Bachelor of Arts and Science in

Artificial Intelligence Innovation (B.A.S. in Aii)

Student Handbook

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WELCOME TO ARTIFICIAL INTELLIGENCE INNOVATION

Are you ready to revolutionize the world through artificial intelligence? Your journey starts NOW at the Artificial Intelligence Innovation (Aii) Program at CMKL University!

This is not just another academic program – it is your launchpad to become a pioneer in the AI revolution that is transforming our economy and society. Here, you will not just study AI – you will harness its power to create real impact while upholding the ethical standards our world depends on.

Forget waiting until graduation to make your mark! At Aii, you will dive straight into action, collaborating with real stakeholders to design cutting-edge solutions for pressing challenges. Our dynamic environment puts you at the center of innovation, guided by our exceptional faculty and mentors who bring diverse expertise from across the AI and industrial landscape.

As part of Thailand's premier AI ecosystem, you'll have unprecedented access to the AI Engineering Institute – a powerful national collaboration that opens doors to world-class research facilities, cutting-edge technologies, and mentorship from the brightest minds in the field across the country.

This handbook contains all the details about this transformative journey. Questions? We are here for you! Now, get ready to create AI innovations that will shape our future!

The AI revolution is waiting for YOUR vision. Let's make history together!

Akkarit Sangpetch,

Aii Program Director,

CMKL University

1. PROGRAM OVERVIEW

The **Artificial Intelligence Innovation (Aii)** program at CMKL University is designed to shape the next generation of designers, entrepreneurs, and tech-driven problem solvers who are ready to lead in a world shaped by digital disruption.

Our mission is to develop well-rounded talent with the technical expertise, system-level thinking, and entrepreneurial mindset needed to drive innovation across industries. Students in the Aii program explore how to apply AI and information systems to tackle real-world challenges – ranging from user-centric design and data visualization, to scalable computing, cybersecurity, and ethical system development.

Learning goes beyond the classroom. Students gain hands-on experience through project-based learning, working directly with engineers, designers, and industrial partners on impactful problems. From prototyping new applications to building intelligent systems, our students learn by doing – while building a strong portfolio and real-world insight.

Technical depth is ensured through mentorship from our international faculty and researchers, who bring expertise from leading global institutions. This global-local collaboration equips students with both a global perspective and local relevance, preparing them to innovate, lead, and make a difference in the evolving digital economy.

1.1. Vision

To redefine technology education by cultivating entrepreneurial, AI-driven professionals and empowering collaborative innovation at the intersection of artificial intelligence, information systems, and business.

1.2. Mission

To develop future-ready talent and transform industries by integrating deep technical expertise, systems thinking, and real-world application – driven by a unique blend of knowledge, research, innovation, and impact-focused collaboration.

1.3. Value

Innovate Boldly – Challenge conventions and explore the frontiers of AI and information systems.

Build with Purpose – Turn ideas into solutions that create lasting value.

Impact Society – Use technology to drive meaningful change in business, communities, and the world.

1.4. Program Educational Objectives

1.4.1. The TIP Mindset: Graduate Attributes That Define Us

At the heart of the Artificial Intelligence Innovation (Aii) program is the **TIP Mindset** – a set of core attributes we cultivate in every student. These traits prepare our graduates not just to succeed, but to lead, innovate, and make a lasting impact in the rapidly evolving AI landscape.

T – Team Work

We believe that the future of innovation is collaborative. Aii students learn to lead and contribute within high-performing, multidisciplinary teams – whether working with researchers, engineers, designers, or entrepreneurs. Our graduates are equipped to:

- Collaborate effectively across cultures and domains
- Communicate ideas with clarity and impact
- Take initiative while embracing diverse perspectives
- Build platforms and systems with others – from improving public services to enhancing business products

In today's interconnected world, meaningful progress requires collective intelligence – and our graduates know how to harness it.

I – Innovation

Innovation goes beyond new ideas – it comes from bold thinking, problem-solving, and creating value where it matters most. Aii students are trained to think like technologists and act like entrepreneurs. They tackle real-world challenges head-on and push the boundaries of what AI can do. Whether it is:

- Developing smarter fraud detection systems for financial institutions
- Designing user experiences that redefine how people interact with technology
- Creating applications that change how entire industries operate
- Helping governments become more efficient and transparent
- Improving autonomous vehicle performance with data and AI

Our graduates learn how to identify opportunities, experiment responsibly, and build transformative solutions.

P – Passion and Inspiration

We foster a mindset of purpose, resilience, and impact. Passion fuels learning, and inspiration drives change. Aii students are encouraged to explore the intersections of AI and society – bringing energy and empathy to everything they do. With this mindset, our graduates:

- Inspire others with a vision for a better, tech-enabled future
- Stay adaptable and resilient in the face of uncertainty
- Use AI to make a difference in healthcare, education, art, and civic engagement
- Support non-profits and cultural institutions through technological innovation
- Power the future of smart cities and connected communities

They leave CMKL not only with technical expertise, but with the confidence and clarity to lead innovation wherever their careers take them.

2. INTRODUCTION

2.1. Degrees Offered

Undergraduates of the B.A.S. in Aii program will earn a degree from CMKL University. Students will be supervised by faculty advisors from CMKL University and industry advisors from industries who will help them to create and define business development projects to complete in pursuit of their degree. The advisors will also assist with selection of learning activities and other elements of the B.A.S. in Aii program based on the student's background and academic goals.

2.2. Undergraduate Student Handbook

This handbook is intended to set guidelines and expectations for new and current undergraduate students in the Aii program at CMKL University. This handbook is not exhaustive and will be subject to revision from time to time.

It is the responsibility of each student to read and understand the contents of this handbook. This handbook, along with any revisions, will be posted and announced annually on the university website.

3. CMKL UNIVERSITY STATEMENT OF EQUAL ACCESS

CMKL University adheres to non-discrimination policies set forth in Thai national laws and executive orders. The University does not discriminate against a person on the basis of race, color, religion, national origin, gender, sexual orientation, religion, ancestry and belief in admission, employment, or administration of its programs or activities.

Inquiries concerning the application of and compliance with this statement should be directed to the Dean of Student Affairs, CMKL University, 1 Soi Chalongkrung 1, Ladkrabang, Bangkok 10520, Thailand. Obtain general information about CMKL University by calling +66 65 878 5000.

4. CMKL FACULTY

Throughout their time in the Aii program, students will encounter a variety of faculty and staff members who will help them on their way to completing their degree. For more details about faculty backgrounds and specialties, please visit the university website: https://www.cmkl.ac.th/faculty-directory

4.1. Aii Program Committee

Akkarit Sangpetch
Program Director, CMKL University
Director, AI Engineering Institute

Pisut Wisessing
Assistant Professor, CMKL University

Yiqing Ding
Adjunct Faculty, CMKL University

Tianwei Jing
Instructor, CMKL University

Piyamin Trithipcharoenchai
Adjunct Faculty, CMKL University

4.2. Instructors

Supan Tungjitkusolmun
Associate Professor, CMKL University
B.S., Electrical and Electronics Engineering, University of Pennsylvania, USA
M.S., Electrical Engineering, University of Wisconsin, USA
Ph.D., Electrical Engineering, University of Wisconsin, USA

Orathai Sangpetch
Assistant Professor, CMKL University
B.S., Electrical and Computer Engineering, Carnegie Mellon University, USA
M.S., Electrical and Computer Engineering, Carnegie Mellon University, USA
Ph.D., Electrical and Computer Engineering, Carnegie Mellon University, USA

Akkarit Sangpetch*
Program Director, CMKL University
Director, AI Engineering Institute
B.S., Computer Science, Carnegie Mellon University, USA
B.S., Electrical and Computer Engineering, Carnegie Mellon University, USA
M.S., Electrical and Computer Engineering, Carnegie Mellon University, USA
Ph.D., Electrical and Computer Engineering, Carnegie Mellon University, USA

Sally Goldin
Assistant Professor, CMKL University
Associate Director of Learning Innovation, CMKL University
B.A., Cognitive Psychology, Brown University, USA
M.A., Cognitive Psychology, Brown University, USA
M.S., Cognitive Psychology, Carnegie Mellon University, USA
Ph.D., Cognitive Psychology, Carnegie Mellon University, USA

Irving Gómez Méndez
Assistant Professor, CMKL University
B.Sc., Mathematical Engineering, Instituto Politécnico Nacional, Mexico
M.Sc., Probability and Statistics, Centro de Investigacion en Matemáticas, Mexico
Ph.D., Probability and Statistics, Centro de Investigacion en Matemáticas, Mexico

Charnon Pattiyanon
Assistant Director of IT and Instructor, CMKL University
B.S., Computer Engineering (International Program), King Mongkut's University of Technology Thonburi, Thailand
M.S., Software Engineering, Chulalongkorn University, Thailand
Ph.D., Information Science, Japan Advanced Institute of Science and Technology, Japan

Pisut Wisessing*
Assistant Professor, CMKL University
B.A., Physics and Mathematics, Cornell University, USA
M.F.A., Digital Production Arts, Clemson University, USA
Ph.D., Computer Science, Trinity College Dublin, Ireland

Antoine Merlet
Assistant Professor, CMKL University
M.A., Medical Imaging, University of Burgundy, Dijon, France
Ph.D., Computer Engineering, Automation and Signal Processing, University of Burgundy, Dijon, France

Sarun Gulyanon
Assistant Professor, CMKL University
B.Sc., Computer Science, The University of Edinburgh, UK
M.Sc., Computer and Information Science, Purdue University, USA
Ph.D., Computer Science, Purdue University, USA

Natnatee Dokmai
Assistant Professor, CMKL University
B.A., Computer Science and Mathematics, University of Virginia, USA
Ph.D., Computer Science, Indiana University, Bloomington, USA

Raveekiat Singhaphandu
Assistant Professor, CMKL University
B.S., Computer Science, Sirindhorn International Institute of Technology, Thammasat University
M.S., Informatics, Technical University of Munich, Germany
Ph.D., Engineering and Technology, Sirindhorn International Institute of Technology, Thammasat University

Etienne Mueller
Assistant Professor, CMKL University
B.Sc., Mechanical Engineering, Technical University of Hamburg (TUHH), Germany
M.Sc., Product Development, Materials and Production, Technical University of Hamburg (TUHH), Germany
Ph.D., Computer Science, Technical University of Munich (TUM), Germany

Tianwei Jing*
Instructor, CMKL University
B.A., Mathematics and Economics, University of Virginia, Charlottesville, VA, USA
M.Ent., Ross School of Business and College of Engineering, University of Michigan - Ann Arbor, USA

Justin Paulsen
Assistant Professor, CMKL University
B.S., Marketing, Marist College, USA
B.S., Finance, Marist College, USA
M.B.A., International Business, Bryant University, USA

Lorenzo Avi
Assistant Professor, CMKL University
Typography and Graphic Design, E´cole nationale sup´erieure des arts visuels de La Cambre, Belgium
M.A., in Interior Architecture, Acad´emie Royale des Beaux-Arts de Bruxelles, Belgium

Fawad Asadi
Instructor, CMKL University
B.Sc., Electrical Engineering, Taibah University, Saudi Arabia
Ph.D., Biomedical Engineering, Rangsit University, Thailand

Dylan Powell
Instructor, CMKL University
B.A. (Hons)., Product Design, De Montfort University, Leicester. UK
M.Sc., Managing Innovation in Creative Organisations, Loughborough University, UK

Akadej Udomchaiporn
Adjunct Faculty, CMKL University
B.Sc., Computer Science, King Mongkut's Institute of Technology, Ladkrabang, Thailand
M.Sc., Software Engineering, Chulalongkorn University, Thailand
M.Sc., Advanced Computer Science, University of Liverpool, UK
Ph.D., Computer Science, University of Liverpool, UK

Boonyarit Changaival
Adjunct Faculty, CMKL University
B.Eng., Computer Engineering, King Mongkut's University of Technology Thonburi, Thailand
M.Eng., Computer Engineering, King Mongkut's University of Technology Thonburi, Thailand
Ph.D., Computer Science, University of Luxembourg, Luxembourg

Buraskorn Torut
Adjunct Faculty, CMKL University
B.Sc., Economics, Carnegie Mellon University, USA
M.P.A., Development Economics and International Development, Cornell University, USA
Ph.D., Regional Rural Development Planning, Asian Institute of Technology, Thailand

Ekapol Chuangsuwanich
Adjunct Faculty, CMKL University
B.Sc., Electrical and Computer Engineering, Carnegie Mellon University, USA
M.Sc., Electrical and Computer Engineering, Carnegie Mellon University, USA
Ph.D., Electrical Engineering and Computer Science, Massachusetts Institute of Technology, USA

Isara Anantavrasilp
Adjunct Faculty, CMKL University
B.Sc., Information Technology, Sirindhorn International Institute of Technology, Thailand
M.Sc., Computer Science, Dresden University of Technology, Germany
Ph.D., Computer Science, Technical University of Munich, Germany

Jetjaroen Klangwang
Adjunct Faculty, CMKL University
B.Sc., Mathematics, Prince of Songkla University, Thailand
M.Sc., Mathematics, University of Utah, USA
Ph.D., Mathematics, Oregon State University, USA

Jidapa Thadajarassiri
Adjunct Faculty, CMKL University
B.Sc., Mathematics, Chulalongkorn University, Thailand
M.A., International Finance, Chulalongkorn University, Thailand
M.B.A., Finance, Ramkamhaeng University, Thailand
M.Sc., Statistics, San Diego State University, USA
Ph.D., Data Science, Worcester Polytechnic Institute, USA

Lapas Pradittasnee
Adjunct Faculty, CMKL University
B.Eng., Electrical Engineering, Thammasat University, Thailand
M.Eng., Telecommunication Engineering, University of Wollongong, Australia
Ph.D., Information Technology, Queensland University of Technology, Australia

Lunchakorn Tannukij
Adjunct Faculty, CMKL University
B.Sc., Physics, Mahidol University, Thailand
Ph.D., Physics, Mahidol University, Thailand

Panaek Warawit
Adjunct Faculty, CMKL University
B.Eng., Electronics Engineering, King Mongkut Institute of Technology, Ladkrabang, Thailand
M.Sc., Management Information Systems, Chulalongkorn University, Thailand

Paisarn Sonthikorn
Adjunct Faculty, CMKL University
B.Sc., Electrical Engineering and Computer Science, Massachusetts Institute of Technology, USA
M.Eng., Electrical Engineering and Computer Science, Massachusetts Institute of Technology, USA
Ph.D., Electrical and Computer Engineering, Carnegie Mellon University, USA

Pakpoom Buabthong
Adjunct Faculty, CMKL University
B.Sc., Physics, University of Illinois Urbana-Champaign, USA
Ph.D., Materials Sciences, California Institute of Technology, USA

Panarat Cherntanomwong
Adjunct Faculty, CMKL University
B.Eng., Telecommunication Engineering, King Mongkut's Institute of Technology, Ladkrabang, Thailand
M.Eng., Electrical Engineering, King Mongkut's Institute of Technology, Ladkrabang, Thailand
D.Eng. in International Development Engineering, Tokyo Institute of Technology, Japan

Pasin Manurangsi
Adjunct Faculty, CMKL University
B.Sc., Theoretical Mathematics, Massachusetts Institute of Technology, USA
Ph.D., Theoretical Computer Science, University of California, Berkeley, USA

Peevara Kitchumnongpan
Adjunct Faculty, CMKL University
B.A., Acting, Birmingham School of Acting, UK
M.A., Creative Producing, Mountview Academy of Theatre Arts, UK

Phanuphong Songkhong
Adjunct Faculty, CMKL University
B.F.A., Communication Design, King Mongkut's University of Technology Thonburi, Thailand

Pitikhate Sooraksa
Adjunct Faculty, CMKL University
B.Sc., Physics, Srinakharinwirot University, Thailand
M.Eng., Electrical Engineering, George Washington University, USA
Ph.D., Electrical Engineering, University of Houston, USA

Piyamin Trithipcharoenchai*
Adjunct Faculty, CMKL University
B.A., English Language and Literature, Thammasat University, Thailand
M.Sc., Technology and Creative Innovation, CMKL University, Thailand

Sanphat Wang
Adjunct Faculty, CMKL University
B.Eng., Automotive Design and Manufacturing, Chulalongkorn University, Thailand
M.B.A. (STEM Certified), Business Administration, Management and Operations, UNC Kenan-Flagler Business School, USA

Sampan Nettayanun
Adjunct Faculty, CMKL University
B.S., Mathematics, Statistics, and Economics, Carnegie Mellon University, USA
M.Eng., Operations Research and industrial Engineering, Cornell University, USA
M.S., Industrial Engineering and Management Sciences, Northwestern University, USA
Ph.D., Risk Management and Insurance, Georgia State University, USA

Sorakrit Phruthanontachai
Adjunct Faculty, CMKL University
B.Eng., Computer Engineering, Chulalongkorn University, Thailand
M.S., E-Commerce Technology, University of Sussex, UK
M.S., Information Technology in E-Business Technology, School of Computer Science, Carnegie Mellon University, USA
M.B.A., Sloan Fellows, MIT Sloan School of Management, Massachusetts Institute of Technology, USA

Sovaritthon Chansaengsee
Adjunct Faculty, CMKL University
B.A., History, Silpakorn University, Thailand
M.Ed., Teaching English as a Second or Other Language, Avondale College, Australia
Ph.D., Applied Behavioral Science Research, Srinakharinwirot University, Thailand

Suwun Suwunnarat
Adjunct Faculty, CMKL University
B.A., Physics, Astronomy, Mathematics, Wesleyan University, USA
Ph.D., Physics, Wesleyan University, USA

Taweesup Apiwattanapong
Adjunct Faculty, CMKL University
B.Eng., Computer Engineering, King Mongkut's Institute of Technology, Latkrabang, Thailand
Ph.D., Computer Science, Georgia Institute of Technology, USA

Thanut Panichyotai
Adjunct Faculty, CMKL University
B.Sc., Agronomy and Industry, Kasetsart University, Thailand

Theerawat Klangjareonchai
Adjunct Faculty, CMKL University
B.F.A., Communication Design, King Mongkut's University of Technology Thonburi, Thailand
M.A., Media Space, Berliner Technische Kunst Hochschule, Berlin, Germany

Thiparat Chotibut
Adjunct Faculty, CMKL University
B.Sc., Physics and Mathematics, University of Virginia, USA
M.A., Mathematics, University of Virginia, USA
M.A., Physics, Harvard University, USA
Ph.D., Theoretical Physics, Harvard University, USA

Thiprampai Thamamongood
Adjunct Faculty, CMKL University
B.Eng., Biosciences and Biotechnology, Tokyo Institute of Technology, Japan
M.Eng., Biological Information, Tokyo Institute of Technology, Japan
Ph.D., Biology, Spemann Graduate School of Biology and Medicine, University of Freiburg, Germany

Wannarat Suntiamorntut
Adjunct Faculty, CMKL University
Ph.D., Computer Science, University of Manchester, UK

Yiqing Ding*
Adjunct Faculty, CMKL University
B.S., Aeronautical and Astronautical Engineering, Purdue University, West Lafayette, IN, USA
M.S., Aeronautics and Astronautics, Stanford University, Stanford, CA, USA
Ph.D., Mechanical Engineering, Stanford University, Stanford, CA, USA

** Aii Program Committee Member*

5. PRE-MATRICULATION

5.1. Admission Policies

Admission to the B.A.S. in AI Innovation program at CMKL University is based on a holistic review of both academic and personal achievements. We value students with strong high school performance, initiative, and engagement beyond the classroom – whether through extracurriculars, part-time work, personal projects, or community involvement. Applicants may apply through one of two tracks: the **Team Builder Track**, where up to five members submit a team pitch defining roles (e.g., CEO, Tech, Finance, Marketing) and presenting a problem-solution proposal; or the **Solopreneur Track**, where individuals submit a portfolio, resume, or project repository showcasing their initiative. Solo applicants may be matched with a team or form one after admission. We seek passionate, self-directed learners who are eager to collaborate, lead, and contribute meaningfully to the university and beyond.

For information about Aii's admission policies, including application requirements, application deadlines, and links to the application forms, please visit the university website: https://admission.cmkl.ac.th

5.2. English Language Proficiency Test

All learning activities in the Aii program are conducted in English. Therefore, all prospective students must demonstrate English proficiency. Specifically, all applicants whose native language is not English must take an English language proficiency test. Native language is defined as the first language, or the language spoken from birth. The test scores must be submitted by the application deadline for the semester in which students are applying.

CMKL accepts TOEFL, IELTS, or Duolingo English Test as evidence of English language proficiency. Please refer to the admissions website for the minimum requirements for each test.

5.3. Final Transcript

As a condition of enrollment at CMKL University, applicants admitted to the Aii program must submit final official transcripts, properly sealed or digitally certified, upon completion of their graduation requirements conferring their high school diploma or equivalent. Certificates of graduation and/or high school diploma or equivalent should also be submitted if provided by the schools. Failure to provide such documents that confirm the completion of graduation requirements by the end of the first semester of study at CMKL University may prevent the B.A.S. in Aii degree from being certified.

6. AII ACADEMIC PROGRAM

6.1. Overview

The B.A.S. in Aii program uses an innovative, flexible, self-paced curriculum based on competencies rather than courses. A competency is defined as a set of specific knowledge topics and skills that students must master in order to proceed toward their degree. Competency is an active learning concept; for most competencies, mastery will be assessed not by traditional examinations but by the completion of tasks or projects.

The amount of work required to master a competency will depend on both the specific competency and the student's pre-existing capabilities. Students can choose to proceed directly to the assessment process if they believe they already have the skills encompassed by the competency. On the other hand, students with no prior background in the areas covered by the competency can study the concepts and complete practice exercises to develop their skills before assessing their level of mastery.

Each competency provides a specified number of credit units, based on the faculty's estimate of the average amount of work required for mastery. Typically, the successful mastery of a competency will earn a student 3 or 4 credit units, though some competencies may have a smaller or larger scope. Since traditional courses at CMU typically carry either 9 or 12 units, completing three or four competencies will be roughly equivalent to one traditional course.

To graduate, students must complete **AI Innovation credits**, structured across four major milestones that reflect the typical innovation lifecycle. In the first year, students focus on *Empathize & Define*, identifying users and their needs, determining a real-world problem, and analyzing the requirements. The second year centers on *Ideate*, where students develop a Minimum Viable Product (MVP) idea by exploring the problem space, brainstorming potential solutions, and

analyzing constraints. In the third year, the focus shifts to *Build*, developing the product, and iteratively testing and improving it based on stakeholder feedback. Finally, the fourth year is dedicated to *Growth & Scale*, where students pitch the solution to real-world customers and refine their solutions for long-term sustainability and broader impact. Project progress will be evaluated by the committee at the end of each semester. Note that these major milestones are subject to change throughout the project's progress.

At the end of any semester, a student can request an academic transcript, which will include grades that indicate the student's mastery level for each completed competency. Note also that the Aii curriculum provides mechanisms for students to redo a competency if they are not satisfied with their level of mastery.

The current set of defined competencies in the Aii curriculum is presented in Section 9 below.

6.2. Degree Progress and Planning

6.2.1. Student Responsibility

The Aii program requires students to take responsibility for their own learning. This includes defining a learning roadmap for each semester, which specifies a set of competency milestones, target dates for achieving them, as well as the target deliverables of their business development projects. The program will offer some predefined roadmaps, but the student will normally adapt these milestones based on their background, interests, and self-evaluation of learning styles. The Aii program's goal is to permit self-paced learning, avoiding the problem in traditional courses where material is presented too quickly for some students and too slowly for others.

Because each student will potentially be involved in different, individual learning activities, instructors will not be monitoring the students' daily schedules. For instance, even for required competencies, a student will not necessarily have to attend lectures if he or she feels this is not useful.

This means that students need to be proactive and responsible in selecting learning activities, doing reading, research, and practice tasks, and deciding when they are ready to attempt formal assessment activities.

In short, students who are passive learners and who expect to be given detailed directions for every step in their degree process will not be successful in Aii.

At the same time, every student will have an assigned academic advisor who will serve as a mentor and guide. Advisors can help students plan their learning paths as well as suggest best practices for effective studying and time management.

Ultimately, it is the sole responsibility of the student to manage the academic progression of their program. If a student is not progressing as expected or is concerned about completing degree requirements, he or she is expected to seek advice and counsel from the academic advisor.

6.2.2. Registering Competencies

Students enrolled in the B.A.S. in Aii use a custom-developed, competency-based software platform called **A1CE** to plan their learning paths for each semester. Adding a competency milestone to the semester road-map is similar to registering for a course in a more traditional program. The main differences are that the activities associated with a competency will usually have a duration shorter than the full semester, and that the students have control of when they will assess their mastery. The midterm and final examination schedule published in the CMKL University calendar is not relevant to the Aii program.

Although the Aii competency-oriented curriculum is flexible and self-paced, adding a competency to the road map should be viewed as a commitment to mastering that competency within the semester. Students have the option of adding competencies/milestones to their roadmap up until the add/drop deadline in the university calendar. If a student wishes to add a competency after the add/drop deadline, he or she must obtain the formal approval of both the instructor responsible for the competency and their academic advisor.

Students have the option of removing competencies from their road map during the semester. When a competency is dropped, it will not appear in the student's transcript. However, the A1CE platform will retain information about any skills within the competency for which the student has already demonstrated mastery, so the student will not need to repeat any work if the competency is added in a later semester.

6.2.3. Degree Requirements Timeframe

B.A.S. in Aii program adheres to the official CMKL University Calendar, which can be found at https://www.cmkl.ac.th/cube/student-experience/academic-calendar.

B.A.S. in Aii is a four-year program. A three-year accelerated study plan is also available to allow highly motivated students to earn a B.A.S. in Aii in three years. The three-year option is particularly appropriate for those who enter CMKL with pre-matriculant credits such as Advanced Placement, International Baccalaureate, or college credits earned during high school.

The Aii undergraduate curriculum requires the completion of **at least 360 credit units**. This includes core program requirements and electives, math and science competencies, social science, and other non-technical competencies, and at least six semesters of undergraduate research and development. For details, consult Section 9 below.

Credit units are related to expected work hours for a competency. However, given the self-paced nature of the Aii program, the required working time is just an estimate.

Furthermore, the official definition of a credit unit is based on a full semester. Each credit is intended to represent one hour of work per week during the roughly fifteen weeks of a full semester. In contrast, most competencies have a smaller scope than a full course and are expected to be completed in a shorter time. In addition, some students may have prior experience or knowledge, which will allow them to spend less time than implied by the credit unit allocation to master a particular competency.

For example, assume that a competency is associated with 4 credits. If the student sets a goal for completing the competency in five weeks, this implies a workload of (4 * 15) / 5 or 12 hours of work per week.

Students are encouraged to be physically present at the start of the semester, so they can engage in learning activities and meet their peers and their advisor. If extenuating circumstances exist that prevent a student from attending learning activities or meeting with the advisor, the student should notify the academic advisor and instructors immediately.

International students will need a Non-immigrant (ED) ("educational") visa during the academic year, which can be extended. International students also need a valid re-entry permit if they wish to leave Thailand temporarily and then return. Leaving the country without a re-entry permit will result in the cancellation of their educational visa. CMKL staff will assist international students in dealing with the Thai immigration department.

6.2.4. Full-Time Requirements

Undergraduates who are registered as full-time students at the end of the second week of any semester are expected to remain full-time for the duration of the semester. Full-time is defined by the total number of credits for the competencies to which a student has committed in that semester.

Full-time students must commit to a minimum of 36 credit units for each semester. If their total committed competencies for a semester fall below 36 units, the student must obtain permission from the program director to remain in the program.

CMKL University recommends that students take no more than 60 credit units in any one semester while pursuing a degree. However, a higher credit load may be undertaken if the student has demonstrated significant capability or need. Individuals who exceed the recommended limit but who fail to satisfactorily complete their registered competencies will not be allowed to take more than 60 credits in any subsequent semester.

6.2.5. Repeating Competencies

At the end of each semester, students are required to review their progress in completing their selected competencies, including the mastery level they have achieved. If a student does not achieve satisfactory mastery of a competency, they have the option of redoing some or all of the work and the assessments. This is further discussed in Section 8 below. If the student chooses to finalize the grade, that grade will be recorded on the transcript and factored into the cumulative Quality Point Average (QPA).

It is worth noting that the above guidelines only apply to competencies outside of the Aii pillar, while the rules for repeating Aii competencies differ due to their project-based nature (See Section 9.2 below for more details).

6.2.6. Transferring Credits from Another University

External applicants from other universities who are applying for transfer to Aii must arrange for the submission of:

- Official interim or final transcripts to the Office of Undergraduate Admission as part of the admission process.
- Official, final transcripts to the Office of Undergraduate Admission once they are admitted and prior to their beginning coursework at CMKL.

If the transfer student is accepted into the program, the academic faculty will review the official transcripts and decide what competencies should be credited for each individual transfer student.

6.2.7. Transferring Credits from High School Courses

CMKL University may award transfer credits for some courses taken in high school. This will avoid the need for students to repeat unnecessary learning activities or assessments, as well as potentially shorten the time required to earn a bachelor's degree. This policy is in addition to the specification below regarding formal Advanced Placement courses.

For incoming students to receive credit for courses completed in high school, the student's school must be registered with CMKL University and must have submitted the course syllabi and instructor information for any courses to be considered for transfer credit. CMKL University faculty will review the course material and decide which, if any, competencies can be aligned with the course material, and then notify the school of their decision.

Registered schools must submit syllabi for the relevant courses every two years, or if the course has undergone significant changes in content.

If an entering student wants to be considered for credit, but his or her school has not previously registered with CMKL University, the student should discuss this with the advisor. One way for students to receive credit is for them to immediately undertake the assessment activities for relevant competencies upon entry to the Aii program.

6.2.8. Standard Course Equivalents for Advanced Placement Units Policy

The university has standard units assigned to Advanced Placement (AP), International Baccalaureate (IB) credits, and A-Level for the Aii program. Standard course equivalencies for each exam will be determined by the committee in the Aii program for each acceptable AP/IB/A-Level score. Under this procedure, students' AP/IB/A-Level credit for a particular course will only go toward Aii degree requirements, which are allowed by program policies. This policy assumes no significant exam changes. In the event of significant exam changes, students will be notified of any resulting policy changes no later than July 30 prior to their enrollment to take effect in the fall of that year. For details, see Appendix A.

Advanced Placement Courses

CMKL University recognizes the Advanced Placement (AP) program and may grant advanced placement and credit for test scores of 4 or 5. When they take the tests, prospective students should request that the results be sent to CMKL University. For details, see Appendix A.

International Baccalaureate Program

CMKL University also recognizes the International Baccalaureate Examination and may grant advanced standing and/or credit in various fields if scores on the higher level examination range from 6 to 7. Students should include these examination results in their applications to CMKL University. For details about currently recognized courses, see Appendix A

Cambridge General Certificate of Education

CMKL University recognizes the Cambridge GCE A-Level (advanced level) examinations in various higher-level subjects and may grant advanced placement and/or credit for exemplary grades. For details about currently recognized courses, see Appendix A. Please note that we do not accept GCE "O" level examinations for placement.

TR Grade Replacement

Students have the option to actively study ("master") competencies for which they have received transfer credits prior to their entry. To be assigned a mastery level for a transferred competency, students must first obtain formal approval from the instructor responsible for that competency. The instructor must agree to the proposed plan for grade replacement. Once approved, students can add a competency milestone to their semester roadmap and complete the formal assessment activities to earn a mastery level for that competency. The student may elect to take the competency as a regular class or perform assessment-only activities for the competency. If a student chooses to actively take a transferred competency, the original transfer credit is forfeited and cannot be reinstated, meaning the student must receive a grade or forgo the credit entirely. If a student chooses to finalize the grade, it will be recorded on the transcript and factored into the cumulative QPA, total credits, and academic standing.

7. ENROLLMENT AND DEGREE CERTIFICATION

7.1. Enrollment Verifications

The Cube (https://www.cmkl.ac.th/cube/overview) is the primary contact for students or alumni who would like to request a transcript, enrollment verification, or other information related to their time in the Aii program.

The Aii program may provide a letter to verify some limited information, which may be suitable for some purposes, such as the verification of skills students acquired through the Aii program. Please contact your academic advisor for more information.

7.2. Leave of Absence

Students may request a temporary leave of absence for personal reasons. Students who need to take a leave of absence should discuss their plans with their academic advisors. They must also submit the appropriate signed form to the Cube.

A student on leave for two semesters or less may return to the Aii program without reapplying to the program. If the returning student is on academic probation, a new interview will be required before they will be allowed to resume their studies. Students who take a leave of absence for more than two semesters will be required to reapply to the program.

International students should consult the Cube regarding the implications of a leave of absence on their student visa status.

7.3. Returning from a Leave of Absence

Students wishing to return to CMKL University after a leave of absence must submit an "Application for Return" form **at least one month** before the start of the semester in which they want to resume their studies. The decision about whether a student will be accepted back into the program will depend on how long they have been on leave and their academic status. Space restrictions may exclude students who wish to return after two years or more of absence.

Students on leave are not permitted to attend classes or continue to work as students at CMKL University while their leave is in effect, according to the university regulation on student leaves.

7.4. Degree Certification Process and Commencement

The B.A.S. in Aii degree will be certified after students successfully complete all competency and credit requirements with a cumulative Quality Point Average (QPA) of at least 2.0. For undergraduate students who enrolled at CMKL as freshmen and whose freshman grades cause the cumulative QPA to fall below 2.0, this requirement is modified to be a cumulative QPA of at least 2.0 for all competencies taken after the freshman year. Note, however, the cumulative QPA that appears on the student's final transcript will be calculated based on all grades, including freshman year. Students are encouraged to confirm all graduation requirements with their academic advisor.

In addition, students must have provided a final copy of their high school transcript(s) and must not have any outstanding tuition balance to receive a diploma. Students will be notified of their degree certification via email once the certification has been completed.

Before graduation, students should update their contact information, such as mailing address and email address, within the Cube Omega system. Also, students should review a copy of their diploma in the Cube Omega system to verify the information displayed there, such as the spelling of their name.

A CMKL diploma is a student's certificate of accomplishment. The diploma is printed with the name the student approved within the CMKL Cube Omega system, along with the student's primary degree.

Diplomas are distributed to graduates during or immediately following the Commencement Ceremony, normally held in May or June. Certain circumstances will result in students receiving their diplomas at a later date, and such students will be informed of this well before the ceremony. If a student is unable to attend the ceremony, diplomas will be available for pick-up or mail-out in the weeks following commencement. Diplomas are not available prior to the stated date of graduation. August and December graduates will receive their diplomas via the mail.

The title of the degree students receive is:

BACHELOR OF ARTS AND SCIENCE IN ARTIFICIAL INTELLIGENCE INNOVATION.

8. ACADEMIC STANDARDS

8.1. Grades

Below are the policies surrounding grades for students in the Aii program.

8.1.1. Competency Grading Policy

The Aii curriculum is competency-based. This means that the fundamental unit of student work is a ***competency***: a group of related skills, usually linked to subject-matter topics, that a student is expected to acquire and demonstrate. To demonstrate their acquired skills, students must complete ***assessment activities,*** which are then graded by the instructor. Typically, there is one assessment activity per skill, but it is also possible for an instructor to combine multiple skills into a single activity.

Each competency in the curriculum has an associated number of credits. To earn these credits, a student must complete and submit assessment activity outputs for *all the required skills* in a competency, and the instructor must provide grades for all of them. At this point, the competency has the status *Completed* and is assigned a mastery level, as described in Section 8.1.2.

One advantage of the competency-based curriculum is that students can redo individual assessments or an entire competency if they are not satisfied with their performance. The rules for this are explained below in the section entitled **Re-doing Assessments and Competencies.**

8.1.2. Assigning a Mastery Level for a Competency

CMKL requires instructors to grade every assessment/skill on a consistent scale from 0 to 100. If an assessment activity addresses multiple skills, the instructor provides a 0-100 score for each skill. These might not be the same for each skill, depending on the student's capabilities with regard to each skill as demonstrated in the assessment activity.

When all the required skills for a competency have been assessed, the system computes and stores a *mastery level*. Mastery levels are defined as follows:

Table 1 CMKL Competency Grading and A1CE Mastery Level

Letter Grade and Numeric Equivalent	Mastery Level	Score	A1CE Level	Interpretation
A – 4.0	Expert	90 – 100	**Legend**	The learner has demonstrated a high level of conceptual and procedural understanding of the specific knowledge and skills.
B – 3.0	Mastery	75 – 89	**Master**	The learner has demonstrated understanding of specific knowledge and skills.
C – 2.0	Partial Mastery	60 – 74	**Apprentice**	The learner is emerging but does not yet demonstrate understanding of specific knowledge and skills.
D – 1.0	Insufficient Evidence	50 – 59	**Novice**	The learner has not provided enough evidence to assess proficiency.
0	0	Below 50	**No Level Assigned**	Students get no credit for this competency

The overall competency score is simply the average (arithmetic mean) of the individual assessment scores, rounded to the closest integer. Note that a zero score for an assessment is interpreted as if the student had not done the assessment activity at all. Thus, if a student receives zero for any assessments, they need to redo them in order to complete the competency.

The mean score is converted to a mastery level according to the table above.

Once all the skills in the competency have been completed and a mastery level has been assigned, the student can earn the credits associated with the competency. These credits count toward the total earned during the semester.

At the end of each semester, each student must review all completed competencies and decide whether to record those competencies in the registration system. Once the competency has been recorded, it is not possible to redo assessments for that competency. If the student is not satisfied with his or her grade for the competency, he or she can defer the recording process.

A few competencies may be offered on a Satisfactory/No Credit basis. For these competencies, a minimum level of participation is sufficient to receive credit. Student performance is not associated with a specific mastery level. A satisfactory grade means the credit units associated with the competency will contribute to the total required for graduation, but the competency will not be considered in the calculation of GPA.

8.1.3. Re-doing Assessments and Competencies

If a student is not satisfied with his or her performance on some assessment, it is possible to redo that assessment. The rules for this are as follows:

1. The competency associated with the assessment *must not have been recorded* in the registration system.
2. The student must inform the instructor that he or she would like to redo the assessment.
3. The instructor must agree with the plan to redo the assessment. The instructor is free to specify additional requirements. For instance, if the student has not yet completed other assessment activities, the instructor can require that the other assessments be submitted first. The instructor may also ask the student for evidence of new practices or learning activities the student has undertaken, which would enable the student to get a higher score.

Students are required to observe a minimum waiting period of four weeks before attempting to redo an assessment for the first time. Subsequently, a waiting period of at least eight weeks is mandated before a second attempt. In the event of a third attempt, students must present the instructor with tangible evidence of sustained efforts to enhance their mastery level. This evidence may include completed practice assignments, a comprehensive list of readings, or any other relevant materials. The instructor reserves the right to decline to provide another assessment problem if they find the submitted evidence unsatisfactory.

If the entire competency has already been completed and assigned a mastery level (but not recorded), the score assigned for the re-done assessment will be used to recalculate the mastery level. It is possible (but hopefully not likely) that the new mastery level could be lower than the original. Students **do not** have the option of choosing the better score out of the two assessment trials.

A student can also choose to redo an entire competency in a different semester. In this case, the new attempt is said to *supersede* the previous competency. The student does not necessarily have to repeat all the assessments for competency. If he or she wants to transfer some completed assessments from the superseded competency to the new competency, the instructor must agree. If the rework is to be done in the immediately following semester, we call this *extending* the competency. However, it is possible to defer the rework to a future semester.

The Aii program recognizes that students may have prior experience or have completed outside projects that helped them develop the skills associated with a competency. A student in this situation may request that the instructor for that competency provide an alternative assessment based on this previous work. The nature of the alternative assessment is up to the instructor. It may consist of an interview or oral exam, an essay describing the project, the instructor's review of the project deliverables (such as source code), or a special activity intended to measure all the competencies' skills.

A student who successfully completes such an alternative assessment can receive credit for the competency without attending lectures or doing regular assignments. In order for the student to receive this credit, the instructor must send an email to the Program Coordinator certifying that the student should receive credit and specifying the mastery level. The Program Coordinator will then record the assigned credit.

8.1.4. Incomplete Grade

As noted above, students will receive credit only when they have successfully demonstrated mastery of all the skills that define a competency. If they do not complete all the necessary assessments, they may continue working on the missing assessments in the following semester. This is called *extending* a competency.

Students who add a competency in a semester but do not complete it will see an Incomplete (I) grade on their transcripts for that semester. This has no effect on GPA or credits, but retains a record of the fact that the student worked on the competency during the term. If students decide that they have been overly ambitious in their planning and cannot finish a competency, they can delete it from their study road map before the final assessment date. This will avoid the appearance of the I grade.

8.1.5. Withdrawal Grade

Since students have complete control over their study road map, the issue of a Withdrawal Grade does not arise. Students can remove a competency from their road map at any time. If students do not remove the competency, but do not complete all its assessments within the semester, their situation will be as described in the previous section regarding incomplete grades.

8.2. Academic Performance

8.2.1. Credit Units and Quality Points

CMKL University has adopted the method of assigning a number of "units" for each competency to represent the quantity of work required of students. For the average student, **one credit unit represents one work-hour of time per week throughout the semester**. The number of units in each competency and course is established by the faculty members in consultation with the Aii program committee.

For example, in a traditional course-based program, a 9-unit semester-long course should require 9 hours of student engagement, on average, including class time; if the instructor requires 3 hours of lecture and 1 hour of recitation, they can expect students to spend 5 hours outside of class engaging in class work. (Note, however, that the Aii self-directed, competency-based curriculum generally does not "require" class attendance and would rarely, if ever, involve as much as 3 hours of lecture per week.)

Individual competencies typically have a smaller scope and involve less work than an entire course, and correspondingly, provide fewer units. Estimating the workload for a competency depends on the student's goal for completing the competency. For example, assume that a competency provides 4 credits. If the student sets a goal for completing the competency in five weeks, this implies a workload of (4 *15)/5 or 12 hours of work per week.

8.2.2. Quality Point Average

The Quality Point Average (QPA) is the average of grades for recorded competencies, weighted by credits. **Aii students must have a cumulative QPA of at least 2.0 in order to graduate**. The cumulative QPA consists of all eligible courses completed as a student at CMKL, up to 400 units. Please see your academic advisor if you need clarification on this policy.

Since the Aii program aims for students to demonstrate mastery and be equipped with adequate abilities to drive the business, the program goal is that every student should get an A ("Legend") or a B ("Master") in every course. If a student receives a C ("Apprentice") or a D ("Novice"), he or she will have the option of repeating the competency learning and assessment, as described earlier. The detailed process will be as follows:

- Students will be informed that their grade is lower than B ("Master") and asked if they want to accept and record the grade or to try again. If the student records the grade, this will become the grade on the transcript.
- If a student says they do not want to record, they have the chance to redo the work for the competencies associated with the course and assess again, hopefully receiving a higher grade. In this case, the new grade will appear on the transcript for the semester in which the work was actually done. The original grade will not be visible to the outside world, though CMKL will maintain the history in its database.
- If the second attempt also results in a grade lower than B ("Master"), this is the grade that will appear on the transcript, assuming that the competency is required for graduation.
- If the competency is an elective, the student can choose to omit it completely from the transcript. However, in this case, the student may need to undertake additional learning activities in order to reach the minimum credits for graduation.

8.2.3. Academic Probation

When a student's academic performance fails to meet a minimum standard, either for a semester or cumulatively, the student will be put on academic probation.

A first-year student who earns fewer than 27 units per semester, or who has a semester grade point average below 1.75 for either the first or second semester, will be placed on academic probation and will receive a letter from the program alerting them. A student in the third or subsequent semester, who earns fewer than 27 units per semester or fewer than 108 units over three consecutive semesters (excluding summers), or who has a semester grade point average below 2.00, will be placed on academic probation. Academic probation status applies only in semesters in which a student has enrolled and registered for competencies. A student who takes a leave of absence prior to the beginning of a semester will not be considered for academic probation status.

Academic probation lasts for one semester and constitutes a warning that academic performance does not meet a minimum acceptable level. To be removed from academic probation, a student must demonstrate that they are making adequate academic progress toward completing graduation requirements. Specifically:

- First-year students must achieve a QPA of 1.75 or greater for the second semester and the year as a whole;

- Students in the third or subsequent semesters must achieve a QPA of 2.00 or greater for their next semester and for their cumulative QPA, excluding the first year.

8.2.4. Suspension

Students on probation who fail to improve their academic performance during the semester will be suspended from the program. Specifically, a first-year student on probation will be suspended if their semester GPA is below 1.75 or if they earn fewer than 27 credits. Upper-class students will be suspended if their semester GPA is below 2.00, if they earn fewer than 27 credits during that semester, or if they have earned fewer than 108 credits over the last three consecutive semesters.

The typical period of academic suspension is two semesters, during which a student on academic suspension is expected to reflect on the circumstances leading up to the suspension, identify the issues that prevented achieving academic success, take actions that address these issues, demonstrate sufficient readiness to return to the university, and successfully resume his or her studies.

Two months prior to the end of that suspension period, a student may petition to return to school (on probation) by completing the following steps:

- Writing a formal petition, requesting to return, and receiving permission in writing from the Aii program committee.
- Completing a Return from Leave of Absence form from Enrollment Services; and
- Providing transcripts and clearance forms if the student has been in a program at another college or university, even though academic credit earned may not transfer back to CMKL University unless prior approval from the Aii program director is given.

8.2.5. Academic Integrity

Students at CMKL University are engaged in preparation for professional activity of the highest standards. Each profession constrains its members with both ethical responsibilities and disciplinary limits. To ensure the validity of the learning experience, a university establishes clear standards for student work.

The Aii program adheres to CMKL University's policies on academic integrity, and all students are expected to review these policies prior to their arrival at CMKL University.

In any presentation, creative, artistic, or research, it is the ethical responsibility of each student to identify the conceptual sources of the work submitted. Failure to do so is dishonest and is the basis for a charge of cheating or plagiarism, which is subject to disciplinary action.

The individualized, self-paced nature of the Aii program places even more stringent demands on students' integrity. Since much of the student's learning will be self-directed and mastery will be demonstrated largely via creation of designs, programs, and systems, the student will need to rely on external sources and information. It is critical that students identify what work is their own and what work is derived from other sources. Furthermore, students must adhere to instructors' guidelines regarding what types of external sources are permitted.

Finally, some work at CMKL University will be done in teams, while other work will be individual. Students should note that an individual assignment must be solely their own work. Copying of any sort on an individual assignment is a violation of ethical standards and will be subject to severe penalties.

8.2.6. Penalties for Violating Academic Integrity

Instructors are responsible for defining academic integrity policies for students in their competencies, including student performance expectations and attendance requirements. Instructors should also specify in detail what use of, if any, AI systems or assistants is permitted. Students are responsible for understanding and abiding by the instructor's academic integrity policies. Policies may vary from instructor to instructor, and students should seek further guidance from the relevant faculty member if they have specific questions about a competency's academic integrity policy.

Should an instructor believe that an academic integrity violation has occurred, they may consult with the program director, who will assist them in handling a possible academic integrity violation and, if a student is found responsible for violating academic integrity policies, determine possible sanctions. Sanctions may include being required to redo work, losing credit, and/or public admissions of guilt.

If a student is found to have violated the academic integrity policy for a second time, the student will be expelled from the Aii program at the end of the semester in which the infraction has occurred.

Students have the right to appeal an academic integrity decision.

9. AII DEGREE REQUIREMENTS

9.1. Overview

Aii students must satisfy multiple requirements before the Bachelor of Arts and Science degree is awarded. The Aii undergraduate curriculum requires **at least 360 credit units**. This includes:

- **66 units** of arts, humanities, social science, and communication electives (Pillars: COM, HAS).
- **150 units** of analytical fundamentals (Pillars: MAT, SCI, SEN, AIC, SYS, SEC, ENI, HCD).
- **120 units** of AI Innovation Project (Pillar: Aii):
    - 30 credits of Empathize & Define
    - 30 credits of Ideation
    - 30 credits of Build
    - 30 credits of Growth & Scaling

The maximum number of credits a student can earn is 400.

These requirements are expressed via the Aii program's competency scheme. Some competencies are required, meaning that every Aii student must complete these competencies in order to graduate. Others are optional. In some cases, several competencies form a set from which the student is required to select a subset to complete.

Because of the individualized nature of the Aii program, the pattern of study for each student will be different. Furthermore, students who receive credit upon entry to the program for advanced placement or other prior experience will experience a different learning path than students without these pre-existing skills.

The section **AI Innovation Project** presents the overall requirements and scope of the Aii hands-on projects for business. It will list out a standard set of project milestones for students to earn Aii Innovation credits.

The section **Aii Competencies** presents the full set of currently defined competencies and the amount of credit associated with each one, with an indication of whether the competency is required in order to graduate. We expect that these lists will change somewhat as the Aii program becomes more established.

9.2. AI Innovation Project

At the core of the Artificial Intelligence Innovation (Aii) Program is an **AI Innovation Project** – a hands-on, project-based track that enables Aii students to apply AI to real-world challenges from the very beginning of their studies to achieve business-ready solutions when they graduate. Differing from the capstone project courses in traditional engineering programs, this project-based track runs across the four-year timespan (three years if using the accelerated study plan) and employs project-based learning to empower students with strong design skills. Students dedicate a minimum of **15 hours per week** to the AI Innovation Project, earning **at least 15 credits per semester** as they progress through four key milestones:

- **Empathize & Define**: Determine key stakeholders or venture capital, identify industry pain points or market gaps (need finding), decompose stakeholder needs into concrete requirements, and assess technical feasibility. The expected outcome of this stage is **a meaningful and actionable problem statement**.
- **Ideate**: Brainstorm potential concepts based on the understanding of stakeholders and the underlying problem, analyze constraints, and market feasibility. The expected outcome of this milestone is **a Minimum Viable Product (MVP) idea**.
- **Build**: Work alongside founders-in-residence and expert mentors to develop and iteratively test and improve AI-powered products and prototypes that could satisfy the business or societal needs. The expected outcome of this milestone is **a working and ready-to-launch prototype** that could deliver the main features identified by the MVP idea.
- **Growth & Scale**: Pitch the solution to real customers, secure funding, scale the operation with support from our strategic network, and analyze future viability. The expected outcome of this milestone is **a comprehensive product viability report** documenting post-launch insights and growth potential.

Projects in the Aii program will be embedded as **core competencies within the AI Innovation pillar**. Each semester will feature a core competency, through which students will learn relevant design methodologies while actively working

on their projects. These competencies weave conceptual learning and project work together across multiple courses through a single, continuous project, allowing students to progressively apply and deepen their understanding over time.

The core competencies will be delivered in a studio-based teaching environment, designed to foster hands-on, collaborative, and iterative learning. Each course will consist of two key components: (1) instruction in methodologies or skills tied to a specific stage of product development, and (2) application of those skills through a shared, cross-competency project. While the studio fosters peer critique, exploration, and teamwork, the project work will extend beyond the classroom – students will engage independently or in teams, applying what they learn in real-time as their projects evolve.

"**Fail Often, Fail Fast**" is a core philosophy of the Aii program, emphasizing that failure is not a setback but a critical part of the innovation process. Both individual project tasks and entire project stages may be revisited – within a semester or across semesters – allowing students to refine their ideas over time. Intra-semester iteration allows teams to revise their work multiple times within a core competency, while inter-semester iteration offers two pathways: students may revisit earlier competencies with extra advising or join "power projects" to complete tasks on an accelerated timeline and realign with their cohort. Additionally, project team members may transition to new teams, provided certain criteria are met to ensure continuity and learning. Faculty and project advisors will play an active role in guiding students through these cycles, helping them make strategic decisions and providing individualized support when students fall out of sequence.

Projects are co-created with external stakeholders – including industry, government, and NGOs – both in Thailand and abroad, and guided by CMKL faculty. Students are also encouraged to propose their own ideas and take initiative in shaping project direction. Project milestones must be planned in advance by the team and approved by both the faculty advisor and relevant stakeholders. Variations in milestone schedules may arise depending on the specific nature and requirements of each project.

Each project is mapped to a defined set of technical and professional **competencies**, which may be required or optional based on the nature of the work. Even if a student has previously demonstrated a competency through coursework, applying it at a higher level in a real-world context allows for additional credit recognition.

Students are evaluated on two fronts:

- **Project performance**: Based on effort, initiative, teamwork, communication, and time management.
- **Competency integration**: Reflecting how effectively students apply their knowledge and skills within the project.

This integrated approach ensures that graduates not only meet academic requirements but also gain extensive experience in solving complex problems, collaborating with diverse stakeholders, and leading innovation at scale.

AI Innovation is more than a course – it's your launchpad into a future where your work creates tangible, lasting impact.

9.3. Aii Competencies

The Aii competencies are organized according to knowledge pillars. Each pillar represents a broad set of topics and concerns. *There are **seven core pillars** at CMKL, shared by different programs: **Software Engineering, Artificial Intelligence, Human-Centered Design, Cybersecurity, Scalable Systems, Entrepreneurship and Innovation, and AI Innovation***. In many cases, these major categories are divided into subcategories called knowledge subdomains.

In addition to these central pillars, we will also incorporate science, mathematics, humanities, and other competencies, which would normally be viewed as external electives or general education, into our scheme. Additional competencies may be available through the AIEI university network, and students can request competency credit transfer through the AIEI system.

The tables below list the currently defined competencies for each pillar, and **the highlighted competencies are required for the Aii program**. We expect to define additional competencies in the future.

9.3.1. Pillar: Software Engineering (SEN)

Total credits: 106; Required credits: 18

Knowledge Subdomain	Competency Code	Competency Name	Credits	Required?
Programming Fundamentals	SEN-101	Algorithmic Thinking and Problem Solving	2	Yes
	SEN-102	Introduction to Programming	6	Yes
	SEN-103	Programming Multi-Module Applications	4	No
	SEN-107	Fundamental Data Structures and Algorithms	6	Yes
	SEN-109	Modern Systems Programming	2	No
	SEN-208	Advanced Data Structures and Algorithms	6	No
	SEN-209	Designing and Implementing Databases	6	No
Programming Paradigms	SEN-304	Object-Oriented Design and Programming	6	No
	SEN-305	Functional Programming	4	No
	SEN-306	Dataflow Programming	4	No
	SEN-307	Domain-Specific Programming Languages	2	No
and Maintenance (SDM)	SEN-201	Software Engineering Processes	6	Yes
	SEN-202	Software Quality Assurance	6	No
	SEN-203	Software Design	4	No
	SEN-205	Requirement Analysis and Problem Definition	2	No
	SEN-210	Designing and Implementing User Interfaces	4	No
	SEN-212	Software Configuration Management	2	No
	SEN-213	Software Measurement	2	No
	SEN-214	Software Maintenance and Evolution	2	No
	SEN-301	Designing and Building Secure Software	4	No
	SEN-302	Designing and Building Mission Critical Software	2	No
Software Engineering Leadership	SEN-401	Agile Development Processing	2	No
	SEN-402	Software Project Management	4	No
	SEN-403	Software Organization Maturity and Continuous Improvement	2	No
	SEN-404	Legacy Software Strategies	2	No
	SEN-405	Open Source Software	2	No
Platform-Specific Architectures	SEN-311	Web Architectures	4	No
	SEN-312	Mobile Application Architectures	4	No

9.3.2. Pillar: Artificial Intelligence (AIC)

Total credits: 108; Required credits: 8 + 8 (Choose 2 "AI Application" competencies)

Knowledge Subdomain	Competency Code	Competency Name	Credits	Required?
AI Paradigms	AIC-100	Introduction to AI Engineering	2	No
	AIC-101	Introduction to Artificial Intelligence	2	Yes
	AIC-301	Symbolic AI	4	No
	AIC-302	Probability-based Models	4	No
	AIC-303	Planning and Search Strategies	4	No
	AIC-305	Bio-Inspired AI	4	No
Machine Learning (ML)	AIC-201	Supervised and Unsupervised Learning	4	No
	AIC-20X	Artificial Intelligence: Principles & Techniques	6	Yes
	AIC-304	Neural Networks and Deep Learning	4	No
	AIC-402	Proximity Measurement and Cluster Analysis	4	No
	AIC-403	Classification and Regression	4	No
	AIC-502	Reinforcement Learning	4	No
	AIC-503	Transformer Networks	4	No
	AIC-505	Generative AI	4	No
Data Handling, Analysis, and Mining	AIC-400	Data Wrangling	2	No
	AIC-401	Information Retrieval, Extraction, Search, and Indexing	4	No
AI Application*	AIC-504	Simulation	4	No
	AIC-601	Recommender Systems	4	No
	AIC-602	Natural Language Processing (NLP)	4	Yes - 2
	AIC-603	Autonomous Agents	4	No
	AIC-604	Computer Vision	4	No
	AIC-605	Geographic Computing	4	Yes - 2
	AIC-607	Brain-Computer Interface	4	No
	AIC-606	Medical AI and Applications	4	Yes - 2
	AIC-601X	Recommender Systems and Applications	4	Yes - 2
	AIC-603X	Autonomous Agents and Applications	4	Yes - 2
	AIC-604X	Computer Vision and Applications	4	Yes - 2
	AIC-607X	Brain-Computer Interface and Applications	4	Yes - 2

* Aii students must complete at least TWO competencies from the designated set (highlighted green) under the AI Application subdomain. They may be in the context of the AI Innovation track and projects. Competencies may be added or removed from the designated set in the future.

9.3.3. Pillar: Human-Centered Design (HCD)

Total credits: 158*; Required credits: 14 + 6 (Choose 1 HCD competency from the designated set)*

Knowledge Subdomain	Competency Code	Competency Name	Credits	Required?
Game Design	HCD-532	Game Design	6	Yes* - 1
	HCD-533	Narrative Design	6	No
	HCD-534	Sound Design	6	No
Engaging in Critical Oversight	HCD-201	Ethics in Computer Engineering	2	Yes
	HCD-202	Ethical Principles for AI (Fairness, Accountability, Transparency, Ethics)	4	Yes
	HCD-203	Creating Explainable AI	4	No
Game Engineering	HCD-541	Game Engines I (Fundamentals)	6	No
	HCD-542	Game Engines II (Programming Complex Mechanics)	6	No
	HCD-543	Crowd AI (Simulating Group Behavior in Games)	6	No
	HCD-544	Character AI (Designing Believable Game Agents)	6	No
Game Studio	HCD-490	Game Prototype Studio (From Concept to Playable Demo)	4	No
	HCD-491	Game Production Studio I (Polishing Your Game Project)	8	No
	HCD-492	Game Production Studio II (Release Ready Game)	8	No
Digital Media & 3D Content	HCD-311	Digital Arts	2	No
	HCD-312	Algorithmic and Generative Arts	4	No
	HCD-513	Visual Development (Concept Art and Production Design)	6	No
	HCD-514	Visual Storytelling (Storyboarding and Animatics)	6	No
	HCD-521	3D Modeling (Hard Surface and Organic)	6	Yes* - 1
	HCD-522	3D Appearance (Surfacing, Lighting, and Rendering)	6	Yes* - 1
	HCD-523	3D Animation (Rigging and Animating)	6	No
	HCD-524	Motion Capture	6	No
	HCD-525	Digital Post-Production	6	No
	HCD-526	Visual Effects (VFX)	6	No
Human-Computer Interaction (HCI)	HCD-101	Visualization	6	Yes
	HCD-501	Accessibility and Universal Design	2	Yes
	HCD-502	User Experience Design	6	Yes* - 1
	HCD-503	Psychology and Research Methods in UX	6	Yes* - 1
	HCD-545	Virtual Reality (VR)	6	Yes* - 1
	HCD-546	Augmented Reality (AR) and Mixed Reality (MR)	6	Yes* - 1

* Aii students must complete at least ONE competency from the designated set (highlighted green) in the HCD pillar. This may be in the context of the AI Innovation track and projects. Competencies may be added or removed from the designated set in the future.

9.3.4. Pillar: Cybersecurity (SEC)

Total credits: 46; Required credits: 10

Knowledge Subdomain	Competency Code	Competency Name	Credits	Required?
Data Acquisition, Management, and Governace	SEC-101	Data and Information Fundamentals	2	Yes
	SEC-102	Data Reduction and Compression	4	No
	SEC-103	Data Governance	2	No
Privacy, Security, and Integrity	SEC-201	Data Privacy, Security, and Integrity	4	Yes
	SEC-20X	Secure Startup	4	Yes
	SEC-203	Securimg System Infrastructure	4	No
	SEC-204	Security Processes and Policy	4	No
	SEC-205	Distributed Ledger and Blockchain	4	No
	SEC-303	Vulnerability Assessment for Software Applications	4	No
	SEC-401	Privacy Attacks	2	No
	SEC-402	Differential Privacy (DP)	6	No
AI System Security	SEC-301	Security Challenges in Modern AI Systems	2	No
	SEC-302	Robustness of AI Components and Systems	4	No

9.3.5. Pillar: Scalable Systems (SYS)

Total credits: 54

Knowledge Subdomain	Competency Code	Competency Name	Credits	Required?
Computer Organization	SYS-101	Operating Systems	4	No
	SYS-102	Basic Computer Architecture	4	No
	SYS-202	Real-Time Operating Systems	4	No
	SYS-205	Storage and File Systems Fundamentals	2	No
	SYS-206	Computer Design Processor Architectures and Digital Design	4	No
	SYS-207	Networks	4	No
	SYS-208	Digital and Analog Circuit Design	4	No
Distributed Systems	SYS-301	Cyber Physical Systems	4	No
	SYS-302	Cloud Computing	4	No
	SYS-303	Scalable Management of Data and Models	4	No
	SYS-304	Scalable Algorithms and Infrastructure	4	No
	SYS-401	Parallel Computing	4	No
	SYS-402	Distributed Data Storage	4	No
	SYS-403	Big Data Computing	4	No

9.3.6. Pillar: Entrepreneurship and Innovation (ENI)

Total credits: 118; Required credits: 10 + 16 (Choose 2 "Strategic Innovation" and 2 "Business Application Domain" competencies)

Knowledge Subdomain	Competency Code	Competency Name	Credits	Required?
Entrepreneurship Fundamentals	ENI-100	New Venture Design	8	Yes
	ENI-103	Product Design and Development	2	No
	ENI-104	Introduction to Intellectual Property	2	No
	ENI-106	Team Building for Startups	2	Yes
	ENI-107	Entrepreneurial Finance and Accounting	4	No
	ENI-109	Project Management	4	No
Strategic Innovation*	ENI-202	Business Strategy	4	Yes - 2
	ENI-204	Business Analytics	4	Yes - 2
	ENI-20X	Managerial Accounting	4	Yes - 2
	ENI-213	Marketing Strategy	4	Yes - 2
	ENI-304	AI for Business Solutions	4	Yes - 2
	ENI-30X	Finance	4	Yes - 2
	ENI-30X	Strategic Management	4	Yes - 2
	ENI-30X	Operation Management	4	Yes - 2
Business Application Domain**	ENI-401	Retail and Service Applications	4	Yes - 2
	ENI-402	Logistics	4	Yes - 2
	ENI-403	Biomedical, Bioinformatics, and Health	4	Yes - 2
	ENI-404	Agriculture	4	Yes - 2
	ENI-405	Fintech	4	Yes - 2
	ENI-406	Educational Technology	4	Yes - 2
	ENI-407	Gaming	4	Yes - 2
	ENI-408	Manufacturing	4	Yes - 2
Startup Genesis	ENI-601	Startup Studio: Venture Creation	16	No
	ENI-602	Startup Studio: Venture Launch	16	No

* Aii Students must complete at least TWO competencies in the Strategic Innovation subdomain. The list of Strategic Innovation competencies may be expanded.

** Aii Students must complete at least TWO competencies in the Business Application Domain. The list of Business Application Domain competencies may be expanded.

9.3.7. Pillar: AI Innovation (AII)

Total credit: 240*; Required credits: 120*

Knowledge Subdomain	Competency Code	Competency Name	Credits	Required?
Innovation Launchpad*	AII-100	Time Management	2	Yes
	AII-101	AI Innovation I (Team Building and Empathize)	13	Yes
	AII-102	AI Innovation II (User and Problem Definition)	15	Yes
Design & Build*	AII-201	AI Innovation III (Ideate I)	15	Yes
	AII-202	AI Innovation IV (Ideate II)	15	Yes
	AII-301	AI Innovation V (Build I – Prototype and Test)	15	Yes
	AII-302	AI Innovation VI (Build II – Test and Deployment)	15	Yes
Launch & Scale*	AII-401	AI Innovation VII (Commercialization & Growth)	15	Yes
	AII-402	AI Innovation VIII (Corporate Sustainability & Enterprise Strategy)	15	Yes
Experiential Learning (XP)**	AII-321	Oversea Colleges I	18	No
	AII-322	Oversea Colleges II	18	No
	AII-331	Industrial Internship I	18	No
	AII-332	Industrial Internship II	18	No
Summer Research	AII-103	Summer Research I	4	No
	AII-203	Summer Research II	4	No
	AII-303	Summer Research III	4	No
Senior Research and Development	AII-421	Honors Undergraduate Research Thesis I ***	18	No
	AII-422	Honors Undergraduate Research Thesis II ***	18	No

* Aii students must enroll in **all competencies under the subdomains of "Innovation Launchpad", "Design & Build", and "Launch & Scale"**, including AII-101, AII-102, AII-201, AII-202, AII-301, AII-302, AII-401, and AII-402, in the prescribed order. Aii students must earn at least 15 credits per semester in this pillar.

** To be eligible for enrolling in the XP competencies (including AII-321, AII-322, AII-331, and AII-332), Aii students must have earned at least 180 credits.

*** AII-421 and AII-422 are intended for Aii students who are planning to continue to graduate studies. Read more about the "Honors Undergraduate Research Thesis" section below.

9.3.8. Pillar: Mathematics (MAT)

Total credits: 94; Required Credits: 30

Knowledge Subdomain	Competency Code	Competency Name	Credits	Required?
Calculus	MAT-100	Differential Calculus	4	No
	MAT-10X	Introduction to Mathematics for AI	6	Yes
	MAT-103	Integral Calculus	4	No
	MAT-104	Introduction to Optimization	4	No
	MAT-105	Vector Calculus	6	No
	MAT-106	Analytical Geometry	6	No
	MAT-108	First-Order Differential Equations	4	No
	MAT-109	High-Order Differential Equations	5	No
	MAT-110	Numerical Methods for Differential Equations	3	No
Mathematics for AI	MAT-202	Signal Processing and Data Domains	4	No
	MAT-203	Descriptive Statistics	2	Yes
	MAT-204	Introduction to Probability	3	Yes
	MAT-205	Probability Distributions	3	Yes
	MAT-206	Statistical Inference	4	Yes
	MAT-207	Discrete Mathematics **	12	No
	MAT-208	Vector Spaces	4	Yes
	MAT-209	Matrices	4	Yes
	MAT-210	Linear Systems	4	Yes
	MAT-211	Logic and Set Theory	3	No
	MAT-212	Combinatories	3	No
	MAT-213	Number Theory	3	No
	MAT-214	Graph Theory	3	No

** Beginning Spring 2026, MAT-207 will no longer be offered and will be replaced by MAT-211, MAT-212, MAT-213, and MAT-214.

9.3.9. Pillar: Communication and Presentation (COM)

Total credits: 56; Required credits: 10

Knowledge Subdomain	Competency Code	Competency Name	Credits	Required?
Communication and Presentation	COM-100	Writing Foundations	2	Yes
	COM-101	Technical Writing	4	No
	COM-102	Creative Writing	8	No
	COM-103	Graphics and Visual Storytelling	8	No
	COM-104	Fundraising and Business Development	4	Yes* - 1
	COM-105	Presentation	4	Yes
	COM-106	Narrative Design	4	Yes* - 1
	COM-108	Academic Writing and Research	8	No
	COM-109	Communicating with Data	4	No
	COM-201	Improvisational Acting	6	No
	COM-202	Instructional Design	4	No

* Aii students must complete one of the two designated communications and presentation competencies (highlighted in green). COM-104 is offered by application and requires instructor approval.

9.3.10. Pillar: Science (SCI)

Total credits: 60

Knowledge Subdomain	Competency Code	Competency Name	Credits	Required?
Physics	SCI-103	Quantum Mechanics	6	No
	SCI-104	Quantum Computing	6	No
	SCI-105	Kenetics: Describe Motion	3	No
	SCI-106	Dynamics: Explain Motion	3	No
	SCI-107	Energy and Momentum	3	No
	SCI-108	Thermodynamics	3	No
	SCI-109	Electricity	4	No
	SCI-110	Magnetism	4	No
	SCI-111	Light and Optics	4	No
Biology	SCI-120	Biology for AI and Engineering	6	No
	SCI-121	Medical Science for AI Engineering and Innovation	6	No
Chemistry	SCI-130	Chemical Foundations	6	No
	SCI-131	Chemical Dynamics	6	No

9.3.11. Pillar: Arts, Humanities, and Social Sciences (HAS)

Total credits: 93

Knowledge Subdomain	Competency Code	Competency Name	Credits	Required?
People, Places, and Cultures	HAS-101	Sociology and Cultural Anthropology	9	No
	HAS-102	Social Psychology	9	No
	HAS-103	Political Studies	9	No
	HAS-104	Human Geography	9	No
	HAS-105	Global Histories	9	No
	HAS-109	Ethics and Policy Issues	2	No
	HAS-110	Policy and Sustainable Development	6	No
	HAS-113	AI and Computer Engineering for Community Impact I	4	No
	HAS-123	AI and Computer Engineering for Community Impact II	4	No
	HAS-133	AI and Computer Engineering for Community Impact III	4	No
	HAS-143	AI and Computer Engineering for Community Impact IV	4	No
Economics	HAS-107	Prinicples of Economics	8	No
	HAS-108	Behavioral Economics	8	No
Arts and Music	HAS-106	History of Visual Arts	8	No

9.3.12. Pillar: Soft Skills

Students do not sign up for the competencies under the "soft skills" pillar. However, all students are required to demonstrate these competencies during their undergraduate career. Usually, soft skills will be evaluated by instructors or industry mentors as part of the student's work on AI innovation projects or research projects. **Students are required to achieve a minimum of "Apprentice" level of mastery in all soft skills competencies to be eligible for graduation**.

To facilitate this evaluation, the full Aii curriculum model breaks down each of these soft skill competencies into a set of observable behaviors that will allow objective assessment of the degree to which the students demonstrate these competencies.

Knowledge Subdomain	Competency Code	Competency Name	Required?
Soft Skills	SOF-101 SOF-102 SOF-103 SOF-104	**Adaptability** - Creative Flexibility - Working Flexibility	Yes
	SOF-201 SOF-202 SOF-203 SOF-204	**Empathy** - Human-Centered Focus - Respect for Diversity	Yes
	SOF-301 SOF-302 SOF-303 SOF-304	**Ethics** - Social Consciousness - Honesty - Fairness - Respect for Privacy and Confidentiality	Yes
	SOF-401 SOF-402 SOF-403 SOF-404	**Proactiveness** - Service Orientation - Continuous Improvement Focus	Yes
	SOF-501 SOF-502 SOF-503 SOF-504	**Professionalism** - Responsibility - Compliance with Organizational Norms - Time Management - Quality Focus - Professional Awareness - Interpersonal Relations	Yes
	SOF-601 SOF-602 SOF-603 SOF-604	**Self-Learning** - Motivation to Learn - Active Learning	Yes
	SOF-701 SOF-702 SOF-703 SOF-704	**Teamwork** - Attention - Respect and Courtesy - Openness - Team Spirit	Yes

9.4. Domain Areas for AI Innovation – Forthcoming (AY 2026-27)

> **Update in Progress**
>
> The Aii Program Committee is finalizing Domain Area options and qualifying courses. Official details will be posted on the Program Updates page and later drafts of the handbook.

To empower students to explore a coherent topic in depth and leverage that thorough understanding for AI applications, the Aii program features several domain areas for students to choose from. By completing a Domain Area, students demonstrate focused expertise that informs their project work and career goals.

9.5. Creating a Study Roadmap for a Semester

Each student will work with his or her academic advisor to choose and schedule an individual set of competency goals for each semester. In the first year, students will be encouraged to focus on the required competencies in the seven core

pillars, but there will also be room for non-required competencies and non-engineering competencies to satisfy the distribution requirements. Students will also start an AI innovation project in the first semester.

Most competencies are associated with 2 to 18 credits. This suggests that a student should spend 2 to 18 hours per week on that competency if he or she is planning to work on that competency for an entire semester. In most cases, though, we expect students to work on competencies more intensely, but over a shorter time period. This will allow the student to concentrate on 4 or 5 competencies for four to six weeks, then switch to new competencies, rather than juggling a larger number of competencies throughout the semester.

Students can build a study plan that fits their working and learning styles, as well as their prior background. In particular, students who already possess some of the skills that define a competency can choose to do the assessment for that competency immediately, without spending any time on actual study.

Students are advised to take 45 credits per semester for a 4-year study plan and 60 credits per semester for a 3-year accelerated study plan due to the intensity of these programs. We acknowledge, however, that our student body is unique, and this includes how each student manages their study load. While students may register for the maximum number of units per semester, we strongly advise students to take no more than 60 units per semester. Students who would like to take more than 60 units must consult with the program director to get approval. As part of this consultation process, these students will be required to explain their reasons for overloading and to develop a plan for dealing with the increased load.

9.6. Honors Undergraduate Research Thesis

The Honors Undergraduate Research Thesis provides an opportunity for students to engage in independent formal research, including literature review, problem formulation, experimentation, analysis, technical writing, and public speaking. Initially, students must write a review of results in their problem area, which forms part of their final thesis. Progress is marked by presenting a poster, giving a short talk, and submitting a progress report after the first semester. Ultimately, students present their findings through an oral presentation and submit a written thesis.

Students must select an advisor, preferably from CMKL faculty, but can also have a co-advisor from another program or from industry. Honors thesis candidates must be in good academic standing. Honors thesis students must enroll in competencies AII-421 and AII-422. Students will be evaluated by the student advisor and two additional experts at the end of each semester.

9.7. Three-Year Accelerated Study Plan

The three-year accelerated study plan offers an opportunity for qualified and capable students to complete their Aii undergraduate degree in a shorter timeframe. By condensing the program, students can earn a baccalaureate degree in just three years.

To accelerate their study progress, students can utilize pre-matriculant credits earned through Advanced Placement, International Baccalaureate, or college courses taken during high school. These credits are considered for transfer, provided the student has a cumulative grade point average of at least B (equivalent to 3.0 on a 0-4 scale). Additionally, each course intended for transfer to CMKL University must have a minimum grade of B.

Furthermore, our program warmly welcomes applicants with Higher National Certificates (HNCs) and Higher National Diplomas (HNDs) qualifications in Computing at a Merit profile or higher. This provides an excellent pathway for these students to continue their education with us.

Finally, students who, due to their previous experience, have relatively advanced skills in specific competencies are encouraged to contact the competency instructors about the possibility of immediate, alternative assessment activities. Students who can demonstrate completion of relevant external projects may also be eligible for immediate credit. Decisions regarding this kind of earned credit rest with the instructor, in consultation with the program director.

9.7.1. Accelerated Study Plan for Aii Program

Due to the continuous nature of the project-based track in the Aii program, the accelerated study plan will trim the final (senior) year of the Aii core competencies, effectively reducing the unit requirement for the Aii pillar from 120 to 90 (other unit requirements stay unchanged).

To minimize disruption to Aii projects and keep all team members aligned, students seeking the three-year accelerated plan must request approval from the Program Director at the end of Year 1. Applications for the accelerated study plan must include a written plan of study, detailing planned competencies by semester, and a non-binding post-graduation plan. The Program Director may require these students to join a dedicated team and complete an accelerated project

track, in place of the original four-year track. Furthermore, to compensate for the Aii core competencies normally delivered in the senior year, students may also be assigned additional competency requirements, set by the Aii Program Committee and announced in due course, focused on capabilities for the growth and scale phases of product development.

10. EXCHANGE AND TRANSFER PROGRAMS

10.1. University Credit Transfer and Student Exchange Program

Current Aii students taking courses at other accredited institutions (colleges and universities), as part of exchange programs or other departmentally approved programs, or while on leave from CMKL University, must arrange for the submission of official final transcripts to the University Registrar's Office. Upon receipt, Enrollment Services will verify these official transcripts and then send a copy of the transcript to the Aii program committee, which will make the transfer credit decisions. The official transcript will reside in the student's university academic folder in Enrollment Services.

10.2. AI Engineering Institute University Network

Students participating in the study through AI Engineering Institute's (AIEI) university network can request the competency transfer directly using the AIEI system in lieu of submitting the transcript. Students can also request a dual or multiple-degree program evaluation to be considered for additional degree recipients from other host universities through AIEI. Note that the students must complete the Aii program requirements and be enrolled for at least four semesters at CMKL University to receive a CMKL degree.

11. POST-MATRICULATION GUIDELINES

11.1. Return of University Property

Aii students must return all borrowed university materials, such as software, manuals, library books/materials, or any other CMKL University property, prior to their departure from the program.

11.2. Career Services Employment Outcomes

Aii students are asked to complete and return a survey for Career Services, updating CMKL University on their employment outcomes after graduation. Information about the survey is communicated in the students' final semester.

11.3. "Grandfather" Policy

New rules will be added to the department policies for improvement when necessary. These changes will be discussed with students before implementation. Students who matriculated in the program before the new policies will be governed by the grandfather policies if they are affected by the changes in degree requirements/course offerings.

12. TUITION AND FEES

Unless scholarship and financial aid packages are arranged and approved in advance, Aii students are full-time and will be charged full-time Aii tuition. Total charges for a period of attendance and the estimated schedule of total charges for the entire educational program can be found on the financial service website: https://www.cmkl.ac.th/cube/financial-services/overview

All charges incurred at the university are reflected in the student account. Charges include tuition and fees and may include health insurance, technology fee, transportation fee, student activities fee, and other miscellaneous charges incurred. Miscellaneous charges may include, but are not limited to, library fines, parking fines, or emergency loans.

The university also offers need-based assistance for financial aid as well as merit-based scholarships. Interested students are advised to designate their requirements in the application form.

12.1. Tuition Billing and Payments

The cost of tuition for students enrolling in the Aii program is decided in the Spring for the class that will start in the Fall semester after that. The second Fall semester tuition for a student will probably go up in line with the tuition increase for the next academic year. The cost of tuition will rise by roughly 3-5% yearly.

Students will be charged tuition per semester for each semester in which they are enrolled. The tuition and required fee billing are handled centrally by CMKL University's finance department.

Student account invoices are produced on the last day of each month. Invoices detail all transactions processed in the month, as well as any charges due in the future. Students receive an email notification to their CMKL email account when an invoice is ready for viewing on the Cube system. Payments for amounts due from a monthly invoice must be received by the 15th of the next calendar month. Any amounts not paid by the stated due date are subject to a 1.5% interest charge each month until the balance is paid in full.

13. CONCLUSION

CMKL University is ready to welcome promising and proactive students who want to prepare themselves for the challenges of tomorrow. We hope that this handbook has answered your questions about our philosophy, policies, and curriculum. Should you have any questions or concerns, please do not hesitate to contact us.

+66-65-878500

info@cmkl.ac.th

14. APPENDIX A.

AP/ IB / A-Level Credit Awarding Guidelines

This appendix specifies details of the grades or scores required of students who have completed Advanced Placement, International Baccalaureate, and GCE A-Level studies and wish to be awarded transfer credit within the Aii program.

AP / IB / A-Level Credit Awarding Guidelines			
CMKL Competencies	**IB**	**AP**	**A-Level**
Pillar: Arts, Humanities, and Social Sciences; Subdomain: People, Places, and Cultures			
HAS-101: Sociology & Cultural Anthropology	Social and Cultural Anthropology (Score: 6 or 7)	Social and Cultural Anthropology (Score: 4 or 5)	Sociology (Score: A or B)
HAS-102: Social Psychology	Psychology (Score: 6 or 7)	Psychology (Score: 4 or 5)	-
HAS-103: Political Studies	Global Politics (Score: 7)	Government and Politics: Comparative (Score: 4 or 5)	-
HAS-104: Human Geography	Geography (Score: 6 or 7)	Human Geography (Score: 4 or 5)	Geography (Score A or B)
HAS-105: Global Histories	History (Score: 7)	World History (Score: 5)	-
Pillar: Human-Centered Design; Subdomain: Human-Computer Interaction			
HCD-502: User Experience Design	Design Technology (Score: 6 or 7)	-	-
Pillar: Arts, Humanities, and Social Sciences; Subdomain: Economics			
HAS-108: Behavioral Economics	Economics (Score: 6 or 7)	Economics Micro and Macro (Score: 5)	Economics (Score: A)
Pillar: Mathematics; Subdomain: Calculus			
MAT-100: Differential Calculus (4 Credits) MAT-103: Integral Calculus (4 Credits) MAT-104: Introduction to Optimization (4 Credits)	Mathematics HL (Score: 6)	Calculus AB and Sub Score (Score: 5)	Mathematics C/ Advanced Math (Score: B)
MAT-105: Vector Calculus (6 Credits) MAT-106: Analytical Geometry (6 Credits)	Mathematics HL (Score: 7)	Calculus BC * (Score: 5)	Mathematics C/ Advanced Math * (Score: A)
* Note – Students will be awarded credits for MAT-100 (Differential Calculus), MAT-103 (Integral Calculus), MAT-104 (Introduction to Optimization), MAT-105 (Vector Calculus), and MAT-106 (Analytical Geometry) if they receive an A grade for A-Level: Mathematics C/Advanced Math or a score of 5 in AP: Calculus BC.			
Pillar: Science; Subdomain: Physics			
SCI-105: Kinetics: Describe Motion (3 Credits) SCI-106: Dynamics: Explain Motion (3 Credits) SCI-107: Energy and Momentum (3 Credits) SCI-108: Thermodynamics (3 Credits)	Physics (Score: 7)	Physics C – Mechanics (Score: 5)	Physics/ Advanced Physics * (Score: A)
SCI-109: Electricity (4 Credits) SCI-110: Magnetism (4 Credits) SCI-111: Light and Optics (4 Credits)	-	Physics C – Electricity and Magnetism (Score: 5)	Physics/ Advanced Physics * (Score: A)
* Note – Students who earn an A grade in A-Level Physics/Advanced Physics will receive credits for SCI-105 (Kinetics: Describe Motion), SCI-106 (Dynamics: Explain Motion), SCI-107 (Energy and Momentum), SCI-108 (Thermodynamics), SCI-109 (Electricity), SCI-110 (Magnetism), and SCI-111 (Light and Optics).			
Pillar: Science; Subdomain: Biology			
SCI-120: Biology for AI and Engineering (6 Credits) SCI-121: Medical Science for AI Engineering (6 Credits)	Biology (Score: 6)	Biology (Score: 5)	Biology / Advanced Biology (Score: B)

Pillar: Science; Subdomain: Chemistry			
SCI-130: Chemistry Foundations (6 Credits) SCI-131: Chemical Dynamics (6 Credits)	Chemistry (Score: 7)	Chemistry (Score: 5)	Chemistry / Advanced Chemistry (Score: A)
Pillar: Software Engineering; Subdomain: Fundamentals of Programming			
SEN-101: Algorithmic Thinking and Problem Solving (2 Credits) SEN-102: Introduction to Programming (6 Credits)	Computer Science (Score: 6 or 7)	Computer Science A (Score: 5)	Computer Science (Score: A)

Questions about CMKL University's AP/ IB/ A-Level Credit Awarding Policy may be directed to the University Registrar's Office at cmklregistrar@cmkl.ac.th.