



Chulalongkorn School of Integrated Innovation

Bachelor of Arts and Science in Integrated Innovation

(International Program)

Revised Curriculum 2024

<b>Total Credits</b>	<b>not less than 126 credits</b>
1) General Education Courses	not less than 33 credits
● Transdisciplinary Study	15 credits
● Gen-Ed for CU Character	12 credits
● Language Courses	6 credits
2) Core and Project Specialization Courses	not less than 87 credits
2.1) Core Courses	not less than 36 credits
2.2) Project	20 credits
2.3) Specialization	not less than 24 credits
2.4) Practice	not less than 7 credits
3) Free Elective	not less than 6 credits

## 2. Course and Credits Offering

### 1) General Education Courses

- Transdisciplinary Study 15 credits
  - 5600121\* EngiLogic: Engineering Concept to Application 3 credits
  - 5600122\* The Science of Life: Physics, Chemistry, Biology and Medical Tech 3 credits
  - 5600123\* Anatomy of Global Economy 3 credits
  - 5600124\* The Worldview Lens: Ideas, History and Geopolitics 3 credits
  - 5600125\* Form and Function: Exploring Aesthetics, Architecture and Industrial Design 3 credits
- Gen-Ed for CU Character) not less than 12 credits
  - BAScii General Education Courses
    - 0201173 Rethinking Justice for Innovators 3 credits
    - 5600160 Intellectual Property and Data Security Management 3 credits
    - 5600161 Stakeholder Engagement for Innovators 3 credits
    - 5600170 Ethics and Governance in Technology 3 credits
    - 5600171 Social Innovation Practicum 3 credits
    - 5600180 Engineering Foundation for Innovators 3 credits
    - 5600181 Behavioral and Decision Science in Innovation 3 credits
    - 5600182 Futures Planning for Innovators 3 credits
    - 5600184 Entrepreneurial Finance for Innovators 3 credits
    - 5600185 Technological Finance in the Digital Economy 3 credits
    - 5600190 Numerical Methods for Innovators 3 credits
    - 5600191 Science for Daily Life 3 credits
    - 5695101 Design and Development of Product Prototype 3 credits

5695102	Professional Communication Skills for Innovators	3 credits
5698101	Emerging Technologies for Lifelong Learning	3 credits
●	Language Courses	6 credits
5536121	English Technical Writing for Innovators	3 credits
<b>2)</b>	<b>Core and Project Specialization Courses</b>	<b>not less than 87 credits</b>
<b>2.1)</b>	<b>Core Courses</b>	<b>not less than 36 credits</b>
<b>2.1.1)</b>	<b>Core Business Management</b>	<b>18 credits</b>
<b>2.1.1.1)</b>	<b>Essential Business Courses</b>	<b>9 credits</b>
5601104*	Entrepreneurship Science	3 (3-0-6)
5601105*	Essentials of Accounting and Finance - Cashflow in the Digital Age	3 (3-0-6)
5601203*	Value chain excellence and project management	3 (3-0-6)
<b>2.1.1.2)</b>	<b>Advanced Business Courses</b>	<b>not less than 9 credits</b>
5601204*	Advanced Business I	3 (3-0-6)
5601205*	Advanced Business II	3 (3-0-6)
5601206*	Advanced Business III	3 (3-0-6)
Advanced Business Topics:		
1.	Venture Capital Unlock	
2.	Conflict to Collaboration: Organizational Dynamics	
3.	Digital Marketing Unleashed	
4.	Case Studies of Digital Transformation	
5.	Crafting Communication for Innovation	
6.	Accelerator Business Growth	
7.	Gen-AI and the Future of Business	
8.	Strategic Innovation Management	
9.	The Fintech Frontier	
10.	Building Legacies: Sustainable Family Enterprises	
11.	Leading Through Change: Digital Transformation	
12.	Optimization Accelerator	
<b>2.1.2)</b>	<b>Core Technology</b>	<b>18 credits</b>
5602104*	Entrepreneurial Math: From Business to AI	3 (3-0-6)
5602105*	Coding for Entrepreneurs: A Starter Guide	3 (3-0-6)
5602106*	Data-Driven Entrepreneurship: Probability, Statistics and Analytics	3(3-0-6)
5602107*	Data Ecosystems and Algorithmic Thinking	3 (3-0-6)
5602203*	Generative AI Literacy and Applications	3 (3-0-6)
5602204*	Connected World: IoT, Networking and Automation	3 (3-0-6)

## 2.2) Project

20 credits

5603103*	Startup Essentials for Entrepreneurs	2 (1-2-3)
5603104*	Project Seed	2 (1-2-3)
5603203*	Design-Build Project I	2 (1-2-3)
5603204*	Design-Build Project II	2 (1-2-3)
5603303*	Production and Entrepreneurization I	2 (1-2-3)
5603304*	Production and Entrepreneurization II	2 (1-2-3)
5603403*	Capstone Project I	4 (2-4-6)
5603404*	Capstone Project II	4 (2-4-6)

## 2.3) Specialization

not less than 24 credits

### A) *Health and Wellbeing*

5604201	Human Body and Mind Wellness	3 (3-0-6)
5604204	Sports, Exercise and Lifestyle	3 (3-0-6)
5604205	Innovations and Future Trends in Cell and Molecular Biology Technology	3 (3-0-6)
5604206	Anatomy and Physiology	3 (3-0-6)
5604207	Basic Principles and Application to Pharmacy Practice	3 (3-0-6)
5604305	Healthcare and Pharmaceutical Commercialization	3 (3-0-6)
5604306	Health Promotion and Health Security	3 (3-0-6)
5604307	Innovation in Health and Well-being	3 (3-0-6)
5604308*	Psychology Technology and Innovation	3 (3-0-6)
5604309	Novel Therapies for the 21st Century	3 (3-0-6)
5604310*	Food Technology: Lifestyle/Microbiota/Exercise	3 (3-0-6)
5604311	Current Health Challenges and Innovative Solutions	3 (3-0-6)

### B) *Smart City and Sustainable Development*

5605205	Smart City Information Management	3 (3-0-6)
5605206	Smart Mobility Management	3 (3-0-6)
5605208	Business and Organizational Models for Smart Cities	3 (3-0-6)
5605301	Digital Twin and Building Information Modeling in Smart City	3 (3-0-6)
5605403	Smart City and Urban Development	3 (3-0-6)
5605405	Technologies and Applications to Connect Smart Cities	3 (3-0-6)
5606206	Technology, Globalization and Sustainable Development	3 (3-0-6)
5606207	Sustainability in Public Service	3 (3-0-6)
5606301*	Building a Better Tomorrow: The Essentials for Sustainable Development	3 (3-0-6)
5606302	Socioeconomic Transformation for Sustainability	3 (3-0-6)
5606303*	Ethics in Action: Shaping Sustainable Policy and Governance	3 (3-0-6)

5606304*	Profit with Purpose: Business Strategies for Sustainability	3 (3-0-6)
5606305*	Climate Change: Climate Change to Action Plans	3 (3-0-6)
5606306*	Smart Solutions for Sustainable World	3 (3-0-6)
5606307*	Energy Evolution: Trends, Challenges and Future Horizons	3 (3-0-6)
5606308	Innovation for the Sustainable Development Goals	3 (3-0-6)

### C) Applied Digital Intelligence

5607201*	Mixed Reality (AR/VR/MR)	3 (3-0-6)
5607202*	Data Analytics	3 (3-0-6)
5607204*	Tech Trifecta: IoT, Robots and Automation	3 (3-0-6)
5607207	Game Design and Development	3 (3-0-6)
5607208*	Machine Learning (Deep Learning)	3 (3-0-6)
5607209*	Artificial Intelligence Alchemy	3 (3-0-6)
5607303*	Simulate to Optimise	3 (3-0-6)
5607304*	The Wellness Code: Digital AI for Health	3 (3-0-6)
5607305*	Sustainable Cities, Digital Intelligence	3 (3-0-6)
5607306*	AI and Robotics Application in Agriculture and Industry	3 (3-0-6)
5607307*	Current Issues in Arts and Scientific Research	3 (3-0-9)
5607308*	Web Application and Blockchain	3 (3-0-6)

### 2.4) Practice)

not less than 7 credits

5608321	International Field Study I	3 (0-6-3)
5608322	International Field Study II	3 (0-6-3)
5608331	Seminar in Integrated Innovation I	1 (1-0-2)
5608101	Independent Study I	1 (1-0-2)
5608102	Independent Study II	2 (2-0-4)
5608103	Independent Study III	3 (3-0-6)
5608301	Workshop in Integrated Innovation I	3 (2-2-5)
5608302	Workshop in Integrated Innovation II	3 (2-2-5)
5608303	Workshop in Integrated Innovation III	3 (2-2-5)
5608311	Internship in Integrated Innovation I	3 (1-6-2)
5608312	Internship in Integrated Innovation II	3 (1-6-2)
5608313	Internship in Integrated Innovation III	3 (1-6-2)
5608323	International Field Study III	3 (0-6-3)
5608324	International Field Study IV	3 (0-6-3)
5608325	International Field Study V	3 (0-6-3)
5608326	International Field Study VI	3 (0-6-3)

The Bachelor of Arts and Science in Integrated Innovation (BAScii) curriculum includes a mandatory outbound semester abroad program for third-year students and above, which is a great opportunity for students to enhance their international life experience both academically and culturally. There are two options for semester abroad—with academic partners and with industry partners which are required students to officially register for the International Field Study in the next semester (Year 4 – Semester 1) in order to get the transferred grade result properly.

**3) Free Elective**

**not less than 6 credits**

### 3. Study Plan

#### Year 1 Semester 1

Code	Subject	Credits
5602104*	Entrepreneurial Math: From Business to AI	3 ( 3 - 0 - 6 )
5602105*	Coding for Entrepreneurs: A Starter Guide	3 ( 3 - 0 - 6 )
5601104*	Entrepreneurship Science	3 ( 3 - 0 - 6 )
	Transdisciplinary Study	3 ( 3 - 0 - 6 )
	Transdisciplinary Study	3 ( 3 - 0 - 6 )
5608331	Seminar in Integrated Innovation I	1 ( 1 - 0 - 2 )
5603103*	Startup Essentials for Entrepreneurs	2 ( 1 - 2 - 3 )
<b>Total Credits</b>		<b>18</b>

#### Year 1 Semester 2

Code	Subject	Credits
5602106*	Data-Driven Entrepreneurship: Probability, Statistic and Analytics	3 ( 3 - 0 - 6 )
5602107*	Data Ecosystems and Algorithmic Thinking	3 ( 3 - 0 - 6 )
5601105*	Essentials of Accounting and Finance - Bookkeeping in the Digital Age	3 ( 3 - 0 - 6 )
5536121	English Technical Writing for Innovators	3 ( 2 - 2 - 5 )
	Transdisciplinary Study	3 ( 3 - 0 - 6 )
	Transdisciplinary Study	3 ( 3 - 0 - 6 )
5603104*	Project Seed	2 ( 1 - 2 - 3 )
<b>Total Credits</b>		<b>20</b>

## Year 2 Semester 1

Code	Subject	Credits
5602203*	Generative AI Literacy and Applications	3 ( 3 - 0 - 6 )
5601203*	Value chain excellence and project management	3 ( 3 - 0 - 6 )
5601204*	Advanced Business I	3 ( 3 - 0 - 6 )
	Specialization I	3 ( 3 - 0 - 6 )
	Specialization II	3 ( 3 - 0 - 6 )
	Transdisciplinary Study	3 ( 3 - 0 - 6 )
5603203*	Design-Build Project I	2 ( 1 - 2 - 3 )
<b>Total Credits</b>		<b>20</b>

## Year 2 Semester 2

Code	Subject	Credits
5602204*	Connected World: IoT, Networking and Automation	3 ( 3 - 0 - 6 )
5601205*	Advanced Business II	3 ( 3 - 0 - 6 )
5601206*	Advanced Business III	3 ( 3 - 0 - 6 )
	Specialization III	3 ( 3 - 0 - 6 )
	Specialization IV	3 ( 3 - 0 - 6 )
5603204*	Design-Build Project II	2 ( 1 - 2 - 3 )
<b>Total Credits</b>		<b>17</b>



**Plan A :** *For Students who do Semester Abroad Program with Academic Partners*

**Year 3 Semester 1**

Code	Subject	Credits
5603303*	Production and Entrepreneurization I	2 ( 1 - 2 - 3 )
	Specialization V	3 ( 3 - 0 - 6 )
	Specialization VI	3 ( 3 - 0 - 6 )
	Gen Ed Course	3 ( 3 - 0 - 6 )
	Gen Ed Course	3 ( 3 - 0 - 6 )
	Gen Ed Language Course	3 ( 3 - 0 - 6 )
<b>Total Credits</b>		<b>17</b>

**Year 3 Semester 2**

Code	Subject	Credits
5603304*	Production and Entrepreneurization II	2 ( 1 - 2 - 3 )
5608321	International Field Study I	3 ( 0 - 6 - 3 )
5608322	International Field Study II	3 ( 0 - 6 - 3 )
5608323	International Field Study III (Free Elective I)	3 ( 0 - 6 - 3 )
5608324	International Field Study IV (Free Elective II)	3 ( 0 - 6 - 3 )
<b>Total Credits</b>		<b>14</b>

## Year 4 Semester 1

Code	Subject	Credits
5603403*	Capstone Project I	4 ( 2 - 4 - 6 )
	Specialization VII	3 ( 3 - 0 - 6 )
	Gen Ed Course	3 ( 3 - 0 - 6 )
Total Credits		10

## Year 4 Semester 2

Code	Subject	Credits
5603404*	Capstone Project II	4 ( 2 - 4 - 6 )
	Specialization VIII	3 ( 3 - 0 - 6 )
	Gen Ed Course	3 ( 3 - 0 - 6 )
Total Credits		10

Total Credits    126    Credits

**Plan B :** *For Students who do Semester Abroad Program with Industry Partners*

**Year 3 Semester 1**

Code	Subject	Credits
5603303*	Production and Entrepreneurization I	2 ( 1 - 2 - 3 )
	Specialization V	3 ( 3 - 0 - 6 )
	Specialization VI	3 ( 3 - 0 - 6 )
	Gen Ed Course	3 ( 3 - 0 - 6 )
	Gen Ed Course	3 ( 3 - 0 - 6 )
	Gen Ed Language Course	3 ( 3 - 0 - 6 )
<b>Total Credits</b>		<b>17</b>

**Year 3 Semester 2**

Code	Subject	Credits
5603304*	Production and Entrepreneurization II	2 ( 1 - 2 - 3 )
5608321	International Field Study I	3 ( 0 - 6 - 3 )
5608322	International Field Study II	3 ( 0 - 6 - 3 )
<b>Total Credits</b>		<b>8</b>

## Year 4 Semester 1

Code	Subject	Credits
5603403*	Capstone Project I	4 ( 2 - 4 - 6 )
	Specialization VII	3 ( 3 - 0 - 6 )
	Free Elective I (If never taken)	3 ( 3 - 0 - 6 )
	Gen Ed Course	3 ( 3 - 0 - 6 )
Total Credits		13

## Year 4 Semester 2

Code	Subject	Credits
5603404*	Capstone Project II	4 ( 2 - 4 - 6 )
	Specialization VIII	3 ( 3 - 0 - 6 )
	Free Elective II (If never taken)	3 ( 3 - 0 - 6 )
	Gen Ed Course	3 ( 3 - 0 - 6 )
Total Credits		13

Total Credits 126 Credits

## Course Description

### 1) General Education Course

#### 1.1) Transdisciplinary Study

5600121\* EngiLogic: Engineering Concept to Application 3 (3-0-6)

This course introduces students to the seamless transition from core engineering concepts to their practical applications, encapsulated under the banner of EngiLogic. Through traditional lectures and hands-on tutorials, learners will navigate the theoretical foundations and their tangible implementations in the modern world. Upon completion, students will be adept at translating engineering principles into innovative solutions for real-world challenges.

5600122\* วิทยาศาสตร์แห่งชีวิต: ฟิสิกส์ เคมี ชีววิทยา และเทคโนโลยีทางการแพทย์ 3 (3-0-6)

#### The Science of Life: Physics, Chemistry, Biology and Medical Tech

This course delves into quantum physics' influence on chemical interactions, underpinning molecular biology and propelling medical technology. Through lectures and seminars, students engage in group assignments and video presentations. Upon completion, students will grasp foundational concepts and discern interdisciplinary relationships among the topics.

5600123\* โครงสร้างของเศรษฐกิจโลก 3 (3-0-6)

#### Anatomy of Global Economy

This course covers the intricate systems, structures, and relationships of global economics. This course combines the use of both traditional lectures and high-level seminars, tasking students to engage in case studies and interactive discussions for deeper understanding. Upon completion, students are expected to critically evaluate global economic trends and their ramifications on local scales.

5600124\* มุมมองโลก: แนวคิด ประวัติศาสตร์ และภูมิรัฐศาสตร์ 3 (3-0-6)

#### The Worldview Lens: Ideas, History and Geopolitics

This course covers influential ideas and events that have sculpted global perspectives over time. This course combines the use of both traditional lectures and high-level seminars, immersing students in historical narratives and analyses of current geopolitical situations. Upon completion, students will be adept at evaluating modern challenges through a comprehensive, informed viewpoint.

5600125\* รูปแบบและฟังก์ชัน: สำรวจความงดงาม, สถาปัตยกรรม และออกแบบอุตสาหกรรม 3 (3-0-6)

**Form and Function: Exploring Aesthetics, Architecture and Industrial Design**

This course covers the confluence of aesthetics, architectural prowess, and the practicality of industrial design. This course combines the use of both traditional lectures and immersive workshops, tasking students with site visits and case analyses for in-depth understanding. Upon completion, students are expected to proficiently meld form with function in their design endeavors.

**1.2) Gen-Ed for CU Character**

**1.2.1) BAScii General Education Courses**

0201173 พลิกนิยามความยุติธรรมเพื่อนวัตกรรม 3 (3-0-6)

**Rethinking Justice for Innovators**

This course covers the interplay of key issues such as Justice, Inequality, Gender, Corporate Governance, Environment, Corruption and Culture, Technology's influence on our world, and Design Thinking. Through a mix of traditional lectures and term projects, students are immersed in these topics, considering them through the lens of justice for innovators. Upon completion, students will understand the foundational concepts in each area, recognizing how they intersect and influence innovation in the modern world.

5600160 ทรัพย์สินทางปัญญาและการจัดการความปลอดภัยของข้อมูล 3 (3-0-6)

**Intellectual Property and Data Security Management**

This course covers the intricate dynamics of intellectual property (IP) and Data Security Management in a tech-driven contemporary world. This course combines the use of both traditional lectures and case reviews, tasking students with understanding both theoretical and practical aspects of IP and data security. Upon completion, through group projects, students are expected to draft and present comprehensive IP management plans, applying their learned knowledge to real-world products and services.

5600161 การมีส่วนร่วมของผู้มีส่วนได้ส่วนเสียสำหรับนวัตกรรม 3 (3-0-6)

**Stakeholder Engagement for Innovators**

This course covers effective communication and management strategies tailored for stakeholders in the business sector, government, NGOs, community organizations, and the general public. Through traditional lectures and hands-on tutorials, students are introduced to tools such as online platforms, text messaging, and pop-up events, with an emphasis on gathering input and feedback. Upon completion, learners will grasp not only these methodologies but also the psychological nuances behind successful stakeholder engagement and collaboration.

5600170 จริยธรรมและธรรมาภิบาลทางเทคโนโลยี 3 (3-0-6)  
Ethics and Governance in Technology

This course explores the interplay between values, social norms, ethics, and governance in emergent technologies, from biomedical to artificial intelligence. Through lectures and seminars, students will understand how technological advancements influence these relationships. By the end, they'll articulate values-based decision-making impacting global well-being.

5600171 การปฏิบัตินวัตกรรมสังคม 3 (3-0-6)  
Social Innovation Practicum

This course covers/surveys case studies of social innovation, encompassing government organizations, private sectors, social enterprises, and foundations. Through traditional lectures and group discussions, students will explore local and community-driven initiatives fostering positive societal impact. Upon completion, participants will have a comprehensive understanding of the multifaceted landscape of social innovation and its transformative potential.

5600180 วิศวกรรมพื้นฐานสำหรับนวัตกรรม 3 (3-0-6)  
Engineering Foundation for Innovators

This course introduces students to the foundational principles of Engineering, spanning Mechanical, Material, Electrical, Computer, Civil, Chemical, Industrial, and Manufacturing disciplines. Through traditional lectures and hands-on tutorials, participants will acquire product design and prototyping skills. Upon completion, they'll be adept at conceptualizing and presenting innovative engineering solutions.

5600181 พฤติกรรมศาสตร์และวิทยาศาสตร์ในการตัดสินใจของนวัตกรรม 3 (3-0-6)  
Behavioral and Decision Science in Innovation

This course covers/surveys the behavior and decision-making processes of customers, users, colleagues, and oneself, drawing from neuroscience, social psychology, and organizational psychology. Through traditional lectures and group discussions, students delve into the psychological underpinnings influencing choices. Upon completion, participants will have a profound understanding of the cognitive mechanisms driving decision-making in various contexts.

5600182 การวางแผนอนาคตสำหรับนวัตกรรม 3 (3-0-6)  
Futures Planning for Innovators

This course covers/surveys techniques to futureproof ideas and products in the face of growing uncertainties. Through traditional lectures and interactive workshops, students will delve into risk management, along with the formulation of mitigation and adaptation strategies. Upon completion, participants will be equipped to proactively address challenges, ensuring resilience and sustainability in their endeavors.

5600184      **การเงินผู้ประกอบการสำหรับนวัตกรรม**      3 (3-0-6)

**Entrepreneurial Finance for Innovators**

This course introduces students to the analytical framework underpinning the strategic partnership between high-growth start-ups and venture capital, crucial for financing innovative growth ventures. Through traditional lectures and hands-on tutorials, participants will explore the intricate dynamics of this partnership and delve into the entrepreneur's ideation perspective via VS logics. Upon completion, learners will be adept at navigating and leveraging venture capital dynamics in the start-up ecosystem.

5600185      **เทคโนโลยีทางการเงินในเศรษฐกิจดิจิทัล**      3 (3-0-6)

**Technological Finance in the Digital Economy**

This course covers/surveys the financial intricacies prevalent in the digital landscape, especially emphasizing the evaluation of emerging concepts and enterprises. By combining traditional lectures with case studies, students will merge analytical tools with entrepreneurial insights, all through the lens of a micro-VC viewpoint. Upon completion, participants will be proficient in navigating and making informed decisions within the financial sectors of the digital arena.

5600190      **ระเบียบวิธีคำนวณเชิงตัวเลขสำหรับนวัตกรรม**      3 (3-0-6)

**Numerical Methods for Innovators**

This course covers the foundational concepts of numerical analyses utilizing tools like MATLAB and Mathematica. Through traditional lectures and hands-on tutorials, learners will tackle systems of linear equations, function approximations, equation root-finding, numerical differentiation and integration, and the application of the Monte Carlo simulation. Upon completion, participants will be adept at executing a range of numerical tasks with proficiency.

5600191      **วิทยาศาสตร์ในชีวิตประจำวัน**      3 (3-0-6)

**Science for Daily Life**

This course covers the fundamental tenets of science, emphasizing the domains of Physics, Chemistry, and Biology. Through traditional lectures and interactive workshops, students will understand distinct principles and the interconnected nature of these fields. Upon completion, learners will be equipped with a comprehensive understanding of science's ubiquitous influence in daily life.

5695101      **การออกแบบและพัฒนาผลิตภัณฑ์ต้นแบบ**      3 (3-0-6)

**Design and Development of Product Prototype**

This course introduces students to the intricate process of prototype design, from conceptualization to validation. Through traditional lectures and hands-on tutorials, participants will delve into various prototyping techniques, from low to high reliability, and principles of design encompassing design patterns, graphic design, and design rationale. Emphasizing both physical and digital prototypes, the course ensures that by its conclusion, learners will be adept at tailoring prototypes to real-world user needs and preferences.

5695102      **ทักษะการสื่อสารอย่างมืออาชีพสำหรับนวัตกรรม**      3 (3-0-6)







This course introduces students to the dynamic realm of entrepreneurial finance with 'Venture Capital Unlock.' Through traditional lectures and hands-on assignments, participants will explore the intricacies of staged financing and venture capital. Engaging in collaborative ideation and analytical frameworks, by the course's end, learners will be adept at providing astute financial insights to early-stage innovations and startup endeavors.

## 2. ความขัดแย้งสู่การทำงานร่วมกันอย่างพลวัตองค์กร

### Conflict to Collaboration: Organizational Dynamics

This course introduces students to the core essence of leadership. Through traditional lectures and hands-on case studies, learners will navigate organizational dynamics, negotiation strategies, and conflict resolution techniques. Upon completion, participants will be adept at steering organizations with adeptness amidst constantly shifting innovative landscapes.

## 3. การตลาดดิจิทัลอิสระ

### Digital Marketing Unleashed

This course covers/surveys the strategic facets of promoting innovative products and solutions in today's competitive market. Through traditional lectures and interactive case analyses, students will immerse in pioneering marketing techniques geared towards hyper-growth, emphasizing the significance of digital strategies and compelling content. Upon completion, participants will be proficient in executing impactful marketing campaigns in a rapidly changing business landscape.

## 4. กรณีศึกษาการเปลี่ยนแปลงด้านดิจิทัล

### Case Studies of Digital Transformation

This course introduces students to 'Case Studies of Digital Transformation,' offering a deep dive into industry-tailored success stories of digital evolution. Through traditional lectures and hands-on case analysis, participants will gain industry insights and practical knowledge. Upon completion, learners will be adept at steering digital transformations, making strategic decisions, and fostering change within their respective domains.

## 5. ผลิตรายการสื่อสารเพื่อนวัตกรรม

### Crafting Communication for Innovation

This course covers/surveys the art of communication tailored for innovative contexts, embodied in 'Crafting Communication for Innovation.' Through traditional lectures and interactive workshops, students will master the skill of expressing creative ideas compellingly. Upon completion, participants will be proficient in presenting innovative concepts with both resonance and precision.

## 6. การเร่งรัดการเจริญเติบโตของธุรกิจ

### Accelerator Business Growth

This course introduces students to the dynamics of 'Accelerator Business Growth', emphasizing the synergy between innovation and business expansion. Through traditional lectures and practical exercises, learners will cultivate the skill of identifying and capitalizing on growth prospects within the realm of integrated innovation. Upon completion, participants will be adept at understanding and driving innovation-fueled business growth.

## 7. เทคโนโลยีการสร้างใหม่และอนาคตของธุรกิจ

### Gen-AI and the Future of Business

This course introduces students to 'Gen-AI and the Future of Business,' highlighting the convergence of artificial intelligence and avant-garde business models. Through traditional lectures and hands-on exercises, participants will learn to employ Gen-AI technologies for innovative breakthroughs. Upon completion, learners will be proficient in navigating and thriving in the rapidly shifting business landscape shaped by AI.

## 8. การบริหารกลยุทธ์เชิงนวัตกรรม

### Strategic Innovation Management

This course covers/surveys the intricacies of 'Strategic Innovation Management', focusing on the journey from conceptualization to implementation. Through traditional lectures and hands-on workshops, students will explore the nexus between innovative thought and its practical manifestation. Upon completion, participants will be proficient in guiding organizations to transform groundbreaking ideas into actionable innovations.

## 9. เทคโนโลยีทางการเงิน

### The Fintech Frontier

This course introduces students to the dynamic realm of FinTech, highlighting the technological evolution of the financial domain. Through traditional lectures and practical exercises, learners will explore the technological advancements revolutionizing finance. Upon completion, participants will be proficient in leveraging emerging technologies to drive strategic innovations in the financial sector.

## 10. การสร้างทรัพย์สินสมบัติในองค์กรครอบครัวที่ยั่งยืน

### Building Legacies: Sustainable Family Enterprises

This course covers/surveys the intricate realm of family enterprises through "Building Legacies: Sustainable Family Enterprises." Through traditional lectures and hands-on case analyses, students will delve into succession strategies, governance structures, investment tactics, and adaptive resilience. Upon completion, participants will be adept at fostering sustainable growth and longevity in family-owned businesses.

## 11. การการนำโดยผ่านการเปลี่ยนแปลงดิจิทัล

### Leading Through Change: Digital Transformation

This course introduces students to 'Change Masters: Digital Transformation,' emphasizing the nexus between leadership, change management, and digital evolution. Through traditional lectures and interactive workshops, participants will master the art of orchestrating organizational shifts, utilizing impactful leadership for successful digital transitions. Upon completion, learners will be proficient in steering organizations through the complexities of modern digital transformations.

## 12. การเพิ่มประสิทธิภาพของการดำเนินงานเพื่อการเปลี่ยนแปลงด้านดิจิทัล

### Optimization Accelerator

This course covers/surveys the intricate dynamics of 'Optimization Accelerator,' merging business acumen with engineering prowess. Through traditional lectures and hands-on workshops, students will blend engineering methodologies with digital transformation tactics. Upon completion, participants will be adept at harnessing these synergies to enhance processes, bolster productivity, and achieve lasting success in the modern digital arena.

### 2.1.2) Core Technology

5602104\* คณิตศาสตร์ผู้ประกอบการ: จากธุรกิจสู่ปัญญาประดิษฐ์ 3 (3-0-6)  
Entrepreneurial Math: From Business to AI

This course introduces students to the core tenets of Linear Algebra and Calculus within 'Entrepreneurial Math: From Business to AI.' Through traditional lectures and practical exercises, learners will delve into mathematical applications essential for both business and AI innovations. Upon completion, participants will be proficient in utilizing these mathematical tools for entrepreneurial ventures in the AI domain.

5602105\* คู่มือเริ่มต้นสำหรับการเขียนโค้ดสำหรับผู้ประกอบการ 3 (3-0-6)  
Coding for Entrepreneurs: A Starter Guide

This course covers the coding fundamentals through 'Coding for Entrepreneurs: A Starter Guide.' Through traditional lectures and hands-on exercises, students will engage in tangible coding practices and their real-world applications. Upon completion, participants will be adept at employing foundational coding expertise to bolster entrepreneurial initiatives and innovations.

5602106\* การประกอบการที่ขับเคลื่อนด้วยข้อมูล: ความน่าจะเป็น สถิติ และวิเคราะห์ข้อมูล 3 (3-0-6)  
Data-Driven Entrepreneurship: Probability, Statistics, and Analytics

This course introduces students to applied aspects of Probability and Statistics within 'Data-Driven Entrepreneurship: Probability, Statistics, and Analytics.' Through traditional lectures and hands-on exercises, learners will confront real-world data challenges and scenarios. Upon completion, participants will be proficient in utilizing data-centric methodologies, positioning them for entrepreneurial triumphs.

5602107\* ระบบนิเวศข้อมูลและการคิดแบบอัลกอริทึม 3 (3-0-6)  
Data Ecosystems and Algorithmic Thinking



This course introduces students to the entrepreneurial journey, emphasizing the leap from ideation towards near-commercialization, spotlighting MVP development. Through traditional lectures and hands-on sessions, learners will engage with tools and strategies pivotal to startup traction. Upon completion, participants will be well-versed in foundational business-building elements, including company establishment and vesting.

**5603204\* การออกแบบและสร้างโครงการ 2** **2 (1-2-3)**  
**Design-Build Project II**

This course covers/surveys product development, centralizing on resolving user-oriented challenges. Through traditional lectures and interactive workshops, students will be acquainted with tools ensuring business profitability. The curriculum's core revolves around sustainable business model crafting, addressing pricing, sales, customer acquisition costs, lifetime value, and product fine-tuning.

**5603303\* การผลิตและการเป็นผู้ประกอบการ 1** **2 (1-2-3)**  
**Production and Entrepreneurization I**

This course introduces students to specific interest-based short-term design and creation projects, illuminating efficient production methodologies for tangible solutions. Engaging in hands-on experiences, learners will delve into the intricacies of production. By the course's end, participants will grasp production efficiency and manifest a prototype in their interest domain.

**5603304\* การผลิตและการเป็นผู้ประกอบการ 2** **2 (1-2-3)**  
**Production and Entrepreneurization II**

This course delves into short-term design and creation projects within specified areas of interest, elucidating streamlined production methods. Through hands-on sessions and traditional lectures, students will navigate production's practical realms. Upon completion, learners will possess clear insights into production processes and will have materialized a prototype in their chosen sphere.

**5603403\* โครงการบูรณาการ 1** **4 (2-4-6)**  
**Capstone Project I**

This course emphasizes producing and documenting innovative, scalable projects. Through traditional lectures and practical exercises, students will ensure their projects have commercial potential, undergoing intellectual property registration and valuation processes. Upon conclusion, participants will have a documented project with clarified intellectual rights and value estimation.

**5603404\* โครงการบูรณาการ 2** **4 (2-4-6)**  
**Capstone Project II**

This course introduces students to crafting scalable, innovative projects with both production and business planning lenses. The curriculum mandates projects to secure commercial promise, complemented by partial funding from governmental or industry entities. By the course's end, students will own a solid business and production plan for a project backed by external finance.

### 2.3) Specialization

#### A) Health and Wellbeing

5604201 สุขภาวะทางกายและจิต 3 (3-0-6)  
Human Body and Mind Wellness

This course introduces students to holistic wellness, highlighting the multifaceted aspects of individual health and wellbeing. Through traditional lectures and practical exercises, participants will explore mental, physical, social, emotional, vocational, and spiritual wellness dimensions. Upon completion, students will be well-versed in community health services, along with addressing challenges in school health and safety.

5604204 กีฬา การออกกำลังกาย และวิถีชีวิต 3 (3-0-6)  
Sports, Exercise and Lifestyle

This course covers/surveys the dynamic interplay of factors influencing sports, exercise, and lifestyle from psychological and biological angles. Through traditional lectures and interactive workshops, students will learn about the physiological and psychological benefits of exercise, including health promotion and intervention insights. By the course's end, learners will recognize innovations and potential business ventures within the sports and exercise domain.

5604205 นวัตกรรมและแนวโน้มในอนาคตของเซลล์และอณูชีววิทยา 3 (3-0-6)  
Innovations and Future Trends in Cell and Molecular  
Biology Technology

This course introduces students to the depth of cell and molecular biology, laying a foundation in cell biology, molecular biology, microbiology, biochemistry, and molecular genetics. Through traditional lectures and hands-on exercises, participants will dive deep into cellular and molecular mechanisms. Upon completion, students will be proficient in the latest innovations and foresee upcoming trends in cell and molecular biology.

5604206 กายวิภาคศาสตร์และสรีรวิทยา 3 (3-0-6)  
Anatomy and Physiology

This course delves into the world of human anatomy and physiology, illuminating the detailed interactions within the body. Through traditional lectures and interactive sessions, learners will contrast structural studies, like heart tissue anatomy, with functional explorations, such as heart operational physiology. By the course's end, participants will have a comprehensive understanding of the human body, appreciating both its detailed structures and integrated functions.



5604207      **หลักการพื้นฐานและการประยุกต์ใช้ทางเภสัชศาสตร์**      3 (3-0-6)  
**Basic Principles and Application to Pharmacy Practice**

This course introduces students to the fundamentals of drug physicochemical properties, from dosage forms to the complex world of pharmacokinetics and pharmacodynamics. Through traditional lectures and hands-on exercises, participants will delve deep into global pharmaceutical practices, encompassing drug R&D, clinical trials, and the commercialization of various drug forms. By the course's end, learners will possess both theoretical knowledge and practical acumen vital for pharmaceutical science and its real-world application.

5604305      **การค้าเชิงพาณิชย์ด้านการดูแลสุขภาพและเภสัชกรรม**      3 (3-0-6)  
**Healthcare and Pharmaceutical Commercialization**

This course dives into the intricate ecosystem of healthcare management and pharmaceuticals, with a sharp focus on the commercialization facets of the industry. Through immersive lectures and real-world case studies, students will grasp the interdependencies within healthcare organizations, the dynamics of pharmaceutical transfers, and the nuances of quality improvement. Upon completion, participants will be proficiently equipped to navigate the complexities of commercial practices within healthcare settings.

5604306      **การส่งเสริมสุขภาพและความมั่นคงด้านสุขภาพ**      3 (3-0-6)  
**Health Promotion and Health Security**

This course presents an intensive journey into public health. It emphasizes both infectious and chronic disease landscapes and covers key concepts in public health. Through traditional lectures and interactive modules, students are introduced to methodologies for health intervention planning, ranging from health economics to the latest in health technologies. Upon completion, participants will have a profound grasp of public health challenges and will be adept at strategizing for enhanced health outcomes and reduced health inequalities.

5604307      **นวัตกรรมทางสุขภาพและความเป็นอยู่ที่ดี**      3 (3-0-6)  
**Innovation in Health and Well-being**

This course presents a comprehensive exploration into the world of health innovation. Through traditional lectures and interactive modules, students are introduced to key domains, from Intellectual Property to Biomedical Ethics. By the end of this educational endeavor, learners will not only understand the drivers of innovation in health but will also be primed to contribute effectively to the realm of health and well-being.

5604308\*      **เทคโนโลยีและนวัตกรรมทางจิตวิทยา**      3 (3-0-6)  
**Psychology Technology and Innovation**

This course introduces students to the advanced concepts and theoretical foundation of how psychological principles intersect with technology and innovation. Through a blend of traditional lectures and hands-on tutorials, participants will undertake group assignments and a term project for evaluation. Upon completion, students are poised to appreciate the behavioral and ethical nuances of emerging technological tools in the realm of psychology.

5604309      **การรักษาแบบใหม่สำหรับศตวรรษที่ 21**      3 (3-0-6)  
**Novel Therapies for the 21st Century**

This course explores the frontier developments and key empirical findings in the domain of advanced therapeutic strategies, centering on the biological foundations. The course amalgamates group discussions and prototyping exercises, emphasizing individual assignments and a technical paper as evaluation components. Students will emerge with a deep understanding of the bridge between biological research and therapeutic innovation in the 21st century.

**5604310\* เทคโนโลยีอาหาร: โลฟัสไตล์/จุลินทรีย์/การออกกำลังกาย 3 (3-0-6)**  
**Food Technology: Lifestyle/Microbiota/Exercise**

This course investigates the elementary knowledge and applications of food technology, focusing on its impact on lifestyle, microbiota, and exercise. Delivered via a combination of traditional lectures and hands-on tutorials, students are assessed through group assignments and a video presentation. Graduates of this course will gain a holistic understanding of how food technology intersects with health, wellbeing, and modern lifestyle dynamics.

**5604311 ความท้าทายปัจจุบันด้านสุขภาพและวิธีการแก้ปัญหาใหม่ 3 (3-0-6)**  
**Current Health Challenges and Innovative Solutions**

This course delves deep into the current pressing challenges in health, emphasizing the application of novel solutions for these contemporary issues. Through group discussions and hands-on tutorials, students will work on a term project and produce a technical paper for evaluation. By the course's conclusion, students are equipped to anticipate, analyze, and propose innovative solutions to global health challenges, backed by empirical evidence and informed predictions.

## **B) Smart City and Sustainable Development**

**5605205 การบริหารจัดการข้อมูลสารสนเทศสำหรับเมืองอัจฉริยะ 3 (3-0-6)**  
**Smart City Information Management**

This course introduces the data components pivotal to smart city services, encompassing the technological nuances of data collection. Students will delve into data modeling approaches tailored for smart city planning and management. Students will have a clear grasp of the development process integral to the city's operating system.

**5605206 การจัดการระบบการเดินทางและการขนส่งแบบอัจฉริยะ 3 (3-0-6)**  
**Smart Mobility Management**

This course explores smart mobility, encompassing autonomous vehicles, smart logistics, smart highways, and mobility-as-a-service. It emphasizes algorithmic knowledge and application development to address real-world challenges. Students gain hands-on expertise in crafting smart mobility solutions, preparing them for practical implementation in this dynamic field.

5605208 โมเดลทางธุรกิจและองค์กรสำหรับเมืองอัจฉริยะ 3 (3-0-6)

**Business and Organizational Models for Smart Cities**

This course delves into the diverse business and organizational models shaping the landscape of smart cities, encompassing start-ups, social enterprises, non-profits, traditional businesses, and more. Through an interactive learning approach, students will grasp how to pinpoint opportunities, analyze citizen behavior, assess project feasibility, and collaborate effectively with industry, government, and community stakeholders. By the end of this comprehensive journey, learners will be equipped with practical skills in market analysis and strategies to secure funding for their innovative ideas.

5605301 โมเดลเสมือนจริงและการสร้างข้อมูลแบบจำลองในเมืองอัจฉริยะ 3 (3-0-6)

**Digital Twin and Building Information Modeling in Smart City**

This course aims to develop students' skills and know-how on the implementation of digital twin technology and building information modeling (BIM) for smart city solutions. The course provides concepts of geographic information system (GIS) for spatial data analysis; the course provides technical knowledge on the usage of spatial data collection technologies and approach to input the data into the spatial data modeling framework; The course provides hand-on workshop to experiment the data survey and building of digital twin or BIM of a selected study area.

5605403 เมืองอัจฉริยะและการพัฒนาเมือง 3 (3-0-6)

**Smart City and Urban Development**

The course consists of two interacting components including Smart City concept and Urban development approach. The course aims to provide students the grasp of the trend and structure of smart city technology and its applications in different domains e.g., smart mobility, smart energy, smart government, smart education. The course will include Introduction to the concept of smart city from the technology perspectives, strategy and planning approach, business opportunity, to urban policy formation.

5605405 เทคโนโลยีและการประยุกต์การเชื่อมต่อเมืองอัจฉริยะ 3 (3-0-6)

**Technologies and Applications to Connect Smart Cities**

This course addresses the fundamentals of several advanced communications technologies and applications for the current and future smart cities, also known as connected cities or digital cities. This course discusses fundamentals of some of these advanced information and communications technologies (ICT) for the smart cities, which have made these cities connected or digital cities of the present and the future.

5606206 เทคโนโลยี โลกาภิวัตน์ และ การพัฒนาที่ยั่งยืน 3(3-0-6)

**Technology, Globalization and Sustainable Development**

This course delves into sustainability's multifaceted dimensions, highlighting its connections to economic growth, global politics, and environmental factors. Students explore the complex interplay between global economic shifts, employment conditions, and environmental concerns within the context of globalization, technology, and trade. By course end, participants will examine mechanisms to harmonize development, environment, and employment interests.

5606207 ความยั่งยืนในการบริการสาธารณะ 3 (3-0-6)

**Sustainability in Public Service**

This course delves into the intricate world of governance and its multifaceted components, shedding light on aspects like policy formulation, nuanced taxation approaches such as SDG tax and Robot tax, and the pivotal roles and responsibilities inherent within the government sector. Through the curriculum, students will explore sustainable safety nets and broaden their understanding to encompass essential public goods like health, education, and security. Students will have a comprehensive grasp of the foundational elements underpinning governance and public infrastructure.

5606301\* หลักสำคัญสำหรับการพัฒนาที่ยั่งยืนเพื่อการสร้างวันพรุ่งนี้ที่ดีขึ้น 3 (3-0-6)

**Building a Better Tomorrow: The Essentials for Sustainable Development**

This course delves into the foundational theories and practical applications of Sustainable Development, encompassing diverse areas, illustrative case studies, and the evolving trends in sustainable advancement. Through an immersive learning approach, students will explore the multifaceted dimensions of sustainability and its real-world implications. Students will be adept in both the theoretical underpinnings and emerging practices shaping the future of sustainable development.

5606302 การเปลี่ยนผ่านทางเศรษฐกิจสังคมเพื่อความยั่งยืน 3 (3-0-6)

**Socioeconomic Transformation for Sustainability**

This course explores how companies can embrace the opportunities that are arising. Students will learn about the evolution of sustainability within organizations in the areas of integrated reporting, social and environmental impact creation, and responsible investment. Students will become familiar with recent sustainability frameworks, including the SDGs (Sustainable Development Goals) and gain an understanding of how digitization can enable companies to become more successful while contributing to the SDGs.

5606303\* จริยธรรมในการปฏิบัติ: การร่างนโยบายและการปกครองที่ยั่งยืน 3 (3-0-6)

**Ethics in Action: Shaping Sustainable Policy and Governance**

This course provides a comprehensive exploration of both global and national policy frameworks. Students will delve into the nuances of multi-stakeholder engagements and global governance structures. Students will have a thorough understanding of the ethical considerations shaping policy and the profound impacts of these decisions on diverse stakeholders.

5606304\* จุดมุ่งหมายและผลกำไร: กลยุทธ์เชิงธุรกิจเพื่อความยั่งยืน 3 (3-0-6)

**Profit with Purpose: Business Strategies for Sustainability**

This course delves into the realms of Corporate Social Responsibility and Corporate Social Investment, offering insights into the intricate dynamics of Social Enterprises and the Non-Governmental Organizations sector. Through an integrated learning approach, students will explore the strategies, challenges, and impacts associated with these domains. Students will have a holistic understanding of the intersection between corporate initiatives and their broader societal implications.

5606305\* จากการเปลี่ยนแปลงสภาพอากาศสู่แผนการดำเนินการ 3 (3-0-6)

**Climate Change: Climate Change to Action Plans**

This course focuses on Climate Change, covering topics like Greenhouse Gas Inventory, mitigation, and adaptation strategies. It provides a comprehensive understanding of climate-smart approaches and practical applications, preparing students to tackle global climate challenges effectively.

5606306\* การแก้ปัญหาอย่างชาญฉลาดเพื่อโลกที่ยั่งยืน 3 (3-0-6)

**Smart Solutions for Sustainable World**

This course delves into the utilization of technology as a tool to address pressing sustainable challenges in the real world. Through hands-on learning and case studies, students will explore innovative technological solutions tailored for sustainability. Students will be adept at harnessing technology to devise impactful solutions for sustainable development.

5606307\* การวิวัฒนาการพลังงาน: แนวโน้ม ความท้าทาย และขอบข่ายในอนาคต 3 (3-0-6)

**Energy Evolution: Trends, Challenges and Future Horizons**

This course provides an in-depth exploration of energy management, diving into facets such as energy economy, efficiency, and the intricacies of energy modeling. Students will navigate through the complexities of the energy cycle, composition, and the potential of renewable energy sources. Students will be well-versed in both the current landscape and emerging trends shaping the future of energy.

5606308 นวัตกรรมเพื่อเป้าหมายการพัฒนาที่ยั่งยืน 3 (3-0-6)

**Innovation for the Sustainable Development Goals**

This course delves into the United Nations' 17 Sustainable Development Goals (SDGs), emphasizing their interconnectedness and equipping students to address global challenges such as climate change, responsible consumption, gender equality, and pandemics. Through discussions, group work, and guest speakers, students explore specific issues and design innovative solutions using design thinking principles, fostering the skills and knowledge needed to contribute to a sustainable future.

**C) Applied Digital Intelligence**

5607201\* เทคโนโลยีความจริงเสมือนแบบผสมผสาน 3 (3-0-6)

**Mixed Reality (AR/VR/MR)**

This course explores augmented reality, virtual reality, and mixed reality, focusing on human-computer interfaces like MR, VR, AR, and TUI. It covers interface design principles, human factors, and technology perspectives with real-world applications in medicine and entertainment. Students gain hands-on experience in creating interface applications.

5607202\* การวิเคราะห์ข้อมูล 3 (3-0-6)

**Data Analytics**

This course introduces students to the concepts/principles and applications/use cases of Data Analytics, i.e., a suite of tools based on data science and quantitative analysis designed to help businesses and enterprises mine data for information, transform information into insights, and leverage insights for improved decision making.

5607204\* อินเทอร์เน็ตของสรรพสิ่ง, โรบอดิกส์ และระบบอัตโนมัติ 3 (3-0-6)

**Tech Trifecta: IoT, Robots and Automation**

This course introduces students to the elementary knowledge and applications/use cases of IoT, Robotics, and Automation, i.e., in physical form (hardware) and/or digital simulation/demonstration (software) form.

5607207 การออกแบบและพัฒนาเกม 3 (3-0-6)

**Game Design and Development**

This course has goal for increase capability and artificial intelligence skill in Game Design and Development for in charge protocol and reduced inequalities on productions line. Students in this course use ARSA Framework and Photoshop are design and implement tools. Weekly work-in progress (WIP) reinforces learning along the way and a final project collaboration together real Organization with real MOU.

5607208\* การเรียนรู้เครื่องยนต์เชิงลึก  
Machine Learning (Deep Learning) 3 (3-0-6)

This course extends/expands the tools/techniques and frontier developments of Machine Learning, i.e., a variety of computer algorithms based on statistical analysis and pattern recognition which, when fed with empirical data, formulate computational representation of probabilistic distribution, functional relationship, and input/output response of real entities/systems of interest.

5607209\* การเปลี่ยนแปลงของปัญญาประดิษฐ์  
Artificial Intelligence Alchemy 3 (3-0-6)

This course investigates/explores the advanced concepts and policy implications of Artificial Intelligence, i.e., an emerging technological paradigm of digital information processing performed by computational engines capable of mimicking human interactions, processing human-machine dialogues, and generating novel constructs from algorithmically acquired knowledge base.

5607303\* การเพิ่มประสิทธิภาพและจำลอง  
Simulate to Optimise 3 (3-0-6)

This course introduces students to the elementary knowledge and applications/use cases of Algorithms and Simulation, i.e., computational recipes, expressed in the form of language-specific codes (i.e. Python, Wolfram Mathematica, etc.), instructing digital computers to perform ultimately numerical tasks which are guaranteed to converge/terminate in finite steps, producing optimal solutions, quantitative insights and/or generating domain-specific sample sequences useful for the purpose of performing further analyses.

5607304\* รหัสความเป็นอยู่ที่ดีของดิจิทัลปัญญาประดิษฐ์สำหรับสุขภาพ  
The Wellness Code: Digital AI for Health 3 (3-0-6)

This course explores the intersection of health and well-being with Applied Digital Intelligence technologies. Students will discover how technology can address health challenges and promote well-being. By the course's end, learners will understand the relationship between health issues and digital intelligence solutions.

5607305\* ปัญญาดิจิทัลเพื่อเมืองอัจฉริยะและการพัฒนาที่ยั่งยืน  
Sustainable Cities, Digital Intelligence 3 (3-0-6)

This course explores how to address urban and sustainability challenges using Applied Digital Intelligence technologies in the context of Smart Cities and Sustainable Development. Students will gain insight into solving these challenges through digital intelligence solutions.

**5607306\*    การประยุกต์ปัญญาประดิษฐ์และหุ่นยนต์ในภาคเกษตรกรรมและอุตสาหกรรม    3 (3-0-6)**  
**AI and Robotics Application in Agriculture and Industry**

This course introduces students to the foundational principles and the roles technicians play in this domain. The curriculum spans the historical trajectory, current state, and future potential of AI, robots, and automated systems, placing a specific focus on applications within Agriculture and industry sectors. Students will have a clear understanding of the fundamental concepts underpinning automation and robotic systems.

**5607307\*    ประเด็นในงานวิจัยทางศิลปศาสตร์และวิทยาศาสตร์    3 (3-0-9)**  
**Current Issues in Arts and Scientific Research**

This course explores the historical evolution of arts and scientific research, emphasizing their societal impact and ethical considerations. It covers contemporary ethical debates in arts and science, including research misconduct, conflicts of interest, and intellectual property. Students engage in real-world case studies to critically evaluate the ethical implications of science and art on society.

**5607308\*    เว็บแอปพลิเคชันและบล็อกเชน    3 (3-0-6)**  
**Web Application and Blockchain**

This course introduces students to the concepts/principles and tools/techniques of Web Application and Blockchain, i.e. the integrative design, prototyping, and development of software to implement data-secure application on digital platform.

**2.4)    Practice**

**5608101    การศึกษาค้นคว้าอิสระ 1    1 (1-0-2)**  
**Independent Study I**

Students have the opportunity to conduct an independent study with guidance from their faculty advisor which must be approved to make sure it meets academic criteria. The advisor and the student develop a learning plan for the semester and regular meetings take place to discuss the student's project. Students are expected to hand in written work on a regular basis. Students may not repeat the same course number for credit either in the same or in a different semester.

**5608102    การศึกษาค้นคว้าอิสระ 2    2 (1-0-5)**  
**Independent Study II**

Students have the opportunity to conduct an independent study with guidance from their faculty advisor which must be approved to make sure it meets academic criteria. The advisor and the student develop a learning plan for the semester and regular meetings take place to discuss the student's project. Students are expected to hand in written work on a regular basis. Students may not repeat the same course number for credit either in the same or in a different semester.







5608326 การศึกษาดูงานต่างประเทศ 6 3 (3-0-6)  
International Field Study VI

International field trip to study and conduct research related to major area of interest at government, industry, or corporation facilities abroad.

5608331 สัมมนาวัตกรรมการบูรณาการ 1 1 (1-0-2)  
Seminar in Integrated Innovation I

This seminar provides a comprehensive introduction to the future-proofing concepts of international understanding, literacies, and global megatrends. Participants will explore these fundamental topics through engaging discussions, talk or lecture from the experts, and insightful analysis, enabling them to develop a forward-thinking perspective crucial for success in our ever-evolving global landscape.

### 3) Free Elective

Elective Courses can be taken at any international programs across university