using project-based learning. Students team up to work on short STEM (science, technology, engineering and mathematics) projects. Students will learn the overall design process, framing the problem, schedule planning, creating prototype, as well as learning how to communicate their ideas to audience via meetings, reports, and oral presentations. The course should be taken during freshmen year.
- 96642020 ADVANCE CREATIVE STEM DESIGN 3 (3-0-6)  
 PREREQUISITE : BASIC CREATIVE STEM DESIGN  
 This is the second course in the two-course sequence for second-year students after creative STEM design I. Student design teams will work on more advanced STEM projects, utilizing some fundamental engineering knowledge acquired from previous semesters. Creative thinking, and communication skills are further emphasized in this course.
- 96642021 JUNK DESIGN 3 (3-0-6)  
 PREREQUISITE : NONE  
 Study the trend of junk accumulation such as unwanted items, observe and understand buyer's behavior as well as manufacturer's viewpoints in order to employ creativity to reduce junks, seek personal creative thinking to reduce junks, including learn system of design thinking and turn creative ideas into new design items.

96642022 PHILOSOPHY OF SCIENCE 3 (3-0-6)  
PREREQUISITE : NONE

The course provides a study of the thing we call “science”, together with its nature and methodology. The topics cover the meaning of science, reality, the nature of scientific observations, scientific theories and their discovery and formation, scientific explanations and predictions, the problem of induction, scientific rationality, the nature of scientific knowledge, concepts of truth, hypothesis testing, hypothesis confirmation, hypothesis falsification, logic of scientific method, and scientific progress.

96642024 PROFESSIONAL INFORMATION ANALYSIS AND ACADEMIC PRESENTATION 3 (3-0-6)  
PREREQUISITE : NONE

Study information database; statistical analysis software for data analysis; scientific literature and information database; statistical analysis software for data analysis; scientific references; plagiarism prevention; scientific methodology and Interpretation; international scientific communication and presentation.

96642025 FACTS BEHIND NUMBERS 3 (3-0-6)  
PREREQUISITE : NONE

Study and practice about the data and information indifferent perspective focusing on number, the approach to collect the data, to analyze data, to interpret the analyzed data and to present the result.

96642026 RESEARCH SKILL DEVELOPMENT 3 (3-0-6)  
PREREQUISITE : NONE

Professional practice for research, problem formulation, analysis and problem solving skills, research planning, literature review, scientific citation database, keywords, citation software, professional writing, note-taking skills, summarizing main ideas, experimental design, reasoning and discussion, drawing conclusion, professional presentation, creativity and innovation, patents and patent search, research ethics.

96642028 GAMBLING LITERACY 3 (3-0-6)  
PREREQUISITE : NONE

Learn and analyze gambling patterns, methods of play, probability of winning and losing, causes of addiction, and study possible consequences from real case studies which affects lives and create innovation for gambling prevention.

96642029 MEDICAL ETHICS, LAWS AND PROFESSIONALISM 3 (2-2-5)  
PREREQUISITE : NONE

Study and develop of medicine as the profession, attributes of the healer, attributes of the professional, code of conducts, self-regulation and social accountability; principles of medical ethics; concepts of autonomy, beneficence, non-maleficence, and justice; concepts of deontology, teleology, and virtue theory; ethics and religions; basic knowledge in civil and criminal laws; professional and related medical laws; disclosure of medical errors; medicolegal and ethical dilemma

96642030 ENGINEERING ETHICS AND LAW 3 (3-0-6)

PREREQUISITE : NONE

Role of Thai Engineer, Engineering ethics, Council of Engineers, Engineer Act., Professional Engineer, Regulation of the council of engineer, Other laws relating to profession.

96642031 PROFESSIONAL ETHICS AND LAWS 3 (3-0-6)

PREREQUISITE : NONE

This course introduces the theory and the practice of professional and overall ethics and laws for professional including code of conducts and regulations in academic, professional and technical fields. Students also learn about different approaches to ethical problems and examine real-life case studies, drawn from a variety of professional contexts. This course helps students develop skills and knowledge to manage and engage with ethical issues in their working lives.

96642032 LAW FOR ENTREPRENEURS 3 (3-0-6)

PREREQUISITE : NONE

Study the principles of business foundations in modern business organizations, Learn tax planning and preparation to benefit for business managements, Learn contract laws and relevant rights to promote a future trend of online markets and internet of things in business implementations, discussing precautions in digital literacy and laws for both entrepreneurs and customers' protections.

96642033 LAW FOR NEW GENERATION 3 (3-0-6)

PREREQUISITE : NONE

Study the laws and analysis facts of law in our society, learning about civic right and responsibilities in expression of opinion, defamation when using online media under acts of computer and digital media use, principles of consumers' protection laws and relevant copyright laws.

96642034 LAW AND REGULATION IN AVIATION INDUSTRY 3 (3-0-6)

PREREQUISITE : NONE

International Civil Aviation Organization (ICAO) and other international and European organizations' air law. Aviation regulators in Thailand. Legal and institutional framework of international air law regimes. Impacts of air law towards aviation industry. Legal issues in aviation industry.

96642035 INDUSTRIAL EXPERIENCE FOR ENGINEERS 3 (0-18-0)

PREREQUISITE : NONE

Exposure to Professional Practice (EPP), or Industrial Experience (IE), provides an opportunity to gain valuable hands-on training and experience in real world situations. Additionally, through exposure to current practice, students can reflect on, and appreciate the linkage between curriculum and practice. This is an advance to the Internship and Co-op Education. Students will develop specific skills both on engineering and professionals including hands-on experience required to their professional careers.

96642036 PRE-ACTIVITIES FOR ENGINEERS 1 (0-3-0)

PREREQUISITE : NONE



Participates in activities organized by the Faculty of Engineering of advising and preparing students for successful Engineering education and career. Fundamental Laboratory and project in science and technology.

96642037 PROFESSIONAL SKILLS AND ISSUES 3 (3-0-6)  
PREREQUISITE : NONE

This course introduces the social, ethical, legal, and professional issues involved in the widespread deployment of information technology. It teaches students to develop their own, well-argued positions on many of these issues.

96642038 OCCUPATIONAL SAFETY AND HEALTH 3 (3-0-6)  
PREREQUISITE : NONE

Recognition and control of hazard; in workplace, chemical agent, noise and hearing conservation, heat and radiation, infectious agent, occupational dermatoses, general control practice; management and approaches.

96642039 QUICK-FIX @ HOME 3 (3-0-6)  
PREREQUISITE : NONE

Study the basic household utilities systems such as electricity, lighting, water and communication including study basic equipment and appliances in the house for basic fixing, and learn how to prevent possible problems as well as how to fix minor problems with safety.

96642040 COFFEE MANIA 3 (3-0-6)  
PREREQUISITE : NONE

Study the history of coffee, coffee beans, the evolution and development of drinking coffee, the cultivation, bean processing, roasting, how to brew coffee in a variety of styles and do milk froth based on science principles, and study how to be an entrepreneur with coffee business.

96642041 DORM CHEF 3 (3-0-6)  
PREREQUISITE : NONE

Study the importance of nutrition for human need, science and art of cooking nutrient dish with available cooking appliances for students, for instance, microwave oven, rice cooker, electric pan and so on.

96642042 SCIENCE AND ART OF MEATS 3 (3-0-6)  
PREREQUISITE : NONE

Study types and parts of meats for proper consumption, sources of good meats, to select suitable material and prolong storage of shelf-life base on scientific knowledge, creativity of quality and dishes and nutrition.

96642043 SCIENCE OF BURGER 3 (3-0-6)  
PREREQUISITE : NONE

Burger materials, types of burger, including vegan burger and healthy burger. Basic equipments and new images creativity of burger.

96642044 WORLD OF SAUSAGES 3 (3-0-6)  
PREREQUISITE : NONE

Study of sausages history and sausages varieties around the world, creation of practical ways to make new varieties of sausages using different ingredients and raw materials, study of nutrition in sausages and calculate their value in health benefit, leaning how to make homemade sausages and produce more new dishes.

96642045 BE MY BEV. 3 (3-0-6)  
PREREQUISITE : NONE

Learn the history and types of beverages; basic of principles of beverage production method; major types and forms of distilled spirits; factors affecting taste; beverage service procedure; food pairing; and food photography.

96642046 RICE-SARA 3 (3-0-6)  
PREREQUISITE : NONE

Study the topics of the rice story and select one based on personal interests, the topic can include the history of rice and its importance, differences of domestic and international rice varieties, the culture of rice and farmers, pre-harvesting, harvesting and post harvesting processes of rice, cooking food using rice base, the nutrition and the usage of rice and its by-product. And design the selected topic to learn through project- and team- based learning with creative thinking.

96642047 TREE DOCTOR 3 (3-0-6)  
PREREQUISITE : NONE

Study a variety of trees, and their values, relationship and make a survey of trees at your own interests, using the media to do the campaign of trees protection and to understand the values of trees.

96642048 FUN WITH DRUGS AND HERBS 3 (3-0-6)  
PREREQUISITE : NONE

Study the basic knowledge of drugs and herbal medicines in daily life, a brief history of drug discovery, beneficial and harmful effects of drugs and herbal medicines, general principles for good storage condition and safe administration including taking medicines with the correct techniques, avoiding drug-drug or herb-drug interaction and reasonably selecting drug and herb products from online advertising for self-medication.

96642049 MICROBIAL UTILIZATION FOR DAILY LIFE 3 (3-0-6)  
PREREQUISITE : NONE

Introduction to basic knowledge of microorganism, Production and application of microorganisms in fermentation food, Food quality and food safety related to microorganism, Bioactive compound from microorganisms and its application, Microbial enzymes, Enzyme function and

application, Microorganisms involved in wastewater treatment and microbial metal leaching, Future trends for microbial utilization.

96642050 MEDICINAL PLANTS 3 (3-0-6)  
PREREQUISITE : NONE

Study the basic knowledge of medicinal plants, a brief history of medicinal plants discovery, basic phytochemicals, medicinal plants in primary health care and daily life, herb-drug interaction and reasonably selecting herb products from online advertising for self-medication

96642051 BIOTECHNOLOGY FOR BETTER LIVING 3 (3-0-6)  
PREREQUISITE : NONE

The subject is divided into four sections including food biotechnology, agriculture, environment and medicine. At the first, food biotechnology consists of biotechnology for cooking and post-harvest technology. Next, agriculture section comprises plant tissue culture and genetically modified organisms. The third section, environment is which includes the topics of natural pesticide and beautiful world with biotechnology. The last section consists of the topics of cell and gene therapy, genetic engineering for disease prevention, technology for vaccine development, human microbiome and live medicine and forensic science.

96642052 GENES & GENETICS : FROM HELIX TO HEREDITARY 3 (3-0-6)  
PREREQUISITE : NONE

Principles of genetics in terms of molecular basis and chromosomal levels from basic structure of DNA and chromosomes, gene expression, inheritance of genetic materials, causes and effects of DNA and chromosome aberration in health and diseases, techniques to study DNA and chromosomes, to application of genetic principles in health sciences.

96642053 INTERESTING MOLECULAR GENETICS 3 (3-0-6)  
PREREQUISITE : NONE

Study the basic knowledge of genetics in human, common genetic diseases in Thailand, prevention and treatment of genetic diseases, genetics for reproduction and family planning, genetics and its applications in forensic sciences and detecting relatives. Application of basic knowledge in genetics for plant and animal breeding and industrial use. Ethics of genetics and its applications in science and technology.

96642054 GUARDIANS OF OUR BODIES 3 (3-0-6)  
PREREQUISITE : NONE

This is a discussion-based course that explores the knowledge of basic defensive mechanisms in human. We will introduce you to the concept of human immune responses in protection against infectious diseases and disorders. The learning activities rely mainly on the critical discussion about hot issues in movies, TV drama and news that involve the defensive processes and immune responses.

96642055 LIVING WITH MICROBES 3 (3-0-6)  
PREREQUISITE : NONE

History and introduction of microbes; Basic microbiology and its techniques; What are Bacteria, Fungi, Virus, Parasite; Microbiome in Skin, Face and Armpits; Microbiome in Gastrointestinal tracts; Microbiome in Genital tracts; Microbiome as living drugs (alternative medicine); Antibiotics and how microbe resistance; Vaccines from microbes; Hot issues in microbial disease & technology.

96642056 EPIDEMICS IN THE 21<sup>ST</sup> CENTURY 3 (3-0-6)  
PREREQUISITE : NONE

Study and do the research of the history of the epidemic from the past to COVID-19, learn to understand the emerging COVID-19, the timeline of the incidence of COVID-19, practice analyzing the impacts of COVID-19 epidemic on economy, finance and society, practice predicting what could happen in the future using scientific principles and medical technology as a knowledge base, practice analyzing situations that will make us survive and safe, and practice presentation skills on how to cope well with the epidemic and recommend the preventive measures for individuals.

96642057 IMMUNITY THROUGH MEDIA 3 (3-0-6)  
PREREQUISITE : NONE

Study the diseases and the body immunity from media to understand medically purposes and to use in daily life.

96642058 UNDERSTANDING HEALTH POLICY AND PUBLIC WELFARE 3 (3-0-6)  
PREREQUISITE : NONE

Principle of public policy, population health and welfare; decisions, plans, and actions undertaken to achieve specific health care goals; prioritization in health; role of government; concept of health system research; principles of good governance, concepts of accountability, transparency, rule of laws, equitability and fairness, participatory, consensus oriented, basic health economics, effectiveness and efficiency, responsiveness; good governance and health care; role of good governance in the 21<sup>ST</sup> century.

96642059 MEDICINE AND LITERATURE 3 (3-0-6)  
PREREQUISITE : NONE

Language and medical practice, medical narrative, medical aspects of classic literature, effective storytelling to enhance empathy in medical care, medical publishing, social media and mass media in medical education.

96642060 SELF-DISCOVERY 3 (3-0-6)  
PREREQUISITE : NONE

Physical changes during puberty including gender identity, emotional development, social development, vulnerable states to all risk factors related to abuses and crime, moral development, transition period to be an adult.

96642061 WORLD OF INSECTS 3 (3-0-6)  
PREREQUISITE : NONE

The subject is divided two modules. First module is the biodiversity including insect fauna, evolution, diversity and impacts and chemical attraction and communication. The second module is the

topics with application and experiences in insects including archaeology, weapons, diets and entertainments. In addition, the topics are technology including robotics and insect model. Also, medical areas are the forensic importance, dangerous insects (deadly and myiasis insects), and insect control.

96642062 ALL ABOUT FOOD 3 (3-0-6)  
PREREQUISITE : NONE

A study of fundamental knowledge, background, styles and types of food and beverage business; cooking utensils and cutlery; techniques and arts of food services, including eating various types of food, table setting and table manners as well as appropriate food selection.

96642063 HOLISTIC HEALTH DEVELOPMENT 3 (3-0-6)  
PREREQUISITE : NONE

Study the concepts of health and mental care. Explore the components of good health and mental development and learn factors enhancing the development.

96642074 E-SPORTS 3 (2-2-5)  
PREREQUISITE : NONE

Study E-sports background, rules and appropriate manners, and study how to play and plan strategically for playing either as individuals and teams and how to play with no harm to health, including studying the overview of E-sport management to understand roles of all groups of people concerned such as team manager, competition organizer, committee, game master, etc., and practice skills of the role preferred.

96642080 INTRODUCTION TO MUSIC COMPOSITION 3 (3-0-6)  
PREREQUISITE : NONE

Rudimentary skills in music composition. Basic understanding of musical structures. Motif, rhythmic pattern, form, melodic composition, harmonic composition, orchestration, song writing. Practical writing experience.

96642081 RAP APPRECIATION 3 (3-0-6)  
PREREQUISITE : NONE

Study the patterns and lyrics writing styles of rap songs, development of rap songs worldwide and in Thailand. Use critical thinking to analyze, synthesize and interpret the lyrics. Practice to appreciate the cultural contexts and the song values as well as to compose the rap song as intellectuals.

96642082 MUSIC APPRECIATION 3 (3-0-6)  
PREREQUISITE : NONE

Study the forms, characteristics, nature and compositions of music. Learn Introduction to Thai and International music, how to express appreciation for its aesthetics and value as well as learn appropriate manners in listening to music.

96642083 FILM APPRECIATION 3 (3-0-6)  
PREREQUISITE : NONE

Learn and practice the process of mental development through films with an emphasis on positive attitudes or feelings of appreciation on things, and learn to understand the messages behind a variety of creative stories in films especially in dimensions of arts, culture, society, politics and ways of life.

96642084 PHOTOGRAPHY APPRECIATION 3 (2-2-5)  
PREREQUISITE : NONE

Understand the principles of taking photographs for appreciation and practice to use equipment and techniques. Learn to show appreciation for the values of pictures taken as well as give valuable and critical comments for pictures.

96642085 CONTEMPORARY CULTURE 3 (3-0-6)  
PREREQUISITE : NONE

Study the concepts of multiculturalism and analyze the contemporary phenomenon, the structure of Thai and world cultures including similarities and differences of such cultures.

96642086 INTRODUCTION TO DESIGN CULTURE 3 (3-0-6)  
PREREQUISITE : NONE

This course emphasizes student on the studying and understanding cultural design field in relation to other areas in pluralism e.g. social science, economics, and science and technology. It is designed in the aspect of cross-cultural issues studying through contemporary history. Students are capable of learning factors that influence the importance of design toward quality of life development, sustainability building, and social responsibility.

96642087 WORLD CULTURE 3 (3-0-6)  
PREREQUISITE : NONE

History of human civilization; western culture and philosophy; eastern culture and philosophy; Thai history, culture and philosophy; international organization, collaboration, law and regulation; multiculturalism in Thailand and ASEAN region; effects of globalization on culture and socioeconomic development.

96642088 TRADITIONAL CHINESE CULTURE 3 (3-0-6)  
PREREQUISITE : NONE

Study and appreciate traditional Chinese culture including fashion, food and entertainment in order to appreciate the charming of Chinese culture.

96642089 CHINESE SOCIETY, ECONOMY AND POLITICS 3 (3-0-6)  
PREREQUISITE : NONE

Study and analyze Chinese society, economy and politics in order to understand Chinese influences on world society.

96642090 GLOBAL INSIDE 3 (3-0-6)  
PREREQUISITE : NONE

Study the major global issues and their impacts on the world's society especially in Thailand. Study and analyze the roles of geo-politic factors, the role of international organizations, conflicts, the influence of powerful nations as well as Sustainable Development Goals (SDGs) and their impacts.

96642091 ASIAN STUDY 3 (3-0-6)  
PREREQUISITE : NONE

This course covers a study of an Asian country's language, social identity and culture. The course will discuss development and evolution of an Asian country, their economic prospect, cultural settings, societies and relations to the society and cultures of other countries.

96642092 CIVIC EDUCATION 3 (3-0-6)  
PREREQUISITE : NONE

Study the fundamental concepts of citizenship, civil rights and responsibility, Fundamental laws for daily life, and practice several activities to enhance their civic consciousness to promote role of participation in politics.

96642093 COMMUNITY ENGAGEMENT 3 (3-0-6)  
PREREQUISITE : NONE

Concept of community engagement; context, pattern, role of individual to others, process that facilitates communication and interaction; community involvement, embedding community engagement workshop.

96642094 PRINCIPLES OF COMMUNITY DEVELOPMENT 3 (3-0-6)  
PREREQUISITE : NONE

A study of meaning, objectives, significance, principles and history of community development, concepts of community development, kinds and demand of urban and rural communities, methods and techniques of community development, implementation of community intercultural development projects, administration of community development, the National Economic and Social Development Plans, community development in Thailand, problems and obstacles.

96642095 NATIONAL SECURITY DEVELOPMENT 3 (3-0-6)  
PREREQUISITE : NONE

Study the components of national security and revolution of national and political Security along with politics, economy, sociology, national defense on technological science, energy, natural resources and environment, and learn the roles of Thai citizens for country development, guidelines for integrating Sufficiency Economy Philosophy with national security development.

96642096 MILITARY SCIENCE 3 (3-0-6)  
PREREQUISITE : NONE

Study evolution of military science and its relations to the public. Military strategies, national security, missions, and military management. Army, Marines, Airforce, Military Management and Administration, and Military Reserves. Public duty on the national security along with military technology development.

96642097	APPLIED THAI WISDOMS PREREQUISITE : NONE	3 (3-0-6)
	Learn to recognize and appreciate the values of Thai wisdoms. Explore the relation of Thai wisdom and community development and study the knowledge based on Thai local wisdoms as guidelines for developing the later workpieces for uniqueness and suitability. Explore the effects of changes in society and globalization that can affect Thai local wisdoms.	
96642098	DYNAMICS OF THAI SOCIETY PREREQUISITE : NONE	3 (3-0-6)
	General characteristics and structure of Thai society; Thai political and government system; religion and beliefs in Thai society; features of Thai family members and relatives; rituals and traditions in Thailand; changes and problems in Thai society; Thai wisdom and Thai local wisdom; concepts and visions of Thai economy, Thai society and Thai politics.	
96642099	ACTIVE AGING SOCIETY PREREQUISITE : NONE	3 (3-0-6)
	Preparation for a different generation to enter the old age and the completed Aged society of Thailand and the world. Understanding the Active Aging: A Policy Framework which proposed by World Health Organization. This approach focus on physical and mental health, security of economics and family, and social participation for elderly and other generations to live happily together in Aging and aged society.	
96642101	REVIEWER PREREQUISITE : NONE	3 (3-0-6)
	Develop reviewing skills for societal and community learnings by applying a systematic and transparent reviewing process with an emphasis on correctness, credibility, and accessibility, and learn the process of discovery and comparison of information around us, critical thinking and critique skills, and the process of communication and evaluation of information technology prior to review.	
96642102	YOUTUBER PREREQUISITE : NONE	3 (3-0-6)
	Learn how to use YouTube creatively for creating a job and learn how to use YouTube wisely and create cool contents, write scripts and shoot videos, and learn audio and video editing techniques to increase your followers as well as earn money from YouTube.	
96642103	LIVING IN DIGITAL SOCIETY PREREQUISITE : NONE	3 (3-0-6)
	Study the life patterns in digital society, importance of ICT data, access to sources, development of searching and referencing skills, appropriate use of ICT as well as creative presentation. Study the computer crime act and follow with discretion and ethics.	
96642106	DIGITAL STORYTELLING IN JOURNEY PREREQUISITE : NONE	3 (3-0-6)



Learn to use design thinking processes as a tool to design and create your own digital story telling by brainstorming planning design stories and choose proper media to present their stories and reflect knowledge and experience. Sharing and learning in the workshop project.

96642107 DIGITAL MEDIA PRODUCTION 3 (3-0-6)  
PREREQUISITE : NONE

Practice digital media production skills focusing on the topics of idea creation through data analytics, story telling techniques. Learn to design and produce several types of media, and present contents by using graphics and video for offline and online channels including social media.

96642108 DIGITAL PHOTOGRAPHY TECHNOLOGY 3 (2-2-5)  
PREREQUISITE : NONE

Studying the background and development of photography. Components and working principles of digital cameras. Principles of photography ,Photography equipment, Various imaging techniques. Lighting for photography Digital photo management.

96642109 INFOGRAPHIC DESIGN 3 (3-0-6)  
PREREQUISITE : NONE

Learn the process of presenting in format of infographic, and PowerPoint to attract the audiences. Learn the skills of establishing infographic for communicating subject to the target group and learn the use of colors, data arrangements and tools for building the media.

96642110 FUN WITH DATA SCIENCE 3 (3-0-6)  
PREREQUISITE : NONE

Study importance, principles, and process of data science including the topics of data preparation, data analytics predictive models, classification, clustering, statistical inference, regression, social network analytics, and big data, focusing applications of data in daily life.

96642111 FUN WITH CODING 3 (3-0-6)  
PREREQUISITE : NONE

Systematic problem solving; algorithms for programming; analyzing and developing algorithms to solve computer problems using flow charts and pseudocode; writing, testing and debugging the program; program documentation; basic data structure; variables; expressions; statements and control structures such as the use of sequential, selection and repetition control structures; subprograms and parameters.

96642112 FUN WITH AI 3 (3-0-6)  
PREREQUISITE : NONE

Learn how to apply Artificial Intelligence (AI) system in our daily life, the benefit of its usage on predictions and analysis of consumer behaviors from social media, online business and robotic control, and focus on the joy of game playing with AI in various contexts as well as practice of the project based on basic Cloud Platform.

96642113 ROBOTICS AND AI 3 (3-0-6)

PREREQUISITE : NONE

Study the definition and difference of robotics and artificial intelligence, the use of the robot in key technologies related to daily life and working style such as robots in factories, robots in healthcare, robots on the farm and food, robots at home, entertainment robots, robots that drive and robots at education, the various aspects of future robotics usage and impact of our daily life and the economy.

96642114 SMART FARMING 3 (3-0-6)

PREREQUISITE : NONE

Study a new concept of farm management, so called precision agriculture system or smart farming with the use of modern ICT technology and a sensor network for crop and livestock production system including monitoring process and waste control to achieve the maximum productivity with minimum cost.

96642115 GREEN TECHNOLOGY AND ALTERNATIVE ENERGY 3 (3-0-6)

PREREQUISITE : NONE

World energy status and challenge obstacles. Conventional energy resources : petroleum oil, coal and natural gas. Renewable energy resources : solar, wind, hydro, geothermal, nuclear energy, fuel cell, biomass, Biomass properties, survey, potential evaluation, energy crops and energy system application.

96642116 SMART CITY AND CITY INNOVATION 3 (3-0-6)

PREREQUISITE : NONE

Learn Smart City concept, planning, designing, and management. Practice city innovation designing and development skills based on physical, socioeconomic, political, technological, and environmental contexts for sustainability.

96642117 INFORMATION LITERACY SKILLS FOR THE 21<sup>st</sup> CENTURY 3 (3-0-6)

PREREQUISITE : NONE

Learn concepts and importance of information in the 21<sup>st</sup> century, information literacy resources, information resource storage, information retrieval, selecting sources of information, evaluation of information values, analyzing and synthesizing information, information composition and presentation in various formats, international citation styles used in academic writing, and plagiarism.

96642118 APPLICATION SOFTWARE FOR BUSSINESS 2 (1-2-3)

PREREQUISITE : NONE

Application software for business including creating document, report and form; data collection; data analytics; data visualization and presentation, introduction to stock trading and application software for stock trading.

96642120 FROM EXCEL TO EXCELLENT 3 (3-0-6)

PREREQUISITE : NONE

Basic concepts of commands and functions in spreadsheet to manage data, collect data, process data, calculate and analyze data with elementary statistics.

- 96642121 DATA ANALYSIS AND MANAGEMENT WITH COMPUTATIONAL PROGRAM 3 (3-0-6)  
PREREQUISITE : NONE  
Application of command and functionality of popular spreadsheet program such as Microsoft Excel to manage raw experimental data, data processing, data compilation, basic statistical data calculation and analysis as well as data presentation by basic program such as Microsoft Power Point.
- 96642122 INTRODUCTION TO MICROCOMPUTER APPLICATION 3 (3-0-6)  
PREREQUISITE : NONE  
Structure and characteristics of microcomputers, and the techniques of applying microcomputer technology, focus on software packages such as word processing, spreadsheet, database management systems, etc. The course will cover current technologies as well as future trends.
- 96642123 TECHNOLOGY IN MUSICAL SEQUENCING 3 (3-0-6)  
PREREQUISITE : NONE  
Study computer programing related to the music production such as MIDI Music XML Max MSP. Study basic use of sequencer and music production software. study concept and evolution of computer application in music.
- 96642124 SCIENCE TECHNOLOGY AND SCIENCE INNOVATION FOR SDGS 3 (3-0-6)  
PREREQUISITE : NONE  
This course is the study of the definitions, concepts and roles of science technology and innovation for SDGs to creation of wealth, and their impact on society and humanity. The course will explore the policies, strategies, and tools for synthesizing and developing technology and innovation for a wisdom-based society together with ethics in management. Students will study the exploitation and protection of intellectual property as a result of science technology and innovation for SDGs.
- 96642125 LIVING IN FUTURE DISASTER AND CRISIS 3 (3-0-6)  
PREREQUISITE : NONE  
Understand types of disasters, crisis principles of thinking for survival, factors and effects of survival in either normal or critical situations. Analyze the case studies and practice thinking skills in various types and presentation skills for sharing ideas.
- 96642126 SURVIVORS 3 (3-0-6)  
PREREQUISITE : NONE  
Study risks factors on living in the past, present, and future, analyze strategic living skills for prioritization of issues concerning healthy living in all stages of life, and corrections of negative impacts on life in the past, promotion of healthy living in the present, planning of future living, life design, development of immunization for life, and design of a fool-proof living plan on a basis of statistical and cause-and-effect principles.
- 96642127 THINK EARTH 3 (3-0-6)  
PREREQUISITE : NONE  
Study the importance of raising awareness and concerns of environmental

conservation for better quality of life. Study both positive and negative impacts of human behaviors on natural resources and environment. Use analytical thinking and systematic thinking approaches to find alternatives of environmental conservation and natural resources development. Learn how to analyze with thinking tools.

96642128 ECOLOGY, CONSERVATION AND ENVIRONMENTALISM 3 (3-0-6)  
PREREQUISITE : NONE

Biological productivity in ecosystem and limiting productivity and perturbation, interaction between species, factors in population growth and the ecological balance, protection activities of the environment from pollution or destruction concerning conservation, improvement and sustainability of natural resources.

96642129 ALTERNATIVE TOURISM 3 (3-0-6)  
PREREQUISITE : NONE

Study the definitions, concepts and forms of alternative tourism such as community-based tourism, agro-tourism, cultural tourism and health tourism, and study current trends in tourism, roles of public and private sectors in promoting tourism market, stakeholder engagements and impacts on economy, society and environment.

96642130 SPORTS TOURISM 3 (3-0-6)  
PREREQUISITE : NONE

Study definitions, types, and factors of sports tourism activities, formats of sports tourism, sports tourist behaviors, development of sports tourism, outdoor and indoor sports activities, land and water sports, safety for sports tourism, planning and execution of sports tourism activities, and sports tourism trends in Thailand.

96642131 THAI CULTURE AND TOURISM 3 (3-0-6)  
PREREQUISITE : NONE

Learn various Thai cultures, norms, special events, foods, and intellectual wisdoms and properties, concepts of Thai culture and tourism, impacts of tourism industry on economy, Society, and culture, and study conservation and recovery of cultural tourism resources, promotion of cultural conscience for conservation.

96642132 CHUMPHON STUDY FOR TOURISM 3 (3-0-6)  
PREREQUISITE : NONE

Learn geography, history, politics, governance, population, economy, traditions and culture, transportation, important events, famous people, landmarks, and tourist attractions in order to develop plans or projects for short term tours and apply such plans or projects in the real site of Chumphon.

96642133 CHUMPHON AREA STUDY 3 (3-0-6)  
PREREQUISITE : NONE

Study interdisciplinary knowledge and learning according to area study approach such as politics and government, economics, social and culture, history, geography, languages and literatures, population as well as important events, people and places in order to understand contexts related to

Chumphon Province by a method of project based learning under advice of facilitators – either single or group project.

96642134 KING MONGKUT'S REIGN STUDY 3 (3-0-6)  
PREREQUISITE : NONE

Study knowledge of The King Mongkut reign such as his majesty the king biography, his royal duties relating to politics and government, economics, social and culture those brought Siam to the flow of modernization including his talents accepted by both the Siamese and the world.

96642135 PHILOSOPHY OF SUFFICIENCY ECONOMY 3 (3-0-6)  
PREREQUISITE : NONE

Study the background, principles of the philosophy of sufficiency economy and its application. Learn by doing to instill awareness of sufficient ways of life and applying the philosophy to live appropriately in the changing society.

96642136 ETHICS AND AESTHETICS 3 (3-0-6)  
PREREQUISITE : NONE

A study of meaning, significance, evolution, and philosophical characteristics of beauty or axiology in the field of ethics and aesthetics generated by western and eastern philosophers from the beginning to the present time, based on beliefs, religions and pure philosophical concepts, including a practice in analyzing ethical and aesthetical principles of arts.

96642137 SERIES IN DAILY LIFE 3 (3-0-6)  
PREREQUISITE : NONE

Study content, concept and ethics from watching movies, digital media contents, or TV series from domestic and international sources. Reflection of contemporary society and its values from the media focusing on the thinking process that applied from concept of science, of social science, of psychology and of media literacy.

96642138 MEDITATION FOR LIFE DEVELOPMENT 3 (3-0-6)  
PREREQUISITE : NONE

Study the meaning of meditation, objectives, processes, history of meditation, characteristics of chanting and meditating. Understand the benefits of meditation and apply into daily use both study and work.

96642140 IMMUNITY OF MIND 3 (3-0-6)  
PREREQUISITE : NONE

Learn psychology concepts to understand and appreciate yourself and others. Learn how to develop interpersonal skills, social and life skills, problem solving skills and selfhealing and self-empowerment skills.

96642142 PSYCHOLOGY IN COMMUNICATION 3 (3-0-6)  
PREREQUISITE : NONE

One of the major obstacle in art and design creation besides artistic creation is the ability in communicating artwork to be comprehended and recognized, as well as working with others sensibly. This course is designed for student to be understood and practiced communication effectively. Consequently, students are capable of utilizing psychological knowledge in improving communication successfully.

96642143      DESIGNING YOUR LIFE      3 (3-0-6)  
PREREQUISITE : NONE

Learn and practice designing your own life in other contexts, applying and adding social, living, financial, working, interpersonal skills to live happily based on sufficiency economy philosophy.

96642144      MAGIC MIRROR      3 (3-0-6)  
PREREQUISITE : NONE

Study psychology concepts to understand human behavior and the mechanisms of the human mind that lead to different behaviors concerning perception, learning, thinking, memory, motivation, love, and interpersonal communication.

96642145      POWER OF PERSONALITY      3 (3-0-6)  
PREREQUISITE : NONE

Study the personality theories, processes of personality development. Learn how to develop appropriate manners and speeches, interpersonal skills, and appropriate clothing selection. Practice techniques for improving personality deficiency.

96642146      POWER OF CHANGE      3 (3-0-6)  
PREREQUISITE : NONE

Study and understand the underlying beliefs about individuals' learning and intelligence which can change and develop focusing on the process of mindset change leading to full potential for achievement, and learn the changing process of fixed mindset to growth one leading to increased happiness, motivation and achievement, including practice the process of change of negative thoughts from failures to positive thoughts.

96642147      HAPPINESS SKILLS      3 (3-0-6)  
PREREQUISITE : NONE

Study principles of humanity and social sciences focusing on positive aspects in order to practice happiness skills in various situations such as being realistic, learning to forgive, being positive and having sense of awareness in order to live happily with personal life, society and at work.

96642148      ARTS OF EMOTION DEVELOPMENT      3 (3-0-6)  
PREREQUISITE : NONE

Study the definitions, Significances, principles and theories of emotion development especially ones influencing ways of life. Learn and practice thinking processes of adjustment, positiveness and problem confrontation. Explore how to manage emotion in daily life and workplace.

96642149      IMAGINATIVE ART      3 (3-0-6)

PREREQUISITE : NONE

Learn integration of formless art enhancing the process of thought, plan and action with no determination of ends, equipment, theories and beauty of end product, and focusing on self-reflection to practice acknowledgement and sense making including development of emotion, intellect, meditation, creative thinking and spirit.

96642150 ART IN EVERYDAY LIFE 3 (3-0-6)

PREREQUISITE : NONE

Art in everyday life is the intertextuality that art connects to its surrounded phenomenon. Art is not only proceeded along the conventional practice that relies on one particular art medium, but also the shifting of art form, as well as the growing of aesthetics and taste. The objectives of this course are to study and understand the transformation of art during the post-World War II period and art movements such as Pop Art, Minimalism, and contemporary art, along with their effects toward human lives. Students are targeted to apply the obtained data to develop studying in other parts of creativity.

96642151 MAN AND ART 3 (3-0-6)

PREREQUISITE : NONE

Study artistic forms in each period, techniques and how to create artwork, origins and backgrounds in artwork creation, and discuss concepts and objectives behind creation in each period by integrating with contextual changes in societies, religions, economies and politics.

96642152 JOY OF SHARING 3 (3-0-6)

PREREQUISITE : NONE

Study the components of volunteer spirit/ public mind in terms of meanings, forms, benefits, methods of participation with community, management of public problems or public health enhancement, a range of voluntary organizations both domestic and international, and practice being a volunteer and/or managing a voluntary project for community.

96642153 UNDERSTANDING HUMAN BEHAVIOR 3 (3-0-6)

PREREQUISITE : NONE

Learn Biological basis of behaviors, thought, motivation and emotion; psychosocial and personality development, psychoanalysis and psychodynamic theory, learning theory, behavioral theory and behavioral therapy; relationship between self, family and society; impact of belief and religion on behavior; social determinant of health and illness; biopsychosocial model in health-related behavior; global health and behavioral medicine.

96642154 FAIL-ABLE 3 (3-0-6)

PREREQUISITE : NONE

Study a comprehensive perspective of failure and disappointment to understand the state of mind and perceive the reality, and practice with self-adjustment tools for either positive or negative scenarios in real life and learn how to prevent and adjust life-plan to avoid negatively repeated or unwanted scenarios.

96642156 FENG SHUI 3 (3-0-6)

PREREQUISITE : NONE

Study and apply the meaning and principles of Feng Shui, which can be advantages for daily life as well as for living in society with happiness.

96642157 THAI ASTROLOGY 3 (3-0-6)

PREREQUISITE : NONE

Study backgrounds of astrology and forecast with an emphasis on Thai astrology and systematic and statistical forecasting to achieve a correct understanding of the root of astrology based on science and astronomy and learn types of forecasting in Thai astrology in order to apply in daily life.

96642158 CONTEMPORARY SCIENCE AND TECHNOLOGY 3 (3-0-6)

PREREQUISITE : NONE

Discussion of contemporary topics in science and technology including innovation and technology in modern days, development and integration of science and technology, novel science and technology concepts, and recent applications of formal, physical, life, applied and interdisciplinary sciences.

96642159 INTRODUCTION TO PSYCHOLOGY 3 (3-0-6)

PREREQUISITE : NONE

Introduces a broad survey of psychological science including: sensation and perception; learning, memory, intelligence, language, and cognition; emotions and motivation; development, personality, health and illness, and social behavior. Students will study and discuss relations between the brain, behavior, and experience as well as learning the process of discovering new ideas and empirical results in the field.

96642161 ELECTRONIC MUSIC HISTORY 3 (3-0-6)

PREREQUISITE : NONE

The study of electronic music history is investigated from the 1850s until now. In this course students will learn about its development overtime with audio examples from each period. Philosophy of each genre of electronic music will be investigated with their contemporary counterparts in other disciplines of arts and technology that includes the modern notation methods such as graphic scoring and electroacoustic notation will be studied, reviewing important works through history of electronic music literacy.

96642162 READY TO WORK 3 (3-0-6)

PREREQUISITE : NONE

Basic knowledges and techniques in job application such as making curriculum vitae and interviewing; personality development; communication and human relations; report writing and presentations techniques; workplace management and problem solving; achieve work-life balance with Ikigai; personal financial planning; related civil and labor laws.

96642163 STAND OUT WITH STRENGTHS 3 (3-0-6)

PREREQUISITE : NONE



Knowing and understanding strengths; finding your own strengths; analyzing actions and behaviours through strengths; developing the strengths; identifying others' strengths; making differences in work with strengths; precautions for using strengths; and working with diverse strengths people.

96642164 INTELLECTUAL PROPERTY LAWS FOR ENTREPRENEUR 3 (3-0-6)

PREREQUISITE : NONE

Historical backgrounds of intellectual property protection, international laws on intellectual property protection, types of intellectual property, principles of copyright law, principles of patent law, and principles of trademark law, copyright, copyright registration process, invention patent registration process, design patent registration process, petty patent registration process, trademark registration process, studies on intellectual property for entrepreneur.

96642165 HEALTH PROMOTION 2 (2-0-4)

PREREQUISITE : NONE

Key principles and concepts of health promotion at individual and community levels, including consideration of the medical vs. wellness models of health; the 8 dimensions of wellness and methods to achieve overall wellness; social and environmental factors surrounding health, including mental health and oral health; health communication strategies, including methods taking into consideration 21st century news media effects; principles of the Health Belief Model including risk and health perceptions; social ecological framework of health to foster an understanding of the multidimensional environmental surrounding health at the individual, cultural, and institutional levels; and fundamental principles of behavior change to foster understanding of the patterns of behavior and other factors that impact individual and community health and develop strategies to foster health behavior change.

96642166 INTRODUCTION TO MINDFULNESS 1 (1-0-2)

PREREQUISITE : NONE

Definitions, mechanisms, and practices of mindfulness; Management of thoughts and minds to various situations, including way to let go, way to maximize their potential, dealing with stress, anger, panic, or anxiety; Methods of achieving positive emotional state, including happiness, relaxation, or being in-love with life; Methods to unleash their own potential and confidence; Fixed and growth mindset, and way to optimize

96642167 SLICE OF LIFE 3 (3-0-6)

PREREQUISITE : NONE

Study the concepts and the ways of both physical and mental bodies of people in each period of lifetime in order to prepare the challenges and problems from teenage, working, family building, child raising, retirement to have understanding among family members and social diversity.

96642168 INTERESTING TOPICS IN MEDICINAL PLANTS FOR WELLNESS AND AESTHETICS 3 (3-0-6)

PREREQUISITE : NONE

Classification of medicinal plants for wellness and aesthetics business; marketing; simplified production of selected medicinal plants; simplified product processing; Food and drinks from medicinal plants for wellness and aesthetics.

96642169 CANNABIS FOR LIFE 3 (3-0-6)  
PREREQUISITE : NONE

History of cannabis; Legal cannabis in Thailand; classification; phytochemical and use of cannabis; simplified cannabis growing and extraction; cannabis-infused food and drinks.

96642170 INTRODUCTION TO LOGIC 3 (3-0-6)  
PREREQUISITE : NONE

Study of basic concepts, principles, techniques, and tools of logic, as well as their applications; analyzing arguments; deductive and inductive reasoning; fallacies; basic symbolic logics; methods of proof; applications of logic for problem solving and in everyday life.

96642175 PETANQUE 3 (2-2-5)  
PREREQUISITE : NONE

Study principles, rules and proper manners of playing petanque and practice techniques and skills in competitions.

96642176 RUGBY FOOTBALL 3 (2-2-5)  
PREREQUISITE : NONE

Study principles, rules and proper manners of rugby football players and practice techniques and skills in competitions.

96642177 SOCCER 3 (2-2-5)  
PREREQUISITE : NONE

Study principles, rules and proper manners of soccer players and practice techniques and skills in competitions.

96642178 SOFTBALL & BASEBALL 3 (2-2-5)  
PREREQUISITE : NONE

Study principles, rules and proper manners of softball & Baseball players and practice techniques and skills in competitions.

96642179 TENNIS 3 (2-2-5)  
PREREQUISITE : NONE

Study principles, rules and proper manners of tennis players and practice techniques and skills in competitions.

96642180 VOLLEYBALL 3 (2-2-5)  
PREREQUISITE : NONE

Study principles, rules and proper manners of volleyball players and practice skills as an exercise to promote good health in daily life.

96642181	GOLF	3 (2-2-5)
	PREREQUISITE : NONE	
	Study principles, rules and proper manners of golf players and practice techniques and skills in competitions.	
96642182	BADMINTON	3 (2-2-5)
	PREREQUISITE : NONE	
	Study principles, rules and proper manners of badminton players and practice techniques and skills in competitions.	
96642183	BASKETBALL	3 (2-2-5)
	PREREQUISITE : NONE	
	Study principles, rules and proper manners of basketball players and practice techniques and skills in competitions.	
96642184	CHESS	3 (2-2-5)
	PREREQUISITE : NONE	
	Study principles, rules and proper manners of playing chess and practice techniques and skills in competitions	
96642185	KARATE	3 (2-2-5)
	PREREQUISITE : NONE	
	Study principles, rules and proper manners of doing karate and practice techniques and skills in competitions.	
96642186	SHOOTING	3 (2-2-5)
	PREREQUISITE : NONE	
	Study principles, rules and proper manners of shooting and practice shooting techniques and skills in competitions.	
96642187	TABLE TENNIS	3 (2-2-5)
	PREREQUISITE : NONE	
	Study principles, rules and proper manners of table tennis players and practice techniques and skills in competitions.	
96642188	TAEKWONDO	3 (2-2-5)
	PREREQUISITE : NONE	
	Study principles, rules and proper manners of doing taekwondo and practice techniques and skills in competitions.	
96642189	JUDO	3 (2-2-5)
	PREREQUISITE : NONE	

Study principles, rules and proper manners of judo martial art and practice techniques and skills in competitions.

96642190 DESIGN METHODS FOR INNOVATION 3 (3-0-6)  
PREREQUISITE : NONE

This course consists of structural design process to create innovative products or services. The students will study the process to gather trends and information such as global direction, public opinions, technology, business, society and economic; learn how to extract context of interested area to find opportunities; study the processes used to gather behaviors, generate intense understanding about areas that lead to innovative concepts, produce innovative solutions and finally offering innovative products and services.

96642191 INTERPRETATION AND ARGUMENT 3 (3-0-6)  
PREREQUISITE : NONE

This course provides the study of interpreting and analyzing written and visual arguments. Students will learn to identify the underlying values, definitions, and assumptions in those arguments. The students also learn how to synthesize a multiplicity of competing perspectives, and to articulate fundamental disagreements between those perspectives. Ultimately, students will advance their own contributions to discussions in engineering, business innovations, and technology studies.

96642192 FENCING 3 (2-2-5)  
PREREQUISITE : NONE

Study principles, rules and proper manners of fencing players and practice techniques and skills in competitions.

96642193 FUTSAL 3 (2-2-5)  
PREREQUISITE : NONE

Study principles, rules and proper manners of futsal players and practice techniques and skills in competitions.

96642194 DANCESPORT 3 (2-2-5)  
PREREQUISITE : NONE

Study principles, rules and proper manners of dancesport players and practice techniques and skills in competitions.

96642195 BRIDGE 3 (2-2-5)  
PREREQUISITE : NONE

Study principles, rules and proper manners of bridge players and practice techniques and skills in competitions.

96642196 PERSONAL TRAINER 3 (2-2-5)  
PREREQUISITE : NONE

Study the principles necessary to maintain a healthy and strongly. Learn how to do physical health assessment fitness test before exercise. Basic body structure that must be known before exercising correctly. The movement of the body in the exercise correctly. Posture, stretching, Food nutrition, Cardiovascular system, Personal exercising programs, Sport massage, First Aid & CPR and Correcting posture to suit the body structure by exercising.

96642197 DIVING FOR ECOTOURISM 3 (2-2-5)  
PREREQUISITE : NONE

Meaning, importance, and type of diving for ecotourism; ecological relationships, underwater biodiversity; relationship between local community and marine resources utilization; concepts and models of conservation and sustainable management of natural resources; underwater environment and human physiology adaptation, basic diving training; installation and use of diving equipment; underwater communication and hand signals; dive planning; and handling with emergency.

96642198 CHORUS 3 (2-2-5)  
PREREQUISITE : NONE

To learn and practice choral singing including Articulatory Phonetics, Diction for Singers, Choral History and Literature, and Recital.

96642199 INTEGRATED CREATIVE ART AND DESIGN 3 (1-4-4)  
PREREQUISITE : NONE

Students participate in an inter-discipline learning approach in architecture, art, and design by integrating creative thinking for art and design innovation. This course also provides students opportunities to work with others as a team via project-based assignments.

96642200 ASTROLOGY 3 (3-0-6)  
PREREQUISITE : NONE

The definition of astronomy, stellar, constellation, transits and planetary degrees, horizons, and cardinal points. The application of astronomy in astrology and introductory to zodiac-related fortune-telling.

96642999 CHARM SCHOOL 3 (3-0-6)  
PREREQUISITE : NONE

Make yourself charming through enhancement of self-awareness, appropriate manners, communication, interpersonal skills, personalities to encourage personal development and happiness in the future work-life. Inspire social consciousness to reflect KMITL identities.

### **MANAGEMENT AND LEADERSHIP SKILLS**

96643001 PRACTICE UNDER MANAGEMENT SKILLS 1 1 (0-2-1)  
PREREQUISITE : NONE

This course provide practice for working or industrial training or training or other related activities which reflect development of the management skills at least 15 hours.

96643002 PRACTICE UNDER MANAGEMENT SKILLS 2 2 (0-4-2)  
PREREQUISITE : NONE

This course provide practice for working or industrial training or training or other related activities which reflect development of the management skills at least 30 hours.

96643003 PRACTICE UNDER MANAGEMENT SKILLS 3 3 (0-6-3)  
PREREQUISITE : NONE

This course provide practice for working or industrial training or training or other related activities which reflect development of the management skills at least 45 hours.

96643004 POSITIVE POWER LEADER 3 (3-0-6)  
PREREQUISITE : NONE

Study and practice the principle of being a positive leader, developing the leadership, building the positive attitude for teamworking, psychology in management and persuasion.

96643005 THE DISRUPTOR 3 (3-0-6)  
PREREQUISITE : NONE

Learn life experiences, ways of thinking, approaches to solve complex problems or manage threats, ways to create self-motivation and inspire others. Study of risk management, administration, people management, self-development, and digital media communication, which drives to successful life.

96643006 MODERN MANAGEMENT AND LEADERSHIP 3 (3-0-6)  
PREREQUISITE : NONE

Study modern management principles and modern leadership theories and modern leadership theories in contemporary period. Study the relationship between modern management and leadership. Learn to develop both managerial skills and leaderships skills.

96643007 NEXT GEN LEADERSHIP 3 (3-0-6)  
PREREQUISITE : NONE

Study and practice leadership skills for young generations including being proactive, setting goals and missions, prioritizing, building 'win-win' attitude, being deep listener, being a good player in a team, self-evaluating and willing to adjust yourself and so on in order to live and work in digital age

96643008 SCIENCE OF NEGOTIATION 3 (3-0-6)  
PREREQUISITE : NONE

Study the situations of negotiation with the use of holistic thinking approaches and thinking methods. Study the factors effecting negotiation, Maslow's hierarchy of needs, and negotiation techniques. Learn from the case studies.

96643010 CONTEMPORARY MARKETING 3 (3-0-6)

PREREQUISITE : NONE

Study contemporary and new principles of marketing, changes in consumer behaviors, new business environment analysis, market segmentation, market target, market positioning, marketing mix : product ; price ; place and promotion, ethics in marketing, digital marketing.

96643012 TEAMWORK 3 (3-0-6)

PREREQUISITE : NONE

Study working environments as a role of collaborators, team members, and team leaders under potential conflicts of simulated situations, learn how to overcome issues and developing the leadership to make a powerful team for success.

96643013 INDUSTRIAL MANAGEMENT 3 (3-0-6)

PREREQUISITE : NONE

This course provides a study of production management, the scope and various activities of production management, organization structures, planning and development of new products, forecasting of production, production planning, production layouts and operation standards, production scheduling, factory location, purchasing and inventory control, quality control, industrial finance, personnel management, labor relations, personnel motivation, production maintenance, and safety management.

96643014 GENERAL BUSINESS 3 (3-0-6)

PREREQUISITE : NONE

A study of the meaning of administration processes focusing on business, business resources and allocation, types of business organization, organizing, human relations, leadership, motivation and the implementation of basic principles and general knowledge of marketing, personnel management, finance and accounting in the business.

96643015 BUSINESS ACCOUNTING FOR NEW GEN 3 (3-0-6)

PREREQUISITE : NONE

A study of concepts and meaning of accounting, financial statements, accounting equation, accounting transaction analysis, the recording of the accounting data, theory of double-entry bookkeeping, general and trail balance, closing and adjusting entries.

96643016 FUN WITH ONLINE BUSINESS 3 (3-0-6)

PREREQUISITE : NONE

Study a basic of online based business and format of income channels in online market, including online auctions, ethics and law regarding to online transactions.

96643018 INTERNATIONAL BUSINESS 3 (3-0-6)

PREREQUISITE : NONE

Study the main components of international business, key vocabulary, Exchange Rates, International Monetary System, Foreign Exchange Market, International Law and Global Orientation, Supranational Organizations and International Institutions, International Marketing and Supply-Chain

Management, E-Commerce, Culture and International Business in Emerging Markets and Ethical Management in the International Context.

- 96643019 ECONOMICS AND ENTREPRENEURSHIP 3 (3-0-6)  
 PREREQUISITE : NONE  
 Principle of economics; production, distribution and consumption of goods and services, macroeconomics; microeconomics; economics; entrepreneurship.
- 96643020 INNOVATIVE ENTREPRENEURS 3 (3-0-6)  
 PREREQUISITE : NONE  
 Study concepts and roles of innovative entrepreneurs in association with technology and innovation application to build skillful entrepreneurs capable of creative business invention.
- 96643021 MODERN ENTREPRENEURS 3 (3-0-6)  
 PREREQUISITE : NONE  
 Study the roles, types and characteristics of being new entrepreneurship. Learn the comprehensive knowledge on business including business start-up, elements of business plan, strategies on running business for challenging the competition, building uniqueness, creating images to respond with the customers' need.
- 96643022 SOCIAL ENTREPRENEURS 3 (3-0-6)  
 PREREQUISITE : NONE  
 Study the role of social entrepreneur in selecting social problems of adding the value of local business by the principles of business both planning and managing the system in order to resolve those social problems without the emphasis on individual profit from the business. Explore possibility of creating new ways for solving the social problem and improving the society.
- 96643023 TECHNOPRENEURS 3 (3-0-6)  
 PREREQUISITE : NONE  
 Study and practice the begin of being technopreneurs, strategy of establish and investment development in business, evaluate the business opportunities and its successful, type of investments in technology market, case study of tech business.
- 96643024 HAPPINESS FARMS 3 (3-0-6)  
 PREREQUISITE : NONE  
 Study on nature of farming in production of plants, animals and aquatic animals, farming composition, farm management, management for production for farms and application of farming in production of plants, animals and aquatic animals, including agricultural development and communication for harmonization with happiness.
- 96643025 ROAD TO IPO 3 (3-0-6)  
 PREREQUISITE : NONE  
 Study the principles of meaning importance and principle of IPO (Initial Public Offering), business preparation and organization structure management, cost planning, accounting management



and regulations for stock exchange, functions and accountabilities of all relative parties in organization, risk management and conflict of interest management of organization for good governance organization, Target setting and design road map of organization, business plan for IPO, process of entering IPO.

96643026 INVESTMENT PLANNING 3 (3-0-6)  
PREREQUISITE : NONE

Study types of investment, finance theories related to investment, risk management, analysis of investment for cost effectiveness, calculation cost effectiveness on investment.

96643027 MAN, MONEY AND MATH 3 (3-0-6)  
PREREQUISITE : NONE

Study the principles of mathematics related to daily life, understanding and applying this fundamental to have sustainably happiness by focusing the relation and the balance of own management on money usage, on saving and investment for instance, saving money, government bond, stock market and other interesting properties.

96643028 SMART TIPS FOR BEGINNING INVESTERS 3 (3-0-6)  
PREREQUISITE : NONE

Study basic knowledge and principles of investment, the stock exchange and financial planning investment in the stock market / capital market, investment process and portfolio management, Analysis of basic factors and technical factors, The appropriate investment period and decision-making on stock returns.

96643029 DIGITAL ECONOMY 3 (3-0-6)  
PREREQUISITE : NONE

This course will develop and utilize economic principles to better understand and explain the expansion and integration of information and communications technologies into the global economies. It will provide an introduction to concepts and theories useful in analyzing economic aspects of the digital and information technology revolutions.

96643030 GENERAL ECONOMICS AND PROJECT FEASIBILITY STUDY 3 (3-0-6)  
PREREQUISITE : NONE

A study of the meaning and general principles of economics: values, prices and resource allocation; fundamental theories in consumer and firm consumer and behavior with an emphasis on factors affecting product's demand and supply, as well as a study of price determination and efficiency in resource allocation both in perfect competitive and imperfect competitive markets. A study of definitions of project feasibility; importance, procedures and steps of project feasibility study, details of feasibility analysis relating to project operations including management, production, marketing, finance, and project environments.

96643031 CIRCULAR ECONOMIC LIFESTYLE FOR 21<sup>st</sup> CENTURY 3 (3-0-6)  
PREREQUISITE : NONE

Learning the value of nature to human life in the use of resources and being a source of support and pollution treatment, crisis of resource problems, climate and environmental emergency situations, concepts throughout the life cycle and business design process under the concept of circular economy, business model innovation to the circular economy, lifestyle under the concept of circular economy, awareness and driving force to the way of life under the concept of circulating economy and circulating economy society.

96643032 BCG ECONOMY IN ACTION 3 (3-0-6)  
PREREQUISITE : NONE

Develop critical thinking skills which lead to ideas for solving bio-resources crisis, and practice design thinking skills and economics development in three aspects: Bioeconomy(B), Circular Economy (C), and Green Economy (G). Bioeconomy focuses on applying knowledge, technology and innovation to build on developed strengths aiming to add value to agricultural products. Circular Economy focuses on design for optimize resource use and especially minimize trash or leaving zero waste. Green Economy aims to reduce environmental impact in long term and particularly aims for environmental sustainability.

96643034 MANAGEMENT AND CREATIVITY 3 (3-0-6)  
PREREQUISITE : NONE

Art management is the post-production that is required by artist or creator to utilize knowledge and thinking method, by aiming to study and understand creative management, in order to facilitate the efficiency of creative art production, as well as to fulfill the purpose of creative art communication in post-production.

96643035 KNOWLEDGE MANAGEMENT FOR INNOVATION DEVELOPMENT 3 (3-0-6)  
PREREQUISITE : NONE

Learn definitions and role of knowledge management in innovation development, knowledge management processes, knowledge management models, tools for knowledge management, the factors impacting on knowledge management, application of knowledge management in various contexts, principles of big data, concepts and types of innovation, innovation development process, and the relationship of knowledge management with innovation and big data management.

96643036 KNOWLEDGE MANAGEMENT FOR PROJECT MANAGEMENT 3 (3-0-6)  
PREREQUISITE : NONE

Study definitions and importance of knowledge management, knowledge management processes in project, knowledge management models in project, tools for knowledge management in project, concepts of project management, project life cycle, types of projects, the nature of project work, the factors impacting on knowledge management in projects, and application of knowledge management in project context.

96643037 PUBLIC ADMINISTRATION AND PUBLIC POLICY IN THE 21<sup>st</sup> CENTURY 3 (3-0-6)  
PREREQUISITE : NONE

A study of the concepts and the case studies of public administration and public policy in the 21<sup>st</sup> century; the adoption of the Sustainable Development Goals (SDGs) in public sectors, including

a study of the successful public policies of developed countries in order to understand significant factors and determinants for practical public administration and modern public policy.

96643038 REBRANDING 3 (3-0-6)  
PREREQUISITE : NONE

Study concepts, theories, and principles of rebranding and apply into lifestyle, Selfanalysis of current practice and future expectations for the identification of issues needed for rebranding. Develop self-images and looks in alignment with societal, technological, economical, and political impacts on life as well as improve self in appropriation to the various and ever-changing situation.

96643039 KMITL INNOVATION 3 (3-0-6)  
PREREQUISITE : NONE

Design and innovation concept; KMITL's design and innovation process; innovative prototype research and design guideline; academic work dissemination; applications of an academic work for commercial or public benefits.

96643040 LEADERSHIP AS A COACH 3 (3-0-6)  
PREREQUISITE : NONE

Definition of coach; role of coach; differences between coach and instructor; goal setting; deep listening; asking powerful questions; providing positive feedback; coaching tools; team development through coaching.

96643041 GLOBAL GOVERNANCE 3 (3-0-6)  
PREREQUISITE : NONE

Study the theories and concepts of governance including the background, importance, processes, mechanisms, the way to apply for both domestic and global contexts as well as the utilization of this concept in public and private sectors.

96643042 HARD POWER AND SOFT POWER 3 (3-0-6)  
PREREQUISITE : NONE

Study of the concepts and theories of Hard and Soft Power including background, importance, patterns, utilization with important case studies in global context as well as the benefits and challenges of using both power and the ways to apply in the future.

96643043 MUSIC BUSINESS 3 (3-0-6)  
PREREQUISITE : NONE

study music business Since its inception through the innovation of media production and sound recording that has changed to the present. Management of music labels in the digital age The future of the music business and improvisation including the relevant copyright laws.

96643044 LEAN STARTUP AND AGILE BUSINESS 3 (3-0-6)  
PREREQUISITE : NONE

This course covers the basic principles of lean startup and agile business practice. Students will learn how to create an innovation accounting system to build products that meets customer demands; find the easiest and fastest ways to build minimum viable products to reduce time-to-market; learn tactics for improvement and measure customers' needs such as experimenting landing pages, A/B tests, MVPs on real customers; study how to implement an agile culture in business environments and learn how to develop business structures in order to keep the business functioning on constantly-moving units.

96643045 INNOVATION MANAGEMENT 3 (3-0-6)  
PREREQUISITE : NONE

This course introduces students to the concepts of innovative thinking and innovation management practices. This course prepares students with the insights and instruction necessary to successfully lead worldwide enterprises or local ventures. Covered topics include organization, strategy planning, policy development, communities, research and development and product management. Students are exposed to issues that challenged real-world organizations. Students will learn best practices used by engineering leaders who successfully develop commercially viable products and services, create efficient operating processes, manage profitable organizations, and transform companies into industry leaders.

#### LANGUAGE AND COMMUNICATION SKILLS

96644001 PRACTICE UNDER LANGUAGE AND COMMUNICATION SKILLS 1 1 (0-2-1)  
PREREQUISITE : NONE

This course provide practice for working or industrial training or training or other related activities which reflect development of the communication skills at least 15 hours.

96644002 PRACTICE UNDER LANGUAGE AND COMMUNICATION SKILLS 2 2 (0-4-2)  
PREREQUISITE : NONE

This course provide practice for working or industrial training or training or other related activities which reflect development of the communication skills at least 30 hours.

96644003 PRACTICE UNDER LANGUAGE AND COMMUNICATION SKILLS 3 3 (0-6-3)  
PREREQUISITE : NONE

This course provide practice for working or industrial training or training or other related activities which reflect development of the communication skills at least 45 hours.

96644009 BASIC ENGLISH PRONUNCIATION 3 (3-0-6)  
PREREQUISITE : NONE

A study and practice of English sound systems and intonation, focusing on the study of phonetic alphabets, the pronunciation of English vowel and consonant sounds, word and sentence stress, and different accents in today's English.

96644010 DEVELOPMENT OF READING AND WRITING SKILLS IN ENGLISH 3 (3-0-6)  
PREREQUISITE : NONE

Study effective reading techniques in English relevant to reading for the main idea, newspaper reading, reading for translation, writing skills development in English focusing on accuracy in both language forms and grammar beneficial to careers and academic purposes such as writing application letters, filling application forms, writing reports, etc.

96644011 ENGLISH FOR ACADEMIC PURPOSES 3 (3-0-6)  
PREREQUISITE : NONE

Develop language and study skills in English for academic purposes related to personal interests, focusing on listening to lectures, participating in group discussions, giving oral presentations, reading and writing academic texts.

96644012 ENGLISH FOR COMMUNICATION 3 (3-0-6)  
PREREQUISITE : NONE

Practice listening, speaking, reading and writing in communicative contexts such as greeting, making appointments, communicating in daily life situations, negotiating, presenting work-related assignments and ideas, reading for main ideas from different rhetorical patterns, and writing emails.

96644013 ENGLISH FOR COMMUNICATIVE WRITING 3 (3-0-6)  
PREREQUISITE : NONE

A study and effective practice in English communicative writing in various contexts Focusing on letters, reports instructions, manuals, and as a description of things, places, and events.

96644014 ENGLISH FOR PROFESSIONAL COMMUNICATION 3 (3-0-6)  
PREREQUISITE : NONE

Learn and practice English communication skills emphasizing listening and speaking skills for various occasions, including the development of skills in conversation, discussion, exchanges of opinions, speech making and academic paper presentation in public.

96644015 ENGLISH FOR FURTHER STUDIES 3 (3-0-6)  
PREREQUISITE : NONE

Study and practice of English for further graduate study focusing on academic reading, summary writing, listening and note-taking, including a practice in doing various kinds of English test paper.

96644016 ENGLISH FOR INDUSTRY 3 (3-0-6)  
PREREQUISITE : NONE

Study and practice different industrial aspects: describing production processes; explaining how to use equipment or how to operate machines; explaining safety at work; writing warnings and instructions, applying communication skills both speaking and writing related to work.

96644017 ENGLISH FOR BUSINESS 3 (3-0-6)  
PREREQUISITE : NONE

Study and practice English for business communication, with emphasis on reading texts from various kinds of business, on vocabulary and expression usage in business contexts, on writing business letters, memos, and on listening and speaking in various situations of business.

96644018 ENGLISH FOR MARKETING 3 (3-0-6)  
PREREQUISITE : NONE

Study and practice language structures, vocabulary and expressions in marketing contexts extracted from authentic marketing materials with an emphasis on reading comprehension, including the application of knowledge studied.

96644019 ENGLISH FOR MANAGEMENT 3 (3-0-6)  
PREREQUISITE : NONE

Study and practice language structures, vocabulary and expressions in management contexts extracted from authentic management materials with an emphasis on reading comprehension, including the application of knowledge studied.

96644020 ENGLISH FOR MEDIA 3 (3-0-6)  
PREREQUISITE : NONE

Study English in various types of mass media such as newspapers, magazines, advertisements, website, radio, and television in order to understand news and information.

96644022 ENGLISH FOR PROFESSIONAL PURPOSES 3 (3-0-6)  
PREREQUISITE : NONE

Development of language skills necessary for professional purposes: reading manuals and technical signs; academic writing and research, writing job application letter, resumes, memos, reports, abstracts, emails, calls for meeting, minutes and proceedings; practicing interviews, job discussion and work presentation.

96644023 ENGLISH FOR WORK PREPARATION 3 (3-0-6)  
PREREQUISITE : NONE

Develop language skills necessary for professional purposes: reading manuals and technical signs; writing job application letter, resumes, memos, reports, abstracts, emails, calls for meeting, minutes and proceedings; practicing interviews, job discussion and work presentation.

96644024 ENGLISH FOR TOURISM AND TRAVELLING 3 (3-0-6)  
PREREQUISITE : NONE

Study vocabulary and language used in travelling and tourism business, such as hotel, restaurant, airport, including a practice of the four skills in contexts as greeting, welcoming, travelling, introducing tourist attraction, planning trips, looking for and inquiring travelling information, dealing with customs and passport control as well as an explanation of general knowledge on tourism and travelling.

96644025 ENGLISH FOR ARCHITECTURAL ARTS & DESIGN COMMUNICATION 3 (3-0-6)  
PREREQUISITE : NONE

Study meanings and structure of English language for communication reading to support on architectural English presentation.

96644026 ENGLISH FOR ARCHITECTURAL ARTS & DESIGN PRESENTATION 3 (3-0-6)  
PREREQUISITE : NONE

Study technique of using advance English for reading and analytical data from case studies and presentation method include commenting on works through debate and data conclusion include practice by reading on architectural case studies and summarizing into English.

96644027 ENGLISH FOR NARRATIVE WRITING 3 (3-0-6)  
PREREQUISITE : NONE

The course is to encourage the development of the mechanics of writing to ensure clarity of your storytelling. This course also provides students an opportunity to learn and understand basic 5 components in writing a story: characters, setting, plot, conflict, and resolution. Students will share their ideas, imagination and learn to combine these basic elements as a whole.

96644028 ENGLISH FOR DESIGN 3 (3-0-6)  
PREREQUISITE : NONE

Study English vocabulary, structures and usage for design including developing skills for communicating for study and work in design.

96644029 ENGLISH FOR HEALTH PROFESSIONS 3 (2-2-5)  
PREREQUISITE : NONE

Learn and practice English for academic communication, essential medical Etymology; root words, suffixes and prefixes of the medical term; English for medical study. Medical correspondence; writing medical certificates, medical documents and academic papers; reading research papers, textbooks, and medical articles with critical appraisal skills.

96644030 ENGLISH FOR PUBLIC RELATIONS 3 (3-0-6)  
PREREQUISITE : NONE

Learn and practice the 4 skills of English in public relations contexts such as listening to PR brief, specific vocabulary, expressions for press release, and project proposal, etc.

96644031 ENGLISH FOR SCIENCE AND TECHNOLOGY 3 (3-0-6)  
PREREQUISITE : NONE

Learn and practice the 4 skills of English in science and technology contexts and study vocabulary, structures, genres of English for science and technology through various types of media including abstracts, research reports, research papers, posters and articles.

96644032 ENGLISH FOR AVIATION 3 (3-0-6)  
PREREQUISITE : NONE

A study and practice in the use of English for aviation industry, including technical terms for pilots, cabin crews, ground crews, aeronautical engineers, flight operators, air traffic controllers, airport operators, and aviation logistics operators.

96644033 WRITING AND SPEAKING IN THE PROFESSIONS 3 (3-0-6)  
PREREQUISITE : NONE

Improve writing and speaking skills related to areas of professional activities such as writing business letters, faxes, memos, informal letters, emails, technical manuals, or routine reports; participating in a meeting; giving a presentation; and using English in professional settings.

96644034 TECHNICAL WRITING 3 (3-0-6)  
PREREQUISITE : NONE

Development of language and study skills in English for technical writings including language use for expressing definition, comparison, classification, purposes, functions, processes, cause and effect.

96644035 ACADEMIC READING AND WRITING FOR HEALTH SCIENCES 3 (2-2-5)  
PREREQUISITE : NONE

Study concept of critical reading; skills for academic reading, improving reading speed, using reading strategies to improve text comprehension, organization of different types of texts, academic vocabulary; academic writing skill, writing with logical development and clarity of thought, pre-writing activities and idea generation, writing an effective and focused introduction, detailed body, and conclusion, rhetorical styles; process of peer editing.

96644036 ENGLISH SKILL DEVELOPMENT FOR LIFE-LONG LEARNING 3 (3-0-6)  
PREREQUISITE : NONE

Learn and develop English language skills based on topics of individual learners' interest through active language learning activities customized for each learner to promote self-directed, life-long language learning skills.

96644037 CROSS CULTURAL COMMUNICATION 3 (3-0-6)  
PREREQUISITE : NONE

Study the differences and similarities in cross-cultural communication by comparing different cultures, races, and regions to understand cultural variations in communication behaviors and motivations, cultural relativism, verbal, and nonverbal communication across a variety of cultural contexts, and practice communicating with people from different cultures.

96644039 COMMUNICATION SKILLS THROUGH DEBATE 3 (3-0-6)  
PREREQUISITE : NONE

Learn the basics of debate and the valuable skills of argumentation to enhance their presentation, argumentation, critical thinking, collaboration, and information skills and increase their world knowledge and develop self-confidence through engaging in a broad range of debating activities.

96644040 COMMUNICATION SKILLS THROUGH DRAMA 3 (3-0-6)



PREREQUISITE : NONE

Practice communication skills through drama by developing a basic acting vocabulary by exploring techniques in enhancing your actor's voice, imagination and physicality, working with others in the creation of character, situation and role.

96644041 ENGLISH FROM ENTERTAINMENT MEDIA 3 (3-0-6)

PREREQUISITE : NONE

An analytical study of English and Western cultures through entertainment media, such as songs, movies, magazines, and TV commercials, focusing on language styles, vocabulary, expressions, and slangs used in everyday English communication.

96644042 PROFESSIONAL COMMUNICATION AND PRESENTATION 3 (3-0-6)

PREREQUISITE : NONE

Develop media literacy skills. Learn to analyze and evaluate situations, and screen contents to get key points for presentation. Learn to select proper media for presentation. Learn proper verbal language and body language for each different context.

96644043 PUBLIC SPEAKING 3 (3-0-6)

PREREQUISITE : NONE

Study the introduction to practice public speaking, including techniques to lessen speaker anxiety, and the use of visual aids to enhance speaker presentations to develop and strengthen skills in preparing and presenting public oral presentations in a variety of situations.

96644044 BEST SPEECH 3 (3-0-6)

PREREQUISITE : NONE

Study Human communication processes. Practice of verbal and non-verbal communication, how to structure and organize information to present in various situations, physical and vocal skills includes techniques in controlling speech anxiety.

96644045 RESEARCH PAPER WRITING 3 (3-0-6)

PREREQUISITE : NONE

Learn and practice the process of data searching, basic research, report and paper writing with academic language, and the process of academic publishing and conferencing.

96644046 LISTENING AND READING FOR IMPROVING LIFE QUALITY 3 (3-0-6)

PREREQUISITE : NONE

Study and practice principle and perception skills, Media literacy skills. Listening and Reading for improving Life quality to understand, experience enhancement, and imagination. Development in ability of finding main ideas, analyzing and evaluating messages for both academic and non-academic purposes.

96644047 DEVELOPMENT OF THAI CREATIVE WRITING SKILLS 3 (3-0-6)

PREREQUISITE : NONE

Practice and develop the creative writing skills. The expression of knowledge Ideas and imagination into writing. The chosen words are euphemisms correct and appropriate writing style including can review and edit writings manually.

96644048 LANGUAGE IN THAI SOCIETY 3 (3-0-6)

PREREQUISITE : NONE

Study structure of language used in Thai society, structure of Thai society, relationship between language and society; language change caused by social and geographical factors; language development and the development of the nation.

96644049 THAI LANGUAGE FOR CREATIVITY 3 (3-0-6)

PREREQUISITE : NONE

Study Thai language in order to communicate effectively. Practice good communication skills including listening, speaking, reading, writing, and creative thinking.

96644050 THAI WRITING IN WORKPLACE 3 (3-0-6)

PREREQUISITE : NONE

Study Principles, formats and methods of writing Thai document types; correct use of the Thai language appropriate for each type of documents. Practice in document writing in accordance with working system in the workplace.

96644051 THAI FOR DENTAL PROFESSIONS 3 (3-0-6)

PREREQUISITE : NONE

Thai for academic communication, for example history taking, treatment plan presentation, oral hygiene instruction, post- operative instruction

96644052 COMMUNICATION IN THAI FOR CULINARY PROFESSIONALS 3 (3-0-6)

PREREQUISITE : NONE

Thai language; principle of communication (verbal and non-verbal), importance of communication in food catering and services; essential skills in active listening and discussion; communication in social network and constructive confrontation; practice in communication with patients, relatives and colleagues; dealing with the media.

96644053 FUNDAMENTAL CHINESE FOR LISTENING AND SPEAKING 3 (3-0-6)

PREREQUISITE : NONE

A study of Chinese vocabulary and expressions, including language use for daily life, with an emphasis on listening and speaking.

96644054 FUNDAMENTAL CHINESE READING AND WRITING 3 (3-0-6)

PREREQUISITE : NONE

A study of Chinese vocabulary and expressions, including language use for daily life, with an emphasis on reading and speaking.

- 96644055 BASIC CHINESE GRAMMAR AND CHINESE IDIOMS AND PROVERBS 3 (3-0-6)  
PREREQUISITE : NONE  
A study of Chinese basic grammar: words, phrases, and sentences, including sentence structures, idioms, and proverbs.
- 96644056 CHINESE CULTURE IDIOMS AND PROVERBS 3 (3-0-6)  
PREREQUISITE : NONE  
Study the introduction to Chinese cultures, traditions and manners; differences between Thai and Chinese cultures and background, meanings, principles, concepts and use of Chinese idioms and proverbs in everyday life.
- 96644057 CHINESE FOR COMMUNICATION 3 (3-0-6)  
PREREQUISITE : NONE  
Study and practice skills in Chinese, focusing on listening and speaking for daily communication and promoting the understanding of Thai and Chinese cultures. the course learning outcome is being able to speak Chinese.
- 96644058 CHINESE FANDOM 3 (3-0-6)  
PREREQUISITE : NONE  
Study the Chinese fan cultures and fundamental elements of Chinese grammar, vocabulary and idiomatic expressions from different sources of media (e.g. film and television) which are applied to everyday life.
- 96644059 CHINESE FOR TRAVEL 3 (3-0-6)  
PREREQUISITE : NONE  
A practice of Chinese vocabulary as well as expressions, language use of Chinese for travel, conversations in various situations during trips, and intercultural communication.
- 96644060 GERMAN FOR COMMUNICATION 3 (3-0-6)  
PREREQUISITE : NONE  
Development of German language skills necessary for basic communication. Students are introduced to the German alphabet and numbers at the start of the course and then move to basic introductions of themselves and their personal background. The remainder of the course builds students' daily life vocabulary with the present and past tenses. Role plays and dialogues form in daily life of classroom activities to build students' confidence in using German language.
- 96644061 GERMAN FOR WORK AND BUSINESS 3 (3-0-6)  
PREREQUISITE : NONE  
Builds on vocabulary and grammar skills in the German language used in different work positions and businesses. Particular attention is paid to the vocabulary of working situations to build students' confidence in their use of the German language. The past tense is introduced together with additional modal verbs. Dialogue skills are developed through exploring adjectives and creating simple descriptions of different position of business works.

96644062	JAPANESE FOR COMMUNICATION PREREQUISITE : NONE	3 (3-0-6)
	Study and practice skills in Japanese, focusing on listening and speaking for daily communication and promoting the understanding of Thai and Japanese cultures, the course learning outcome is being able to speak Japanese.	
96644063	JAPANESE FOR TRAVEL PREREQUISITE : NONE	3 (3-0-6)
	A practice of Japanese vocabulary as well as expressions, language use of Japanese for travel, conversations in various situations during trips, and intercultural communication.	
96644064	KOREAN FOR TRAVEL PREREQUISITE : NONE	3 (3-0-6)
	A practice of Korean vocabulary as well as expressions, language use of Korean for travel, conversations in various situations during trips, and intercultural communication.	
96644065	VIETNAMESE FOR TRAVEL PREREQUISITE : NONE	3 (3-0-6)
	A practice of Vietnamese vocabulary as well as expressions, language use of Vietnamese for travel, conversations in various situations during trips, and intercultural communication.	
96644066	MALAY FOR TRAVEL PREREQUISITE : NONE	3 (3-0-6)
	A practice of Malay vocabulary as well as expressions, language use of Malay for travel, conversations in various situations during trips, and intercultural communication.	
96644067	CHINESE CONVERSATION FOR IT PREREQUISITE : NONE	3 (3-0-6)
	Learning and practicing Chinese conversation in IT-related work through simulations. Students are exposed to Chinese vocabulary, phrases and sentences related to IT, including using computers in Chinese, Installation and Uninstalling of software, Accessing Chinese platforms, Using search engines, Shopping on the Internet, Opening an online store in which students will practice listening skills speaking Chinese and gain an understanding of the content for Chinese conversation for IT.	
96644068	HOW TO MAKE MONEY WITH CHINESE PREREQUISITE : NONE	3 (3-0-6)
	Essential Chinese for business; business thinking and communication; entrepreneurship via e-commerce websites; online business trends and directions; necessity insight for enterprising in Chinese-speaking countries.	
96644069	FOUNDATION JAPANESE PREREQUISITE : NONE	3 (3-0-6)

Develop the basic Japanese grammatical structures and vocabulary; basic listening, speaking and reading skills for learning compulsory Japanese courses for the skills in listening and speaking on everyday life topics; listening for gist and details; grammar and language functions necessary for communicative purposes

96644070 INNOVATIVE COMMUNICATION 3 (3-0-6)

PREREQUISITE : NONE

This course provides the study and practice of different communication skills including technical, professional and creative writing; infographics design; and delivering presentation. The students will study relevant techniques and learn to combine a range of skills in order to effectively communicating technical or specialized concepts. They will be able to explore and translate the benefit, the uniqueness, and the credibility of innovative ideas to a target audience.

96644071 INTRODUCTION TO SIGN LANGUAGE FOR COMMUNICATION 3 (3-0-6)

PREREQUISITE : NONE

Meaning, history, types and different characteristic, standard structure of sign language, and hearing-impaired person's culture as well as to practice using sign Language for everyday use.

## ภาคผนวก B

### คำสั่งแต่งตั้งคณะกรรมการพัฒนาหมวดวิชาศึกษาทั่วไป (ฉบับปรับปรุง พ.ศ. 2566)



คำสั่งสถาบันเทคโนโลยีพระจอมเกล้าเจ้าคุณทหารลาดกระบัง

ที่ e ๔๙๕/๒๕๖๕

เรื่อง แต่งตั้งคณะกรรมการพัฒนาหมวดวิชาศึกษาทั่วไป (ฉบับปรับปรุง พ.ศ. ๒๕๖๖)

เพื่อให้การดำเนินการพิจารณาหมวดวิชาศึกษาทั่วไป (ฉบับปรับปรุง พ.ศ. ๒๕๖๖) ของสถาบันเทคโนโลยีพระจอมเกล้าเจ้าคุณทหารลาดกระบัง เป็นไปด้วยความเรียบร้อย เหมาะสม และมีประสิทธิภาพ สถาบันจึงให้แต่งตั้งคณะกรรมการพัฒนาหมวดวิชาศึกษาทั่วไป (ฉบับปรับปรุง พ.ศ. ๒๕๖๖) ประกอบด้วยบุคคลดังต่อไปนี้

- |   |                      |
|---|----------------------|
| ๑. รองศาสตราจารย์ ดร.อนุวัฒน์ จางวนิชเลิศ           | ที่ปรึกษา            |
| ๒. ผู้ช่วยศาสตราจารย์ศิริพันธ์ มุรธาธัญลักษณ์       | ประธานกรรมการ        |
| ๓. ผู้ช่วยศาสตราจารย์ ดร.อมตะ อนันต์พินิจวัฒนา      | รองประธานกรรมการ     |
| ๔. ผู้ช่วยศาสตราจารย์พิสุทธิ์ พวงนาค                | กรรมการผู้ทรงคุณวุฒิ |
| ๕. ผู้ช่วยศาสตราจารย์ ดร.อำภาพรรณ ตันตนาครกุล       | กรรมการผู้ทรงคุณวุฒิ |
| ๖. ดร.อลงกต ยะไวทย์                                 | กรรมการผู้ทรงคุณวุฒิ |
| ๗. ดร.กัลยารัตน์ เมธีวีรวงศ์                        | กรรมการ              |
| ๘. อาจารย์ณกรณ์ บุญฤทธิ์                            | กรรมการ              |
| ๙. ผู้ช่วยศาสตราจารย์ ดร.มธรรดา จิโนรส              | กรรมการ              |
| ๑๐. ผู้ช่วยศาสตราจารย์ ดร.พรรณทิพา วาณิชยจิรัฐติกาล | กรรมการและเลขานุการ  |
| ๑๑. นางพิมสิริ อุ่นตรงจิตร                          | ผู้ช่วยเลขานุการ     |
| ๑๒. นางสาวจงจิตต์ ยืนวงษ์                           | ผู้ช่วยเลขานุการ     |
| ๑๓. นางสาวจุฑามาศ สวนแก้ว                           | ผู้ช่วยเลขานุการ     |

ทั้งนี้ ตั้งแต่ วันที่ ๙ สิงหาคม ๒๕๖๕ เป็นต้นไป

สั่ง ณ วันที่ ๑๘ สิงหาคม พ.ศ. ๒๕๖๕

(รองศาสตราจารย์ ดร.คมสัน มาลีสี)

รักษาการแทนอธิการบดีสถาบันเทคโนโลยีพระจอมเกล้าเจ้าคุณทหาร  
ลาดกระบัง

ภาคผนวก C

ตารางเปรียบเทียบการปรับปรุงหมวดวิชาศึกษาทั่วไป

หัวข้อ	หมวดวิชาศึกษาทั่วไป สำหรับหลักสูตรนานาชาติ (ฉบับปรับปรุง พ.ศ. 2564)	หมวดวิชาศึกษาทั่วไป สำหรับหลักสูตรนานาชาติ (ฉบับปรับปรุง พ.ศ. 2566)
โครงสร้าง หมวดวิชา ศึกษาทั่วไป	<p>30 หน่วยกิต</p> <p><u>บังคับเรียน</u></p> <ul style="list-style-type: none"> <li>- กลุ่มวิชาพื้นฐาน 6 หน่วยกิต (3 รายวิชา) (กลุ่มทักษะที่จำเป็นในศตวรรษที่ 21 และส่งเสริมอัตลักษณ์สถาบันฯ)</li> </ul> <p><u>บังคับเลือก</u></p> <ul style="list-style-type: none"> <li>- กลุ่มวิชาตามเกณฑ์ของคณะ 9 หน่วยกิต</li> <li>- กลุ่มวิชาด้านภาษาและการสื่อสาร 3 หน่วยกิต (กลุ่มทักษะด้านภาษาและการสื่อสาร)</li> </ul> <p><u>เลือกอิสระ</u></p> <ul style="list-style-type: none"> <li>- กลุ่มวิชาเลือกหมวดวิชาศึกษาทั่วไป 12 หน่วยกิต</li> </ul>	<p>24 หน่วยกิต</p> <p><u>แผน ก.</u></p> <p><u>บังคับเรียน</u></p> <ul style="list-style-type: none"> <li>- 12 หน่วยกิต (7 รายวิชา)</li> </ul> <p><u>บังคับเลือก</u></p> <ul style="list-style-type: none"> <li>- วิชาเลือกด้านภาษาและการสื่อสาร 3 หน่วยกิต</li> </ul> <p><u>เลือกอิสระ</u></p> <ul style="list-style-type: none"> <li>- วิชาเลือกหมวดวิชาศึกษาทั่วไป 9 หน่วยกิต</li> </ul> <p><u>แผน ข.</u></p> <p><u>บังคับเรียน</u></p> <ul style="list-style-type: none"> <li>- 9 หน่วยกิต (4 รายวิชา)</li> </ul> <p><u>บังคับเลือก</u></p> <ul style="list-style-type: none"> <li>- วิชาเลือกด้านภาษาและการสื่อสาร 3 หน่วยกิต</li> </ul> <p><u>เลือกอิสระ</u></p> <ul style="list-style-type: none"> <li>- วิชาเลือกหมวดวิชาศึกษาทั่วไป 12 หน่วยกิต</li> </ul>
กลุ่มทักษะและ จำนวนรายวิชา	<ul style="list-style-type: none"> <li>- กลุ่มทักษะหลัก จำนวน 3 รายวิชา</li> <li>- กลุ่มทักษะด้านบุคคลและทักษะ ส่งเสริมวิชาชีพ จำนวน 159 รายวิชา</li> <li>- กลุ่มทักษะด้านการจัดการและภาวะความเป็นผู้นำ จำนวน 38 รายวิชา</li> <li>- กลุ่มทักษะด้านภาษาและการสื่อสาร จำนวน 66 รายวิชา</li> </ul> <p><b>รวม 266 รายวิชา</b></p>	<ul style="list-style-type: none"> <li>- KMITL Identity Skills จำนวน 6 รายวิชา</li> <li>- Personal and Professional Skills จำนวน 164 รายวิชา</li> <li>- Management and Leadership Skills จำนวน 41 รายวิชา</li> <li>- Language and Communication Skills จำนวน 64 รายวิชา</li> </ul> <p><b>รวม 275 รายวิชา</b></p>

หัวข้อ	หมวดวิชาศึกษาทั่วไป สำหรับหลักสูตรนานาชาติ (ฉบับปรับปรุง พ.ศ. 2564)	หมวดวิชาศึกษาทั่วไป สำหรับหลักสูตรนานาชาติ (ฉบับปรับปรุง พ.ศ. 2566)
รูปแบบรหัสวิชา	<ul style="list-style-type: none"> <li>- รหัสตำแหน่งที่ 1-2 หมายถึง รหัสประจำหมวดวิชาศึกษาทั่วไป กำหนดเป็น 96</li> <li>- รหัสตำแหน่งที่ 3-4 หมายถึง ปี พ.ศ. ที่ทำการปรับปรุงหลักสูตร</li> <li>- รหัสตำแหน่งที่ 5 หมายถึง รหัสประจำกลุ่มทักษะ กำหนดเป็น 1-4</li> <li>1 = กลุ่มทักษะหลัก</li> <li>2 = กลุ่มกลุ่มทักษะด้านบุคคลและทักษะส่งเสริมวิชาชีพ</li> <li>3 = กลุ่มทักษะด้านการจัดการและภาวะความเป็นผู้นำ</li> <li>4 = กลุ่มทักษะด้านภาษาและการสื่อสาร</li> <li>- รหัสตำแหน่งที่ 6-8 หมายถึง ลำดับที่ ของรายวิชา กำหนดเป็น 001-999</li> </ul>	<ul style="list-style-type: none"> <li>- รหัสตำแหน่งที่ 1-2 หมายถึง รหัสประจำหมวดวิชาศึกษาทั่วไป กำหนดเป็น 90</li> <li>- รหัสตำแหน่งที่ 3-4 หมายถึง ปี พ.ศ. ที่เริ่มกำหนดใช้รายวิชา</li> <li>- รหัสตำแหน่งที่ 5 หมายถึง รหัสประจำกลุ่มทักษะ กำหนดเป็น 1-5</li> <li>1 = KMITL Identity Skills</li> <li>2 = Personal and Professional Skills</li> <li>3 = Management and Leadership Skills</li> <li>4 = Language and Communication Skills</li> <li>5 = Life-Long Learning Skills</li> <li>รหัสตำแหน่งที่ 6-8 หมายถึง ลำดับที่ ของรายวิชา กำหนดเป็น 001-999</li> </ul>



**ภาคผนวก D**  
**การระบุนรายวิชาศึกษาทั่วไป ในแผนการสอน**

**1. แผน ก.**

เลือกใช้รายวิชา 96641004 – 96641007 Team-Project 1-3

**1.1 KMITL IDENTITY SKILLS**

รวม 12 หน่วยกิต

**1.1.1 กลุ่มคณะที่ 1**

กลุ่มคณะที่ 1 ได้แก่ สถาปัตยกรรมศาสตร์ วิทยาศาสตร์ บริหารธุรกิจ เทคโนโลยีสารสนเทศ เทคโนโลยีการเกษตร ครุศาสตร์อุตสาหกรรม แพทยศาสตร์ ทันตแพทยศาสตร์ และวิทยาลัยอุตสาหกรรมการบินนานาชาติ

1<sup>st</sup> year, Semester 1

Credits (Lecture-Practice-Self-study)

96641009 INTERCULTURAL COMMUNICATION SKILLS IN ENGLISH 1 3 (3-0-6)

1<sup>st</sup> year, Semester 2

Credits (Lecture-Practice-Self-study)

96641004 TEAM-PROJECT 1 1 (0-2-1)

96641007 DIGITAL CITIZENSHIP 3 (3-0-6)

96641010 INTERCULTURAL COMMUNICATION SKILLS IN ENGLISH 2 3 (3-0-6)

2<sup>nd</sup> year, Semester 2

Credits (Lecture-Practice-Self-study)

96641005 TEAM-PROJECT 2 1 (0-2-1)

3<sup>rd</sup> year, Semester 2

Credits (Lecture-Practice-Self-study)

96641006 TEAM-PROJECT 3 1 (0-2-1)

**1.1.2 กลุ่มคณะที่ 2**

กลุ่มคณะที่ 2 ได้แก่ วิศวกรรมศาสตร์ อุตสาหกรรมอาหาร ศิลปศาสตร์ วิทยาลัยเทคโนโลยีและนวัตกรรมวัสดุ วิทยาลัยนวัตกรรมการผลิตขั้นสูง และวิทยาลัยวิศวกรรมสังคม

1<sup>st</sup> year, Semester 1

Credits (Lecture-Practice-Self-study)

96641007 DIGITAL CITIZENSHIP 3 (3-0-6)

96641009 INTERCULTURAL COMMUNICATION SKILLS IN ENGLISH 1 3 (3-0-6)

1<sup>st</sup> year, Semester 2

Credits (Lecture-Practice-Self-study)

96641004	TEAM-PROJECT 1	1 (0-2-1)
96641010	INTERCULTURAL COMMUNICATION SKILLS IN ENGLISH 2	3 (3-0-6)
<u>2<sup>nd</sup> year, Semester 2</u>		
		Credits (Lecture-Practice-Self-study)
96641005	TEAM-PROJECT 2	1 (0-2-1)
<u>3<sup>rd</sup> year, Semester 2</u>		
		Credits (Lecture-Practice-Self-study)
96641006	TEAM-PROJECT 3	1 (0-2-1)

## 1.2 LANGUAGE AND COMMUNICATION COURSES

รวม 3 หน่วยกิต

ให้หลักสูตรระบุรายวิชาเป็น 96644xxx Language and Communication Courses ในแผนการศึกษา  
ตัวอย่างเช่น หลักสูตรต้องการให้นักศึกษาเรียนวิชาเลือกด้านภาษาและการสื่อสาร ในปีที่ 2 ภาค  
การศึกษาที่ 1 ให้ระบุดังนี้

2<sup>nd</sup> year, Semester 1

Credits (Lecture-Practice-Self-study)

96644xxx	LANGUAGE AND COMMUNICATION COURSES	3 (x-x-x)
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## 1.3 GENERAL EDUCATION COURSES

รวม 9 หน่วยกิต

ให้จัดรายวิชาเลือกหมวดวิชาศึกษาทั่วไป (General Education Courses) ได้ไม่เกินภาคการศึกษา  
ละ 2 วิชา โดยระบุรายวิชาเป็น 9664xxxx General Education Courses พร้อมระบุจำนวนหน่วยกิต ใน  
แผนการศึกษา

ตัวอย่างเช่น หลักสูตรต้องการให้นักศึกษาเรียนวิชาเลือกหมวดวิชาศึกษาทั่วไป จำนวน 3 หน่วยกิต  
ในปีที่ 2 ภาคการศึกษาที่ 1 ให้ระบุดังนี้

2<sup>nd</sup> year, Semester 1

Credits (Lecture-Practice-Self-study)

9664xxxx	GENERAL EDUCATION COURSES	3 (x-x-x)
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## 2. แผน ข.

เลือกใช้รายวิชาของหลักสูตรหรือคณะ ที่มีผลลัพธ์การเรียนรู้เทียบกับรายวิชา 96641004 – 96641006  
Team-Project 1-3

### 2.1 KMITL IDENTITY SKILLS

รวม 9 หน่วยกิต

### 2.1.1 กลุ่มคณะที่ 1

กลุ่มคณะที่ 1 ได้แก่ สถาปัตยกรรมศาสตร์ วิทยาศาสตร์ บริหารธุรกิจ เทคโนโลยีสารสนเทศ เทคโนโลยีการเกษตร ครุศาสตร์อุตสาหกรรม แพทยศาสตร์ ทันตแพทยศาสตร์ และวิทยาลัยอุตสาหกรรมการบินนานาชาติ

#### 1<sup>st</sup> year, Semester 1

Credits (Lecture-Practice-Self-study)

96641009 INTERCULTURAL COMMUNICATION SKILLS IN ENGLISH 1 3 (3-0-6)

#### 1<sup>st</sup> year, Semester 2

Credits (Lecture-Practice-Self-study)

96641007 DIGITAL CITIZENSHIP 3 (3-0-6)

96641010 INTERCULTURAL COMMUNICATION SKILLS IN ENGLISH 2 3 (3-0-6)

### 2.1.2 กลุ่มคณะที่ 2

กลุ่มคณะที่ 2 ได้แก่ วิศวกรรมศาสตร์ อุตสาหกรรมอาหาร ศิลปศาสตร์ วิทยาลัยเทคโนโลยีและนวัตกรรมวัสดุ วิทยาลัยนวัตกรรมการผลิตขั้นสูง และวิทยาลัยวิศวกรรมสังคม

#### 1<sup>st</sup> year, Semester 1

Credits (Lecture-Practice-Self-study)

96641007 DIGITAL CITIZENSHIP 3 (3-0-6)

96641009 INTERCULTURAL COMMUNICATION SKILLS IN ENGLISH 1 3 (3-0-6)

#### 1<sup>st</sup> year, Semester 2

Credits (Lecture-Practice-Self-study)

96641010 INTERCULTURAL COMMUNICATION SKILLS IN ENGLISH 2 3 (3-0-6)

## 2.2 LANGUAGE AND COMMUNICATION COURSES

รวม 3 หน่วยกิต

ให้หลักสูตรระบุรายวิชาเป็น 96644xxx Language and Communication Courses ในแผนการศึกษา ตัวอย่างเช่น หลักสูตรต้องการให้นักศึกษาเรียนวิชาเลือกด้านภาษาและการสื่อสาร ในปีที่ 2 ภาคการศึกษาที่ 1 ให้ระบุดังนี้

#### 2<sup>nd</sup> year, Semester 1

Credits (Lecture-Practice-Self-study)

96644xxx LANGUAGE AND COMMUNICATION COURSES 3 (x-x-x)

## 2.3 GENERAL EDUCATION COURSES

รวม 12 หน่วยกิต

ให้จัดรายวิชาเลือกหมวดวิชาศึกษาทั่วไป (General Education Courses) ได้ไม่เกินภาคการศึกษา ละ 2 วิชา โดยระบุรายวิชาเป็น 9664xxxx General Education Courses พร้อมระบุจำนวนหน่วยกิต ในแผนการศึกษา

ตัวอย่างเช่น หลักสูตรต้องการให้นักศึกษาเรียนวิชาเลือกหมวดวิชาศึกษาทั่วไป จำนวน 3 หน่วยกิต  
ในปีที่ 2 ภาคการศึกษาที่ 1 ให้ระบุดังนี้

2<sup>nd</sup> year, Semester 1

Credits (Lecture-Practice-Self-study)

9664xxxx GENERAL EDUCATION COURSES

3 (x-x-x)

**ภาคผนวก E**  
**ค่าน้ำหนักของทักษะในรายวิชาศึกษาทั่วไป**  
**เพื่อนำไปคำนวณการทำ SKILL MAPPING ของผู้เรียน**

Course I.D.	Course Name	Credits	Problem-Solving			Self-Management				Working with People			Digital Literacy
			1	2	3	4	5	6	7	8	9	10	11
			Analytical & Critical Thinking	Complex problem Solving	Creativity	Interpersonal Skills	Integrity & Perseverance	Active Learning & Learning Strategies	Resilience, Stress tolerance & Flexibility	Leadership & Social Influence	Communication	Entrepreneurship & Startup	Digital literacy & Digital media Production
<b>KMITL IDENTITY SKILLS</b>													
96641004	TEAM-PROJECT 1	1 (0-2-1)	0	4	0	3	1	0	5	1	1	0	0
96641005	TEAM-PROJECT 2	1 (0-2-1)	0	4	2	1	1	0	5	1	1	0	0
96641006	TEAM-PROJECT 3	1 (0-2-1)	0	2	2	0	0	0	5	1	0	5	0
96641007	DIGITAL CITIZEN	3 (3-0-6)	0	2	0	0	1	0	0	2	1	4	5
96641009	INTERCULTURAL COMMUNICATION SKILLS IN ENGLISH 1	3 (3-0-6)	3	0	2	2	2	3	0	1	2	0	0
96641010	INTERCULTURAL COMMUNICATION SKILLS IN ENGLISH 2	3 (3-0-6)	3	0	2	2	2	3	0	1	2	0	0

Course I.D.	Course Name	Credits	1	2	3	4	5	6	7	8	9	10	11
<b>Personal and Professional Skills</b>													
96642001	PRACTICE UNDER PERSONAL AND PROFESSIONAL SKILLS 1	1 (0-2-1)	0	0	0	0	0	15	0	0	0	0	0
96642002	PRACTICE UNDER PERSONAL AND PROFESSIONAL SKILLS 2	2 (0-4-2)	0	0	0	0	0	15	0	0	0	0	0
96642003	PRACTICE UNDER PERSONAL AND PROFESSIONAL SKILLS 3	3 (0-6-3)	0	0	0	0	0	15	0	0	0	0	0
96642011	CRITICAL THINKING	3 (3-0-6)	7	4	4	0	0	0	0	0	0	0	0
96642012	DESIGN THINKING	3 (3-0-6)	5	5	5	0	0	0	0	0	0	0	0
96642013	INTEGRATED THINKING	3 (3-0-6)	7	4	4	0	0	0	0	0	0	0	0
96642014	INNOVATIVE AND SYSTEM THINKING	3 (3-0-6)	4	4	4	0	0	1	0	1	0	1	0
96642015	CREATIVE THINKING AND INNOVATION	3 (3-0-6)	3	3	4	2	0	0	0	0	0	1	2
96642017	INNOVATION UNBOXED	3 (3-0-6)	5	2	2	0	0	2	0	0	2	0	2
96642018	CREATIVE PRODUCTION TECHNOLOGY	3 (3-0-6)	3	3	4	2	0	0	0	0	1	0	2
96642019	BASIC CREATIVE STEM DESIGN	3 (3-0-6)	3	3	4	2	0	0	0	0	1	0	2
96642020	ADVANCE CREATIVE STEM DESIGN	3 (3-0-6)	3	3	4	2	0	0	0	0	1	0	2
96642021	JUNK DESIGN	3 (3-0-6)	2	2	4	3	0	2	0	2	0	0	0
96642022	PHILOSOPHY OF SCIENCE	3 (3-0-6)	3	3	3	0	0	3	0	0	3	0	0
96642024	PROFESSIONAL INFORMATION ANALYSIS AND ACADEMIC PRESENTATION	3 (3-0-6)	5	0	0	0	0	4	0	0	6	0	0
96642025	FACTS BEHIND NUMBERS	3 (3-0-6)	4	4	3	0	0	3	0	0	1	0	0
96642026	RESEARCH SKILL DEVELOPMENT	3 (3-0-6)	5	4	3	0	0	3	0	0	0	0	0
96642028	GAMBLING LITERACY	3 (3-0-6)	4	4	0	0	0	1	4	2	0	0	0
96642029	MEDICAL ETHICS, LAWS AND PROFESSIONALISM	3 (2-2-5)	2	2	0	2	5	2	0	1	1	0	0
96642030	ENGINEERING ETHICS AND LAW	3 (3-0-6)	2	2	0	2	5	2	0	1	1	0	0
96642031	PROFESSIONAL ETHICS AND LAWS	3 (3-0-6)	2	2	0	2	5	2	0	1	1	0	0
96642032	LAW FOR ENTREPRENEURS	3 (3-0-6)	2	0	0	3	0	3	0	0	0	4	3
96642033	LAW FOR NEW GENERATION	3 (3-0-6)	3	0	0	4	0	4	0	0	0	2	2
96642034	LAW AND REGULATION IN AVIATION INDUSTRY	3 (3-0-6)	2	1	0	3	3	3	0	0	3	0	0
96642035	INDUSTRIAL EXPERIENCE FOR ENGINEERS	3 (0-18-0)	3	0	0	3	4	3	0	0	1	1	0
96642036	PRE-ACTIVITIES FOR ENGINEERS	1 (0-3-0)	2	2	1	2	2	2	2	1	0	0	1
96642037	PROFESSIONAL SKILLS AND ISSUES	3 (3-0-6)	2	2	2	0	0	0	0	4	5	0	0
96642038	OCCUPATIONAL SAFETY AND HEALTH	3 (3-0-6)	3	3	0	2	2	2	0	1	1	0	1

Course I.D.	Course Name	Credits	1	2	3	4	5	6	7	8	9	10	11
96642039	QUICK-FIX @ HOME	3 (3-0-6)	5	0	5	0	0	5	0	0	0	0	0
96642040	COFFEE MANIA	3 (3-0-6)	0	0	5	0	0	0	0	0	4	6	0
96642041	DORM CHEF	3 (3-0-6)	0	0	7	3	0	5	0	0	0	0	0
96642042	SCIENCE AND ART OF MEATS	3 (3-0-6)	4	2	5	2	0	2	0	0	0	0	0
96642043	SCIENCE OF BURGER	3 (3-0-6)	4	0	5	3	0	3	0	0	0	0	0
96642044	WORLD OF SAUSAGES	3 (3-0-6)	3	0	3	3	0	3	0	0	1	2	0
96642045	BE MY BEV.	3 (3-0-6)	3	0	3	2	0	5	0	0	2	0	0
96642046	RICE-SARA	3 (3-0-6)	4	4	7	0	0	0	0	0	0	0	0
96642047	TREE DOCTOR	3 (3-0-6)	4	0	0	0	0	7	0	0	4	0	0
96642048	FUN WITH DRUGS AND HERBS	3 (3-0-6)	5	3	3	0	0	4	0	0	0	0	0
96642049	MICROBIAL UTILIZATION FOR DAILY LIFE	3 (3-0-6)	3	3	4	2	0	3	0	0	0	0	0
96642050	MEDICINAL PLANTS	3 (3-0-6)	5	0	5	0	0	5	0	0	0	0	0
96642051	BIOTECHNOLOGY FOR BETTER LIVING	3 (3-0-6)	3	3	3	0	0	6	0	0	0	0	0
96642052	GENES & GENETICS : FROM HELIX TO HEREDITARY	3 (3-0-6)	5	3	3	0	0	4	0	0	0	0	0
96642053	INTERESTING MOLECULAR GENETICS	3 (3-0-6)	4	4	3	0	0	4	0	0	0	0	0
96642054	GUARDIANS OF OUR BODIES	3 (3-0-6)	5	2	0	3	0	0	0	0	5	0	0
96642055	LIVING WITH MICROBES	3 (3-0-6)	5	0	0	0	0	5	0	0	5	0	0
96642056	EPIDEMICS IN THE 21 <sup>ST</sup> CENTURY	3 (3-0-6)	5	0	0	0	0	5	0	0	5	0	0
96642057	IMMUNITY THROUGH MEDIA	3 (3-0-6)	3	4	4	0	0	2	0	0	2	0	0
96642058	UNDERSTANDING HEALTH POLICY AND PUBLIC WELFARE	3 (3-0-6)	5	0	0	0	4	6	0	0	0	0	0
96642059	MEDICINE AND LITERATURE	3 (3-0-6)	5	0	0	0	0	0	0	0	10	0	0
96642060	SELF-DISCOVERY	3 (3-0-6)	0	0	0	5	3	4	3	0	0	0	0
96642061	WORLD OF INSECTS	3 (3-0-6)	5	5	0	0	0	5	0	0	0	0	0
96642062	ALL ABOUT FOOD	3 (3-0-6)	1	1	4	2	0	3	0	2	2	0	0
96642063	HOLISTIC HEALTH DEVELOPMENT	3 (3-0-6)	1	0	1	5	2	2	3	1	0	0	0
96642074	E-SPORTS	3 (2-2-5)	0	0	0	5	0	4	3	2	1	0	0
96642080	INTRODUCTION TO MUSIC COMPOSITION	3 (3-0-6)	0	0	5	3	0	3	0	0	3	0	1
96642081	RAP APPRECIATION	3 (3-0-6)	4	0	3	3	0	2	0	0	3	0	0
96642082	MUSIC APPRECIATION	3 (3-0-6)	2	0	2	4	2	3	0	2	0	0	0
96642083	FILM APPRECIATION	3 (3-0-6)	2	0	2	3	0	3	3	1	1	0	0

Course I.D.	Course Name	Credits	1	2	3	4	5	6	7	8	9	10	11
96642084	PHOTOGRAPHY APPRECIATION	3 (2-2-5)	3	0	3	4	3	0	0	0	2	0	0
96642085	CONTEMPORARY CULTURE	3 (3-0-6)	4	3	2	0	0	3	2	1	0	0	0
96642086	INTRODUCTION TO DESIGN CULTURE	3 (3-0-6)	0	0	5	5	0	5	0	0	0	0	0
96642087	WORLD CULTURE	3 (3-0-6)	4	3	2	0	0	3	2	1	0	0	0
96642088	TRADITIONAL CHINESE CULTURE	3 (3-0-6)	3	0	3	3	0	6	0	0	0	0	0
96642089	CHINESE SOCIETY, ECONOMY AND POLITICS	3 (3-0-6)	5	2	0	2	0	2	0	2	2	0	0
96642090	GLOBAL INSIDE	3 (3-0-6)	2	0	0	2	0	3	0	0	5	1	2
96642091	ASIAN STUDY	3 (3-0-6)	4	3	0	3	0	5	0	0	0	0	0
96642092	CIVIC EDUCATION	3 (3-0-6)	3	0	0	4	2	4	0	0	2	0	0
96642093	COMMUNITY ENGAGEMENT	3 (3-0-6)	0	0	0	0	2	3	3	4	3	0	0
96642094	PRINCIPLES OF COMMUNITY DEVELOPMENT	3 (3-0-6)	0	0	3	0	0	4	0	4	4	0	0
96642095	NATIONAL SECURITY DEVELOPMENT	3 (3-0-6)	3	0	0	4	4	4	0	0	0	0	0
96642096	MILITARY SCIENCE	3 (3-0-6)	3	0	0	2	2	4	4	0	0	0	0
96642097	APPLIED THAI WISDOMS	3 (3-0-6)	2	0	3	0	2	4	0	2	2	0	0
96642098	DYNAMICS OF THAI SOCIETY	3 (3-0-6)	2	0	0	5	2	2	0	0	2	0	2
96642099	ACTIVE AGING SOCIETY	3 (3-0-6)	0	0	2	3	2	2	2	2	2	0	0
96642101	REVIEWER	3 (3-0-6)	4	0	4	0	0	3	0	0	4	0	0
96642102	YOUTUBER	3 (3-0-6)	0	0	3	2	0	0	0	2	2	2	4
96642103	LIVING IN DIGITAL SOCIETY	3 (3-0-6)	0	0	0	3	0	2	2	0	4	0	4
96642106	DIGITAL STORYTELLING IN JOURNEY	3 (3-0-6)	3	3	3	0	0	0	0	0	4	0	2
96642107	DIGITAL MEDIA PRODUCTION	3 (3-0-6)	0	0	3	0	0	0	0	0	5	0	7
96642108	DIGITAL PHOTOGRAPHY TECHNOLOGY	3 (2-2-5)	0	0	2	2	0	6	0	0	3	0	2
96642109	INFOGRAPHIC DESIGN	3 (3-0-6)	4	0	4	3	0	4	0	0	0	0	0
96642110	FUN WITH DATA SCIENCE	3 (3-0-6)	4	3	3	0	0	0	0	0	2	0	3
96642111	FUN WITH CODING	3 (3-0-6)	4	4	4	0	0	0	0	0	0	0	3
96642112	FUN WITH AI	3 (3-0-6)	4	2	3	0	0	2	2	0	0	0	2
96642113	ROBOTICS AND AI	3 (3-0-6)	4	2	3	0	0	2	0	0	0	0	4
96642114	SMART FARMING	3 (3-0-6)	3	3	6	0	0	1	0	0	0	1	1
96642115	GREEN TECHNOLOGY AND ALTERNATIVE ENERGY	3 (3-0-6)	3	3	3	0	0	4	0	0	0	0	2
96642116	SMART CITY AND CITY INNOVATION	3 (3-0-6)	4	3	5	0	0	0	0	0	0	0	3



Course I.D.	Course Name	Credits	1	2	3	4	5	6	7	8	9	10	11
96642117	INFORMATION LITERACY SKILLS FOR THE 21 <sup>st</sup> CENTURY	3 (3-0-6)	3	0	0	0	0	0	0	0	5	0	7
96642118	APPLICATION SOFTWARE FOR BUSSINESS	2 (1-2-3)	2	2	2	0	0	2	0	2	0	3	2
96642120	FROM EXCEL TO EXCELLENT	3 (3-0-6)	4	4	4	0	0	3	0	0	0	0	0
96642121	DATA ANALYSIS AND MANAGEMENT WITH COMPUTATIONAL PROGRAM	3 (3-0-6)	3	3	3	2	0	0	0	0	0	0	4
96642122	INTRODUCTION TO MICROCOMPUTER APPLICATION	3 (3-0-6)	3	4	3	0	0	3	0	0	0	0	2
96642123	TECHNOLOGY IN MUSICAL SEQUENCING	3 (3-0-6)	1	0	4	3	0	2	0	0	2	0	3
96642124	SCIENCE TECHNOLOGY AND SCIENCE INNOVATION FOR SDGS	3 (3-0-6)	3	2	4	2	0	2	0	2	0	0	0
96642125	LIVING IN FUTURE DISASTER AND CRISIS	3 (3-0-6)	4	2	0	0	0	3	0	2	4	0	0
96642126	SURVIVORS	3 (3-0-6)	4	5	4	0	0	2	0	0	0	0	0
96642127	THINK EARTH	3 (3-0-6)	5	4	3	0	0	3	0	0	0	0	0
96642128	ECOLOGY, CONSERVATION AND ENVIRONMENTALISM	3 (3-0-6)	5	4	3	0	0	3	0	0	0	0	0
96642129	ALTERNATIVE TOURISM	3 (3-0-6)	0	0	0	0	5	6	0	4	0	0	0
96642130	SPORTS TOURISM	3 (3-0-6)	0	0	0	5	2	3	0	2	3	0	0
96642131	THAI CULTURE AND TOURISM	3 (3-0-6)	0	0	0	2	2	3	0	5	3	0	0
96642132	CHUMPHON STUDY FOR TOURISM	3 (3-0-6)	0	0	0	2	2	3	0	5	3	0	0
96642133	CHUMPHON AREA STUDY	3 (3-0-6)	2	2	2	2	1	3	0	1	2	0	0
96642134	KING MONGKUT'S REIGN STUDY	3 (3-0-6)	4	0	0	2	0	9	0	0	0	0	0
96642135	PHILOSOPHY OF SUFFICIENCY ECONOMY	3 (3-0-6)	2	1	0	0	2	3	0	3	2	2	0
96642136	ETHICS AND AESTHETICS	3 (3-0-6)	2	1	0	4	5	2	1	0	0	0	0
96642137	SERIES IN DAILY LIFE	3 (3-0-6)	5	5	5	0	0	0	0	0	0	0	0
96642138	MEDITATION FOR LIFE DEVELOPMENT	3 (3-0-6)	3	2	0	4	1	2	3	0	0	0	0
96642140	IMMUNITY OF MIND	3 (3-0-6)	2	2	0	4	2	0	3	0	2	0	0
96642142	PSYCHOLOGY IN COMMUNICATION	3 (3-0-6)	0	0	0	5	0	0	0	0	10	0	0
96642143	DESIGNING YOUR LIFE	3 (3-0-6)	1	1	2	4	2	0	2	2	1	0	0
96642144	MAGIC MIRROR	3 (3-0-6)	2	0	0	5	0	0	3	3	2	0	0
96642145	POWER OF PERSONALITY	3 (3-0-6)	0	0	0	5	0	2	2	3	3	0	0
96642146	POWER OF CHANGE	3 (3-0-6)	2	2	2	4	0	2	3	0	0	0	0
96642147	HAPPINESS SKILLS	3 (3-0-6)	2	0	2	3	3	0	5	0	0	0	0
96642148	ARTS OF EMOTION DEVELOPMENT	3 (3-0-6)	2	2	0	2	2	0	5	0	2	0	0

Course I.D.	Course Name	Credits	1	2	3	4	5	6	7	8	9	10	11
96642149	IMAGINATIVE ART	3 (3-0-6)	0	0	4	5	0	4	0	0	2	0	0
96642150	ART IN EVERYDAY LIFE	3 (3-0-6)	0	0	7	3	0	5	0	0	0	0	0
96642151	MAN AND ART	3 (3-0-6)	3	2	3	2	0	1	2	0	2	0	0
96642152	JOY OF SHARING	3 (3-0-6)	0	0	0	3	2	0	3	5	2	0	0
96642153	UNDERSTANDING HUMAN BEHAVIOR	3 (3-0-6)	4	0	0	3	0	2	3	3	0	0	0
96642154	FAIL-ABLE	3 (3-0-6)	4	3	0	3	0	0	5	0	0	0	0
96642156	FENG SHUI	3 (3-0-6)	2	0	0	3	2	3	3	0	2	0	0
96642157	THAI ASTROLOGY	3 (3-0-6)	0	0	0	2	3	5	0	0	5	0	0
96642158	CONTEMPORARY SCIENCE AND TECHNOLOGY	3 (3-0-6)	3	3	3	0	0	4	0	0	2	0	0
96642159	INTRODUCTION TO PSYCHOLOGY	3 (3-0-6)	0	0	0	5	0	0	5	3	2	0	0
96642161	ELECTRONIC MUSIC HISTORY	3 (3-0-6)	2	0	4	2	2	0	0	0	2	0	5
96642162	READY TO WORK	3 (3-0-6)	0	0	0	0	3	3	3	0	3	3	0
96642163	STAND OUT WITH STRENGTHS	3 (3-0-6)	2	0	0	5	0	0	0	5	0	3	0
96642164	INTELLECTUAL PROPERTY LAWS FOR ENTREPRENEUR	3 (3-0-6)	4	4	2	0	2	2	0	0	0	1	0
96642165	HEALTH PROMOTION	2 (2-0-4)	2	2	1	2	1	2	1	1	2	0	1
96642166	INTRODUCTION TO MINDFULNESS	1 (1-0-2)	1	2	0	2	2	1	4	1	2	0	0
96642167	SLICE OF LIFE	3 (3-0-6)	3	2	2	3	1	3	0	0	0	0	1
96642168	INTERESTING TOPICS IN MEDICINAL PLANTS FOR WELLNESS AND AESTHETICS	3 (3-0-6)	3	2	2	3	1	3	1	0	0	0	0
96642169	CANNABIS FOR LIFE	3 (3-0-6)	3	2	2	3	1	3	1	0	0	0	0
96642170	INTRODUCTION TO LOGIC	3 (3-0-6)	12	3	0	0	0	0	0	0	0	0	0
96642175	PETANQUE	3 (2-2-5)	0	0	0	5	0	6	4	0	0	0	0
96642176	RUGBY FOOTBALL	3 (2-2-5)	0	0	0	5	0	6	4	0	0	0	0
96642177	SOCCER	3 (2-2-5)	0	0	0	5	0	6	4	0	0	0	0
96642178	SOFTBALL & BASEBALL	3 (2-2-5)	0	0	0	5	0	6	4	0	0	0	0
96642179	TENNIS	3 (2-2-5)	0	0	0	5	0	6	4	0	0	0	0
96642180	VOLLEYBALL	3 (2-2-5)	0	0	0	5	0	6	4	0	0	0	0
96642181	GOLF	3 (2-2-5)	0	0	0	5	0	6	4	0	0	0	0
96642182	BADMINTON	3 (2-2-5)	0	0	0	5	0	6	4	0	0	0	0

Course I.D.	Course Name	Credits	1	2	3	4	5	6	7	8	9	10	11
96642183	BASKETBALL	3 (2-2-5)	0	0	0	5	0	6	4	0	0	0	0
96642184	CHESS	3 (2-2-5)	0	0	0	5	0	4	6	0	0	0	0
96642185	KARATE	3 (2-2-5)	0	0	0	5	0	6	4	0	0	0	0
96642186	SHOOTING	3 (2-2-5)	0	0	0	5	0	6	4	0	0	0	0
96642187	TABLE TENNIS	3 (2-2-5)	0	0	0	5	0	6	4	0	0	0	0
96642188	TAEKWONDO	3 (2-2-5)	0	0	0	5	0	6	4	0	0	0	0
96642189	JUDO	3 (2-2-5)	0	0	0	5	0	6	4	0	0	0	0
96642190	DESIGN METHODS FOR INNOVATION	3 (3-0-6)	2	4	6	0	0	3	0	0	0	0	0
96642191	INTERPRETATION AND ARGUMENT	3 (3-0-6)	4	3	0	2	0	0	4	0	2	0	0
96642192	FENCING	3 (2-2-5)	0	0	0	5	0	6	4	0	0	0	0
96642193	FUTSAL	3 (2-2-5)	0	0	0	5	0	6	4	0	0	0	0
96642194	DANCESPORT	3 (2-2-5)	0	0	0	5	0	6	4	0	0	0	0
96642195	BRIDGE	3 (2-2-5)	0	0	0	5	0	6	4	0	0	0	0
96642196	PERSONAL TRAINER	3 (2-2-5)	5	5	4	0	0	0	0	0	0	1	0
96642197	DIVING FOR ECOTOURISM	3 (2-2-5)	1	1	0	2	2	2	3	1	3	0	0
96642198	CHORUS	3 (2-2-5)	0	0	5	2	2	2	1	0	3	0	0
96642199	INTEGRATED CREATIVE ART AND DESIGN	3 (1-4-4)	0	3	1	1	1	0	5	1	1	2	0
96642200	ASTROLOGY	3 (3-0-6)	4	0	3	0	0	3	0	0	2	3	0
96642999	CHARM SCHOOL	3 (3-0-6)	1	2	1	2	1	0	5	2	1	0	0
<b>Management and Leadership Skills</b>													
96643001	PRACTICE UNDER MANAGEMENT SKILLS 1	1 (0-2-1)	15	0	0	0	0	0	0	0	0	0	0
96643002	PRACTICE UNDER MANAGEMENT SKILLS 2	2 (0-4-2)	15	0	0	0	0	0	0	0	0	0	0
96643003	PRACTICE UNDER MANAGEMENT SKILLS 3	3 (0-6-3)	15	0	0	0	0	0	0	0	0	0	0
96643004	POSITIVE POWER LEADER	3 (3-0-6)	0	0	2	3	0	0	2	5	3	0	0
96643005	THE DISRUPTOR	3 (3-0-6)	2	2	2	0	0	1	0	6	1	0	1
96643006	MODERN MANAGEMENT AND LEADERSHIP	3 (3-0-6)	0	0	0	0	0	4	0	6	5	0	0
96643007	NEXT GEN LEADERSHIP	3 (3-0-6)	0	0	0	0	3	0	3	6	3	0	0
96643008	SCIENCE OF NEGOTIATION	3 (3-0-6)	3	0	0	0	3	0	0	3	6	0	0

Course I.D.	Course Name	Credits	1	2	3	4	5	6	7	8	9	10	11
96643010	CONTEMPORARY MARKETING	3 (3-0-6)	0	0	0	0	0	6	0	3	0	6	0
96643012	TEAMWORK	3 (3-0-6)	0	0	0	0	3	3	3	4	2	0	0
96643013	INDUSTRIAL MANAGEMENT	3 (3-0-6)	2	2	3	0	0	0	0	2	3	3	0
96643014	GENERAL BUSINESS	3 (3-0-6)	0	0	0	0	0	0	3	3	3	6	0
96643015	BUSINESS ACCOUNTING FOR NEW GEN	3 (3-0-6)	8	1	0	0	2	2	0	0	1	1	0
96643016	FUN WITH ONLINE BUSINESS	3 (3-0-6)	0	0	4	0	0	3	0	0	0	5	3
96643018	INTERNATIONAL BUSINESS	3 (3-0-6)	0	0	0	3	0	3	0	0	3	6	0
96643019	ECONOMICS AND ENTREPRENEURSHIP	3 (3-0-6)	2	2	0	0	0	2	0	2	2	5	0
96643020	INNOVATIVE ENTREPRENEURS	3 (3-0-6)	0	0	3	0	0	3	0	0	3	4	2
96643021	MODERN ENTREPRENEURS	3 (3-0-6)	0	0	4	0	0	3	0	0	3	5	0
96643022	SOCIAL ENTREPRENEURS	3 (3-0-6)	0	0	5	0	0	0	0	0	4	6	0
96643023	TECHNOPRENEURS	3 (3-0-6)	2	2	2	0	0	1	0	1	1	6	0
96643024	HAPPINESS FARMS	3 (3-0-6)	2	2	1	0	2	2	2	0	0	2	2
96643025	ROAD TO IPO	3 (3-0-6)	3	3	2	0	0	0	2	0	0	5	0
96643026	INVESTMENT PLANNING	3 (3-0-6)	8	7	0	0	0	0	0	0	0	0	0
96643027	MAN, MONEY AND MATH	3 (3-0-6)	4	5	0	0	0	3	0	0	0	3	0
96643028	SMART TIPS FOR BEGINNING INVESTERS	3 (3-0-6)	2	2	0	2	0	3	0	2	0	4	0
96643029	DIGITAL ECONOMY	3 (3-0-6)	0	0	0	0	0	0	0	2	2	6	5
96643030	GENERAL ECONOMICS AND PROJECT FEASIBILITY STUDY	3 (3-0-6)	2	2	2	0	0	2	0	3	0	4	0
96643031	CIRCULAR ECONOMIC LIFESTYLE FOR 21 <sup>st</sup> CENTURY	3 (3-0-6)	5	5	5	0	0	0	0	0	0	0	0
96643032	BCG ECONOMY IN ACTION	3 (3-0-6)	3	3	3	0	0	1	0	2	2	1	0
96643034	MANAGEMENT AND CREATIVITY	3 (3-0-6)	0	0	5	0	0	0	0	5	5	0	0
96643035	KNOWLEDGE MANAGEMENT FOR INNOVATION DEVELOPMENT	3 (3-0-6)	3	0	0	5	0	4	0	0	0	0	3
96643036	KNOWLEDGE MANAGEMENT FOR PROJECT MANAGEMENT	3 (3-0-6)	4	0	3	5	0	3	0	0	0	0	0
96643037	PUBLIC ADMINISTRATION AND PUBLIC POLICY IN THE 21 <sup>st</sup> CENTURY	3 (3-0-6)	2	0	0	2	0	3	0	6	2	0	0
96643038	REBRANDING	3 (3-0-6)	5	0	0	6	0	4	0	0	0	0	0
96643039	KMITL INNOVATION	3 (3-0-6)	5	0	5	0	0	0	0	0	0	5	0
96643040	LEADERSHIP AS A COACH	3 (3-0-6)	0	0	0	2	0	0	0	7	3	3	0
96643041	GLOBAL GOVERNANCE	3 (3-0-6)	3	0	0	2	1	0	0	4	1	0	2

Course I.D.	Course Name	Credits	1	2	3	4	5	6	7	8	9	10	11
96643042	HARD POWER AND SOFT POWER	3 (3-0-6)	4	2	2	0	0	3	0	1	1	0	2
96643043	MUSIC BUSINESS	3 (3-0-6)	0	0	0	3	2	0	0	2	2	3	3
96643044	LEAN STARTUP AND AGILE BUSINESS	3 (3-0-6)	2	3	2	0	0	0	0	2	2	4	0
96643045	INNOVATION MANAGEMENT	3 (3-0-6)	1	2	2	1	1	1	1	2	1	2	1
<b>Language and Communication Skills</b>													
96644001	PRACTICE UNDER LANGUAGE AND COMMUNICATION SKILLS 1	1 (0-2-1)	0	0	15	0	0	0	0	0	0	0	0
96644002	PRACTICE UNDER LANGUAGE AND COMMUNICATION SKILLS 2	2 (0-4-2)	0	0	15	0	0	0	0	0	0	0	0
96644003	PRACTICE UNDER LANGUAGE AND COMMUNICATION SKILLS 3	3 (0-6-3)	0	0	15	0	0	0	0	0	0	0	0
96644009	BASIC ENGLISH PRONUNCIATION	3 (3-0-6)	0	0	0	2	2	2	0	2	7	0	0
96644010	DEVELOPMENT OF READING AND WRITING SKILLS IN ENGLISH	3 (3-0-6)	0	0	2	0	0	4	0	0	9	0	0
96644011	ENGLISH FOR ACADEMIC PURPOSES	3 (3-0-6)	0	0	0	0	0	4	0	2	9	0	0
96644012	ENGLISH FOR COMMUNICATION	3 (3-0-6)	0	0	0	0	0	6	0	0	9	0	0
96644013	ENGLISH FOR COMMUNICATIVE WRITING	3 (3-0-6)	0	0	2	2	0	4	0	0	7	0	0
96644014	ENGLISH FOR PROFESSIONAL COMMUNICATION	3 (3-0-6)	0	0	0	0	3	3	0	3	6	0	0
96644015	ENGLISH FOR FURTHER STUDIES	3 (3-0-6)	0	0	0	2	0	5	0	0	8	0	0
96644016	ENGLISH FOR INDUSTRY	3 (3-0-6)	0	0	3	0	0	5	0	0	7	0	0
96644017	ENGLISH FOR BUSINESS	3 (3-0-6)	0	0	3	0	3	3	0	0	6	0	0
96644018	ENGLISH FOR MARKETING	3 (3-0-6)	0	0	2	2	0	2	0	2	7	0	0
96644019	ENGLISH FOR MANAGEMENT	3 (3-0-6)	0	0	2	2	0	3	0	2	6	0	0
96644020	ENGLISH FOR MEDIA	3 (3-0-6)	0	0	0	2	1	3	0	0	5	0	4
96644022	ENGLISH FOR PROFESSIONAL PURPOSES	3 (3-0-6)	1	0	0	2	0	5	0	0	7	0	0
96644023	ENGLISH FOR WORK PREPARATION	3 (3-0-6)	0	0	0	3	0	5	0	0	7	0	0
96644024	ENGLISH FOR TOURISM AND TRAVELLING	3 (3-0-6)	0	0	0	0	3	3	0	3	6	0	0
96644025	ENGLISH FOR ARCHITECTURAL ARTS & DESIGN COMMUNICATION	3 (3-0-6)	2	2	2	0	0	4	0	0	5	0	0
96644026	ENGLISH FOR ARCHITECTURAL ARTS & DESIGN PRESENTATION	3 (3-0-6)	0	0	4	0	0	3	0	0	5	0	3
96644027	ENGLISH FOR NARRATIVE WRITING	3 (3-0-6)	0	0	5	0	0	3	0	0	7	0	0
96644028	ENGLISH FOR DESIGN	3 (3-0-6)	0	0	2	2	0	5	0	0	6	0	0
96644029	ENGLISH FOR HEALTH PROFESSIONS	3 (2-2-5)	0	0	0	2	0	5	0	0	8	0	0
96644030	ENGLISH FOR PUBLIC RELATIONS	3 (3-0-6)	0	0	2	2	0	3	0	2	6	0	0
96644031	ENGLISH FOR SCIENCE AND TECHNOLOGY	3 (3-0-6)	2	2	2	0	0	3	0	0	6	0	0

Course I.D.	Course Name	Credits	1	2	3	4	5	6	7	8	9	10	11
96644032	ENGLISH FOR AVIATION	3 (3-0-6)	0	0	0	2	0	6	0	0	7	0	0
96644033	WRITING AND SPEAKING IN THE PROFESSIONS	3 (3-0-6)	0	0	0	0	3	3	0	3	6	0	0
96644034	TECHNICAL WRITING	3 (3-0-6)	3	0	0	0	0	5	0	0	7	0	0
96644035	ACADEMIC READING AND WRITING FOR HEALTH SCIENCES	3 (2-2-5)	2	2	0	2	0	3	0	0	6	0	0
96644036	ENGLISH SKILL DEVELOPMENT FOR LIFE-LONG LEARNING	3 (3-0-6)	0	0	0	0	3	4	0	0	8	0	0
96644037	CROSS CULTURAL COMMUNICATION	3 (3-0-6)	0	0	0	4	4	0	0	0	7	0	0
96644039	COMMUNICATION SKILLS THROUGH DEBATE	3 (3-0-6)	4	0	0	0	0	2	2	2	5	0	0
96644040	COMMUNICATION SKILLS THROUGH DRAMA	3 (3-0-6)	5	0	5	0	0	0	0	0	5	0	0
96644041	ENGLISH FROM ENTERTAINMENT MEDIA	3 (3-0-6)	6	0	0	0	0	5	0	0	4	0	0
96644042	PROFESSIONAL COMMUNICATION AND PRESENTATION	3 (3-0-6)	2	2	2	0	0	1	0	0	6	0	2
96644043	PUBLIC SPEAKING	3 (3-0-6)	0	0	0	0	0	3	3	3	6	0	0
96644044	BEST SPEECH	3 (3-0-6)	1	0	2	0	0	2	2	2	6	0	0
96644045	RESEARCH PAPER WRITING	3 (3-0-6)	2	1	1	0	0	5	0	0	4	0	2
96644046	LISTENING AND READING FOR IMPROVING LIFE QUALITY	3 (3-0-6)	3	0	3	0	0	3	0	0	6	0	0
96644047	DEVELOPMENT OF THAI CREATIVE WRITING SKILLS	3 (3-0-6)	0	0	5	0	0	4	0	0	6	0	0
96644048	LANGUAGE IN THAI SOCIETY	3 (3-0-6)	0	0	3	3	0	4	0	0	5	0	0
96644049	THAI LANGUAGE FOR CREATIVITY	3 (3-0-6)	0	0	4	0	0	3	0	3	5	0	0
96644050	THAI WRITING IN WORKPLACE	3 (3-0-6)	0	0	3	4	0	3	0	0	5	0	0
96644051	THAI FOR DENTAL PROFESSIONS	3 (3-0-6)	1	0	0	2	0	5	0	0	7	0	0
96644052	COMMUNICATION IN THAI FOR CULINARY PROFESSIONALS	3 (3-0-6)	0	0	0	2	0	3	2	1	6	1	0
96644053	FUNDAMENTAL CHINESE FOR LISTENING AND SPEAKING	3 (3-0-6)	4	0	0	0	0	5	0	0	6	0	0
96644054	FUNDAMENTAL CHINESE READING AND WRITING	3 (3-0-6)	2	2	2	2	0	3	0	0	4	0	0
96644055	BASIC CHINESE GRAMMAR AND CHINESE IDIOMS AND PROVERBS	3 (3-0-6)	2	2	0	2	0	4	0	0	5	0	0
96644056	CHINESE CULTURE IDIOMS AND PROVERBS	3 (3-0-6)	0	0	3	0	0	5	0	0	7	0	0
96644057	CHINESE FOR COMMUNICATION	3 (3-0-6)	0	0	0	2	0	3	0	3	7	0	0
96644058	CHINESE FANDOM	3 (3-0-6)	0	0	0	2	0	3	0	4	6	0	0
96644059	CHINESE FOR TRAVEL	3 (3-0-6)	0	0	0	0	3	5	0	0	7	0	0
96644060	GERMAN FOR COMMUNICATION	3 (3-0-6)	0	0	0	0	0	5	0	3	7	0	0
96644061	GERMAN FOR WORK AND BUSINESS	3 (3-0-6)	0	0	0	0	0	5	0	3	7	0	0
96644062	JAPANESE FOR COMMUNICATION	3 (3-0-6)	0	0	0	2	0	3	0	3	7	0	0

Course I.D.	Course Name	Credits	1	2	3	4	5	6	7	8	9	10	11
96644063	JAPANESE FOR TRAVEL	3 (3-0-6)	0	0	0	0	3	5	0	0	7	0	0
96644064	KOREAN FOR TRAVEL	3 (3-0-6)	0	0	0	0	3	5	0	0	7	0	0
96644065	VIETNAMESE FOR TRAVEL	3 (3-0-6)	0	0	0	0	3	5	0	0	7	0	0
96644066	MALAY FOR TRAVEL	3 (3-0-6)	0	0	0	0	3	5	0	0	7	0	0
96644067	CHINESE CONVERSATION FOR IT	3 (3-0-6)	2	2	2	1	1	1	1	1	1	1	2
96644068	HOW TO MAKE MONEY WITH CHINESE	3 (3-0-6)	0	0	0	0	0	0	0	0	5	7	3
96644069	FOUNDATION JAPANESE	3 (3-0-6)	3	0	0	0	0	5	0	0	7	0	0
96644070	INNOVATIVE COMMUNICATION	3 (3-0-6)	0	0	4	2	0	0	0	0	5	0	4
96644070	INTRODUCTION TO SIGN LANGUAGE FOR COMMUNICATION	3 (3-0-6)	2	2	0	2	0	4	0	0	5	0	0

## ภาคผนวก F

### คำอธิบายระบบรหัสวิชา สำหรับกลุ่มทักษะเพื่อการเรียนรู้ตลอดชีวิตเพื่อการเทียบโอน

รหัสวิชาดังต่อไปนี้ กำหนดเพื่อการเทียบโอนจากการศึกษานอกระบบ การศึกษาตามอัธยาศัย การศึกษาแบบสะสมหน่วยกิต ตามนโยบายการเรียนรู้ตลอดชีวิต (Life-Long Learning)

หมวดวิชาศึกษาทั่วไป สถาบันเทคโนโลยีพระจอมเกล้าเจ้าคุณทหารลาดกระบัง (ฉบับปรับปรุง พ.ศ.2566)

รหัสตำแหน่งที่ 1-2 หมายถึง รหัสประจำหมวดวิชาศึกษาทั่วไป กำหนดเป็น 96

รหัสตำแหน่งที่ 3-4 หมายถึง รหัสประจำเล่มหมวดวิชาศึกษาทั่วไป กำหนดเป็น 64

รหัสตำแหน่งที่ 5 หมายถึง รหัสประจำกลุ่มทักษะ กำหนดเป็น 5

5 = Life-Long Learning Skills

รหัสตำแหน่งที่ 6-8 หมายถึง ลำดับที่ของรายวิชา กำหนดเป็น 001 - 999

#### Life-Long Learning Skills

96645001	ANALYTICAL THINKING	1 (1-0-2)
96645002	CREATIVE THINKING	1 (1-0-2)
96645003	INNOVATIVE THINKING	1 (1-0-2)
96645004	POSITIVE THINKING	1 (1-0-2)
96645005	PROBLEM SOLVING	1 (1-0-2)
96645006	STRATEGIC THINKING	1 (1-0-2)
96645007	SYSTEM THINKING	1 (1-0-2)
96645008	EMERGING TRENDS IN ENGINEERING	1 (1-0-2)
96645009	FIGHTING FAKE NEWS	1 (1-0-2)
96645010	DIGITAL LITERACY	1 (1-0-2)
96645011	BASIC INTERNET OF THINGS (IOT)	2 (1-2-3)
96645012	COMPUTER FOR DEVELOPMENT OF ANALYTICAL THINKING PROCESS	2 (1-2-3)
96645013	RESILIENCE QUOTIENT	1 (1-0-2)
96645014	PSYCHOLOGY OF SELF-DEVELOPMENT	2 (2-0-4)
96645015	HUMAN RELATIONSHIP AND COMMUNICATION	2 (2-0-4)
96645016	CONTENT MARKETING	1 (1-0-2)

#### คำอธิบายรายวิชา

96645001	ANALYTICAL THINKING	1 (1-0-2)
	Study and practice thinking process for breaking down the components and for discovering the correlation between them to find the cause of the event following the set of hypothesis.	
96645002	CREATIVE THINKING	1 (1-0-2)



Explore the concept of creative thinking and practice discovering and expressing your imagination in various areas of creativity and engaging in meaningful creative activities individually as well as in teams ways. Study historic and contemporary examples of innovative companies and highly creative individuals who are leaders in creative endeavours and enterprises in various fields.

96645003 INNOVATIVE THINKING 1 (1-0-2)

Study and practice how to think out-of-the-box, training to reduce the barriers that block the creativity of thinking, and using a problem or trends to create the new innovations.

96645004 POSITIVE THINKING 1 (1-0-2)

Study and practice the process of thinking from different perspective, accepting the consequence event, training to think positively in negative topics, using the reasons to support the causes, training to think for encouraging life and to live in society.

96645005 PROBLEM SOLVING 1 (1-0-2)

Study and practice process of logical thinking and systematic thinking, understand the tools for collecting, writing and presenting data for representing problems and their solutions, training to make decision of the best solution.

96645006 STRATEGIC THINKING 1 (1-0-2)

Practice steps to develop a strategic mindset, how to analyze information effectively to support strategic thinking, how to do SWOT analysis, determining the most appropriate trade-off in a given situation.

96645007 SYSTEM THINKING 1 (1-0-2)

Study and practice the system of thinking with varieties of topics to see the connection, practice to break down the components for building connection from minor to major parts, giving the reasoning of thinking.

96645008 EMERGING TRENDS IN ENGINEERING 1 (1-0-2)

This course consists of a series of lectures given by different faculty members and distinguished speakers from the academic and industries. The lectures are designed to provide students a good understanding of each curriculum structure and the courses in each subject areas. Students will be introduced to emerging trends in Engineering and the relevance of our courses. New courses and research opportunities will be presented, including the faculty's research fields. The course also discusses basic learning and working ethics and prepares students career-making skills. Pass/Fail, required to graduate.

96645009 FIGHTING FAKE NEWS 1 (1-0-2)

Study and practice to understand the meaning and pattern of fake news including sarcasm, fallacies which leads to the misunderstanding, to apply identification technique of fake news using observation and evaluation before sharing content.

- 96645010 DIGITAL LITERACY 1 (1-0-2)  
Study and practice the process of making content marketing, content strategy, content planning and the process of professionally building the team for creating the content and preparing the media for content producing, the ways to evaluate and report the successful of the content.
- 96645011 BASIC INTERNET OF THINGS (IOT) 2 (1-2-3)  
Principle of Internet of Things (IOT); hardware and software components that connect to IoT devices and sensors; the type of data transmission; synchronous and asynchronous, analog, digital, types of communications, computer networks, Internet networks, network architecture, OSI Model and TCP/IP Model, topology, network devices, protocols and IP Address, physical structure, network systems.
- 96645012 COMPUTER FOR DEVELOPMENT OF ANALYTICAL THINKING PROCESS 2 (1-2-3)  
Using business computer for analytical thinking; programming for data analysis, data processing; data analysis for business decisions; forecasting and risk analysis.
- 96645013 RESILIENCE QUOTIENT 1 (1-0-2)  
Study and practice to build the growth mindset for step over the failure, to set the goal achievement of life for better living.
- 96645014 PSYCHOLOGY OF SELF-DEVELOPMENT 2 (2-0-4)  
Developing a personal identity; the science of self; self-concept, self-schema, self-motives, self-assessment, self-verification, self-enhancement, shaping of our self-concept.
- 96645015 HUMAN RELATIONSHIP AND COMMUNICATION 2 (2-0-4)  
Study principle of human relationship; theory, procedure, process, management, and approach; relationship and communication; principle of communication; effective communication skill and practice.
- 96645016 CONTENT MARKETING 1 (1-0-2)  
Study and practice the process of making content marketing, content strategy, content planning and the process of professionally building the team for creating the content and preparing the media for content producing, the ways to evaluate and report the successful of the content .

## ภาคผนวก G

### คำอธิบายระบบรหัสวิชา สำหรับหลักสูตรสถาบัน KOSEN เพื่อการเทียบโอน

รหัสวิชาดังต่อไปนี้ กำหนดเพื่อการเทียบโอนสำหรับหลักสูตรต่อเนื่องจากสถาบัน KOSEN เท่านั้น  
หมวดวิชาศึกษาทั่วไป สถาบันเทคโนโลยีพระจอมเกล้าเจ้าคุณทหารลาดกระบัง (ฉบับปรับปรุง พ.ศ.2566)

รหัสตำแหน่งที่ 1-2 หมายถึง รหัสประจำหมวดวิชาศึกษาทั่วไป กำหนดเป็น 96

รหัสตำแหน่งที่ 3 หมายถึง รหัสประจำหลักสูตรปริญญาตรีต่อเนื่อง กำหนดเป็น 9

รหัสตำแหน่งที่ 4-5 หมายถึง ปี พ.ศ. ที่เริ่มกำหนดใช้รายวิชา กำหนดเป็น 64

รหัสตำแหน่งที่ 6 หมายถึง รหัสประจำกลุ่ม กำหนดเป็น 0-4

1 = KMITL Identity Skills

2 = Personal and Professional Skills

3 = Management and Leadership Skills

4 = Language and Communication Skills

รหัสตำแหน่งที่ 7-8 หมายถึง ลำดับที่ของรายวิชา

### รายชื่อวิชาตามกลุ่ม

#### PERSONAL AND PROFESSIONAL SKILLS 14 รายวิชา

96964201	PRACTICE UNDER PERSONAL AND PROFESSIONAL SKILLS 1	1 (0-2-1)
96964202	PRACTICE UNDER PERSONAL AND PROFESSIONAL SKILLS 2	2 (0-4-2)
96964203	PRACTICE UNDER PERSONAL AND PROFESSIONAL SKILLS 3	3 (0-6-3)
96964256	HISTORY 1	1 (1-0-2)
96964257	HISTORY 2	1 (1-0-2)
96964258	HISTORY 3	1 (1-0-2)
96964259	HISTORY 4	1 (1-0-2)
96964260	THAI CULTURE/SOCIAL STUDY	1 (1-0-2)
96964261	ARTS 1	1 (1-0-2)
96964262	ARTS 2	1 (1-0-2)
96964263	HEALTH & PHYSICAL EDUCATION 1	1 (1-0-2)
96964264	HEALTH & PHYSICAL EDUCATION 2	1 (1-0-2)
96964265	HEALTH & PHYSICAL EDUCATION 3	1 (1-0-2)
96964266	HEALTH & PHYSICAL EDUCATION 4	1 (1-0-2)

#### MANAGEMENT AND LEADERSHIP SKILLS 3 รายวิชา

96964301	PRACTICE UNDER MANAGEMENT SKILLS 1	1 (0-2-1)
96964302	PRACTICE UNDER MANAGEMENT SKILLS 2	2 (0-4-2)
96964303	PRACTICE UNDER MANAGEMENT SKILLS 3	3 (0-6-3)

**LANGUAGE AND COMMUNICATION SKILLS 15 รายวิชา**

96964401	PRACTICE UNDER LANGUAGE AND COMMUNICATION SKILLS 1	1 (0-2-1)
96964402	PRACTICE UNDER LANGUAGE AND COMMUNICATION SKILLS 2	2 (0-4-2)
96964403	PRACTICE UNDER LANGUAGE AND COMMUNICATION SKILLS 3	3 (0-6-3)
96964469	THAI LANGUAGE 1	1 (1-0-2)
96964470	THAI LANGUAGE 2	1 (1-0-2)
96964471	THAI LANGUAGE 3	1 (1-0-2)
96964472	THAI LANGUAGE 4	1 (1-0-2)
96964473	ENGLISH 1	1 (1-0-2)
96964474	ENGLISH 2	1 (1-0-2)
96964475	ENGLISH 3	1 (1-0-2)
96964476	ENGLISH 4	1 (1-0-2)
96964477	JAPANESE 1	2 (2-0-4)
96964478	JAPANESE 2	2 (2-0-4)
96964479	JAPANESE 3	2 (2-0-4)
96964480	JAPANESE 4	2 (2-0-4)

**คำอธิบายรายวิชา****PERSONAL AND PROFESSIONAL SKILLS**

96964201 PRACTICE UNDER PERSONAL AND PROFESSIONAL SKILLS 1 1 (0-2-1)  
This course provides practice for working or industrial training or training or other related activities which reflect development of the personal and professional support skills at least 15 hours.

96964202 PRACTICE UNDER PERSONAL AND PROFESSIONAL SKILLS 2 2 (0-4-2)  
This course provides practice for working or industrial training or training or other related activities which reflect development of the personal and professional support skills at least 30 hours.

96964203 PRACTICE UNDER PERSONAL AND PROFESSIONAL SKILLS 3 3 (0-6-3)  
This course provides practice for working or industrial training or training or other related activities which reflect development of the personal and professional support skills at least 45 hours.

96964256 HISTORY 1 1 (1-0-2)  
This course provides students with holistic perception of Thai history. Students study historical evolution and significant characteristics of Thailand related to its history: past to present.

96964257 HISTORY 2 1 (1-0-2)  
This course provides students with holistic perception of Thai history. Students study historical evolution and significant characteristics of Thailand related to its history: past to present.

96964258 HISTORY 3 1 (1-0-2)  
This course provides students with holistic perception of Thai history. Students study historical evolution and significant characteristics of Thailand related to its history: past, present, and future.

96964259 HISTORY 4 1 (1-0-2)  
 This course provides students with holistic perception of Thai history. Students study historical evolution and significant characteristics of Thailand related to its history: past, present, and future.

96964260 THAI CULTURE/SOCIAL STUDY 1 (1-0-2)  
 This course provides students with holistic perception of Thai culture including beliefs, customs, arts as well as significant for life. Students also study UN's Sustainable Development Goals as a topic.

96964261 ARTS 1 1 (1-0-2)  
 This art course focuses on the development of students' observational skills and art techniques. Students develop their both technical abilities and creativities: Drawing and painting.

96964262 ARTS 2 1 (1-0-2)  
 This art course focuses on the development of students' observational skills and art techniques. Students develop their both technical abilities and creativities: art crafting.

96964263 HEALTH & PHYSICAL EDUCATION 1 1 (1-0-2)  
 This subject provides students with the opportunity to participate in a wide range of sports activities which may allow them to develop their healthy lifestyle. This course also provides students the opportunity to develop their knowledge and skills in health and health related issues.

96964264 HEALTH & PHYSICAL EDUCATION 2 1 (1-0-2)  
 This subject provides students with the opportunity to participate in a wide range of sports activities which may allow them to develop their healthy lifestyle. This course also provides students the opportunity to develop their knowledge and skills in health and health related issues.

96964265 HEALTH & PHYSICAL EDUCATION 3 1 (1-0-2)  
 This subject provides students with the opportunity to participate in a wide range of sports activities which may allow them to develop their healthy lifestyle. This course also provides students the opportunity to develop their knowledge and skills in health and health related issues.

96964266 HEALTH & PHYSICAL EDUCATION 4 1 (1-0-2)  
 This subject provides students with the opportunity to participate in a wide range of sports activities which may allow them to develop their healthy lifestyle. This course also provides students the opportunity to develop their knowledge and skills in health and health related issues.

### **MANAGEMENT AND LEADERSHIP SKILLS**

96964301 PRACTICE UNDER MANAGEMENT SKILLS 1 1 (0-2-1)  
 This course provide practice for working or industrial training or training or other related activities which reflect development of the management skills at least 15 hours.

96964302 PRACTICE UNDER MANAGEMENT SKILLS 2 2 (0-4-2)

This course provide practice for working or industrial training or training or other related activities which reflect development of the management skills at least 30 hours.

96964303 PRACTICE UNDER MANAGEMENT SKILLS 3 3 (0-6-3)

This course provide practice for working or industrial training or training or other related activities which reflect development of the management skills at least 45 hours.

### **LANGUAGE AND COMMUNICATION SKILLS**

96964401 PRACTICE UNDER LANGUAGE AND COMMUNICATION SKILLS 1 1 (0-2-1)

This course provide practice for working or industrial training or training or other related activities which reflect development of the communication skills at least 15 hours.

96964402 PRACTICE UNDER LANGUAGE AND COMMUNICATION SKILLS 2 2 (0-4-2)

This course provide practice for working or industrial training or training or other related activities which reflect development of the communication skills at least 30 hours.

96964403 PRACTICE UNDER LANGUAGE AND COMMUNICATION SKILLS 3 3 (0-6-3)

This course provide practice for working or industrial training or training or other related activities which reflect development of the communication skills at least 45 hours.

96964469 THAI LANGUAGE 1 1 (1-0-2)

This course aims to enrich students' personality and focuses on the Thai languages including literature and applications to science/technology. This course also covers 1<sup>st</sup> year grade of upper secondary school level/requirement. Listening, Speaking, Reading, and Writing are covered.

96964470 THAI LANGUAGE 2 1 (1-0-2)

This course aims to enrich students' personality and focuses on the Thai languages including literature and applications to science/technology. This course also covers 1<sup>st</sup> year grade of upper secondary school level/requirement. Listening, Speaking, Reading, and Writing are covered.

96964471 THAI LANGUAGE 3 1 (1-0-2)

This course aims to enrich students' personality and focuses on the Thai languages including literature and applications to science/technology and other settings. This course also covers 2<sup>nd</sup> year grade of upper secondary school level/requirements. Listening, Speaking, Reading, and Writing are covered.

96964472 THAI LANGUAGE 4 1 (1-0-2)

This course aims to enrich students' personality and focuses on the Thai languages including literature and applications to science/technology and other settings. This course also covers 2<sup>nd</sup> year grade of upper secondary school level/requirements. Listening, Speaking, Reading, and Writing are covered.

96964473 ENGLISH 1 1 (1-0-2)

This course provides students with opportunity to acquire basic English skills for grammar, reading, writing and conversation. Covering 1<sup>st</sup> year grade high school level.

- 96964474 ENGLISH 2 1 (1-0-2)  
This course provides students with opportunity to acquire basic English skills for grammar, reading, writing and conversation. Covering 1<sup>st</sup> year grade high school level.
- 96964475 ENGLISH 3 1 (1-0-2)  
This course provides students with opportunity to acquire basic English skills for grammar, reading, writing and conversation. Covering 1<sup>st</sup> year grade high school level.
- 96964476 ENGLISH 4 1 (1-0-2)  
This course provides students with opportunity to acquire basic English skills for grammar, reading, writing and conversation. Covering 1<sup>st</sup> year grade high school level.
- 96964477 JAPANESE 1 2 (2-0-4)  
This course provides students with opportunity to acquire basic Japanese skills for conversation, reading and writing, including grammar which are necessary for daily life in Japan. Basic level of Hiragana, Katakana, and Kanji are also covered.
- 96964478 JAPANESE 2 2 (2-0-4)  
This course provides students with opportunity to acquire basic Japanese skills for conversation, reading and writing, including grammar which are necessary for daily life in Japan. Basic level of Hiragana, Katakana, and Kanji are also covered.
- 96964479 JAPANESE 3 2 (2-0-4)  
This course provides students with opportunity to study basic speaking and listening skills necessary for simple Japanese conversation as well as writing and reading. Students will practice focused on practical situations to be able to communicate in Japanese.
- 96964480 JAPANESE 4 2 (2-0-4)  
This course provides students with opportunity to study basic speaking and listening skills necessary for simple Japanese conversation as well as writing and reading. Students will practice focused on practical situations to be able to communicate in Japanese.





# *Soft Skills*



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