

国際質保証制度設計業務成果発信シンポジウム (2025.11.04)

「国境を越えた高等教育の質保証：実践・視点・地域的アプローチの共有」

Initiatives of Internal Quality Assurance in the “Asia Real Problem Solving-Driven AI Education Program” in Partnership with Four Asian Universities



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“Asia Real-World Problem-Solving Driven AI Education Program” (Asia Applied Artificial Intelligence: A³I)

- Selected in 2021 as one program under the “Project to Strengthen the Global Reach of Universities” (Campus Asia+)

Campus Asia Universities







A³I Program Leveraging Each University's Strengths

● Background: Problems Facing Asia and Japan

- Asia faces a shortage of AI talent and lacks established effective education models
- Human resource development to solve real-world problems in local communities and industries using cutting-edge AI is urgently needed

● Program Objective: Pioneering Asia's Future Through AI Education

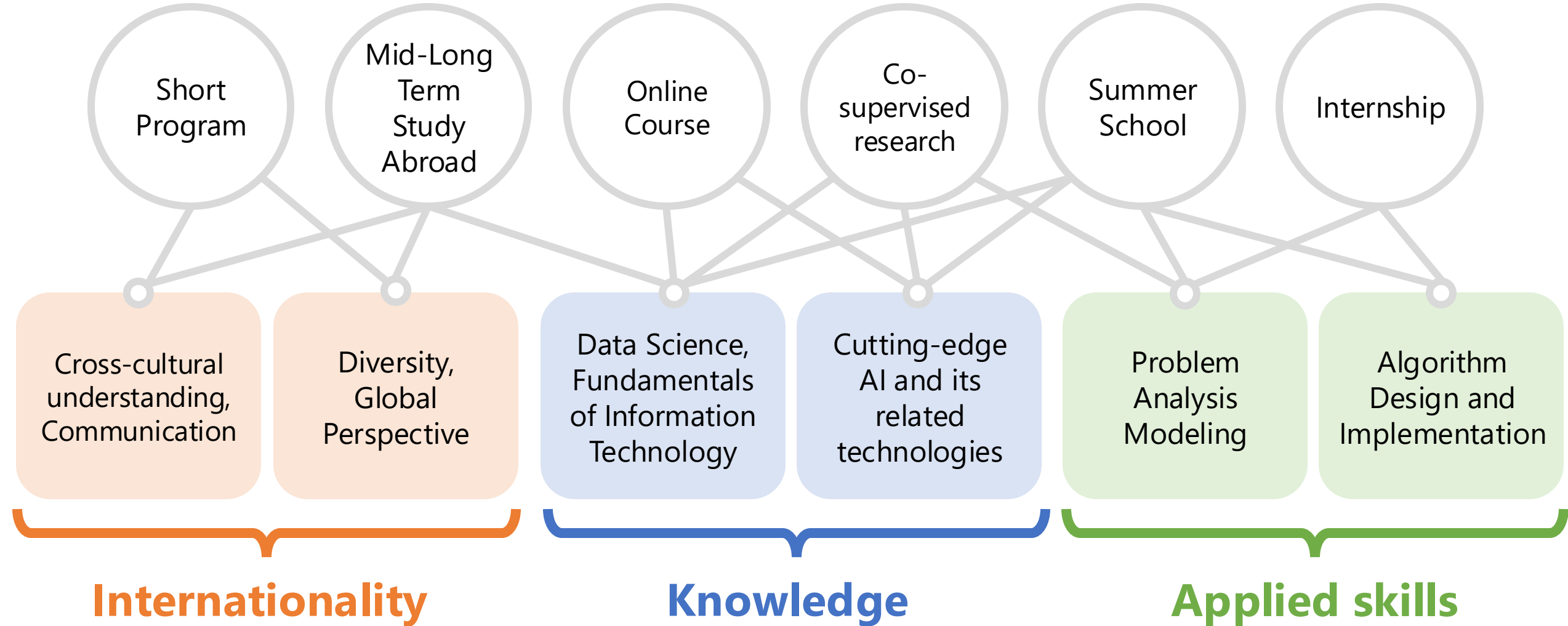
- Establish a new international industry-academia collaboration AI education model, serve as a bridge with Asian countries, and aim to cultivate AI talent to drive Society 5.0 and DX

	 山梨大学 UNIVERSITY OF YAMAGUCHI 地域の中核 世界の人材	 杭州电子科技大学 HANGZHOU DIANZI UNIVERSITY	 PUKYONG NATIONAL UNIVERSITY	 UNIVERSITI MALAYSIA PERLIS
Areas of Strength	Computer vision	Brain-machine interface	Smart robotics	IoT
Industry	Manufacturing (Monozukuri)	Advanced AI	On-campus	Multi-nationality
Field	Smart agriculture	Rehabilitation	Healthcare	Smart city

Contents Implemented in the A³I Program

- **Short-term exchange “Short program”**
 - Developing a global mindset through cultural experiences and local exchanges in each country
 - Implementing technical training (summer schools) that leverages the strengths of each university
- **Mid- to Long-Term Exchange (Dual-Degree Program)**
 - Establishment of a framework for credit transfer with quality assurance
 - Awarding of degrees in accordance with each university's regulations
- Establishment of a **Cross-Border Joint Research Supervision System** and Promotion of International Collaborative Research
- **Online Course**
 - Faculty members from various universities conduct omnibus lectures
- Strengthening industry-academia collaboration networks that leverage the strengths of industry and regional characteristics
- Building and Operating an **Alumni Network**

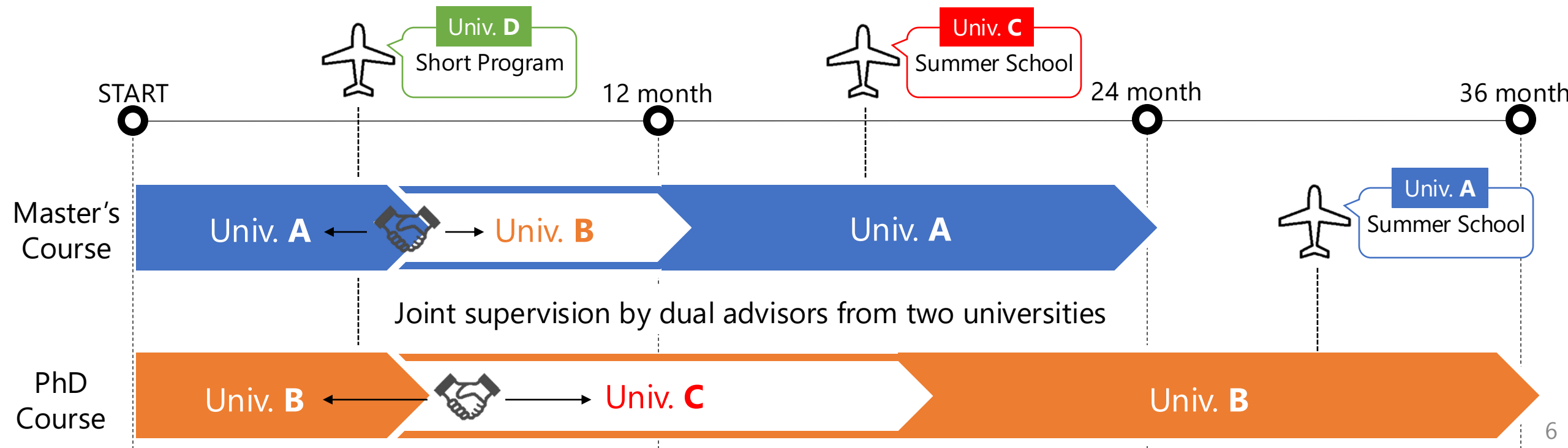
Competencies and Capabilities Developed Through the A3I Program



Dual-Degree (DD) Program

- What is a dual degree program?
 - A system in which students enroll in educational programs at different universities and earn two degrees simultaneously
 - The A³I Program has concluded DD program agreements between four graduate schools※
- ※ HDU-UniMAP has not been signed yet

The DD Scheme in A³I









Major Achievements in the A³I Program

● Establishment of an Educational Model

- University of Yamanashi, PKNU, HDU, and UniMAP sign MoA to implement DD program
- **Strengthening the Quality Assurance System:** Establishing Program Management and Improvement Processes through the A³I Steering Committee and the A³I International Evaluation Committee

● Exchange Results

- Despite the impact of the COVID-19 pandemic, **over 564 students** participated in various exchange activities by the end of 2024 academic year
- **Number of DD degree holders:** Number of individuals who will have obtained a DD degree by the end of the 2024 academic year
 -   Master's Degree **5 students (UY), 3 students (PKNU)**
 -   PhD Program **5 students**
 -   Master's Degree **10 students (HDU)**
- **International co-authored papers:** **Over 50 papers** co-authored between A3I partner universities

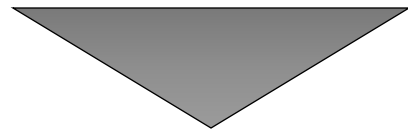
● Enhancing Student Capabilities

- Based on student survey results, improvements were confirmed in six competencies, including "communication skills with people from different cultural backgrounds," "cutting-edge AI knowledge," and "real-world problem-solving skills."

Preparations developed for A³I program (1/3)

● Changes to student status system at Univ. of Yamanashi

- Students on exchange programs previously held “**Study Abroad**” status
- A student could not register for courses offered at Univ. of Yamanashi
- Going on an exchange program inevitably delayed graduation by six months to one year



• New academic status system developed for A³I

- ✓ Students can now take UY courses online or on-demand while they are abroad
 - However, no separate curriculum will be prepared for students studying abroad; evaluation and credit recognition will follow the same scheme as for regular coursework
- ✓ Students will not postpone their graduation due to participation in the A³I program

Preparations developed for A³I program (2/3)

● Expansion of Credit Transfer

- **[Principle of Credit Recognition]** The syllabus of the course for which the student earned credit must correspond to the syllabus of the course for which credit recognition is being considered
 - ✓ If the courses offered at the host and home institutions do not match, [students must take many courses at both universities](#), imposing a heavy burden on them
- To enable students to acquire broader knowledge beyond what is offered in the UY's educational program, the curriculum was revised and new courses eligible for credit transfer were added
 - ✓ **"Basic Principles for the Operation of the Credit Transfer System"** (MEXT Notice No. 328, Attachment 4)

When courses offered by other universities have a degree of equivalence sufficient to be considered within the scope of a specific category of elective courses at one's own university, credit may be granted even **without a one-to-one correspondence in terms of content, level, and other factors.**

• **Quality Assurance of Credit Transfer**

- ✓ The Faculty of Engineering Education Committee reviews whether credits earned abroad align with the diploma policy and curriculum policy of the student's educational program.

UY operates a system that ensures quality while reducing the burden on students

Preparations developed for A³I program (3/3)

- **English-supported Courses in UY Master's Programs**

- Increased English-supported courses across all educational programs in the Master's Program in Engineering at UY Graduate School even in educational programs unrelated to A³I

- **Establishment of joint research supervision system**

- **Integration of research themes**

- ✓ Matching of host faculty members based on research themes
- ✓ Research supervision leveraging the strengths of supervising faculty at both sending and receiving universities

- **Researcher exchange**

- ✓ Visits by home university supervisors

- **Co-authoring international research papers**

- **Student Support**

- Mutual exemption of admission and tuition fees
- Accommodation support
- Religious considerations (providing prayer rooms)

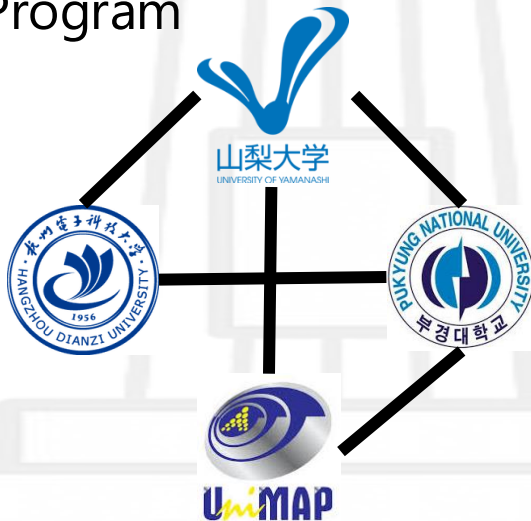
Three Core Pillars Supporting Quality Assurance

The A³I Program

Pillar 1

International Agreements and Frameworks

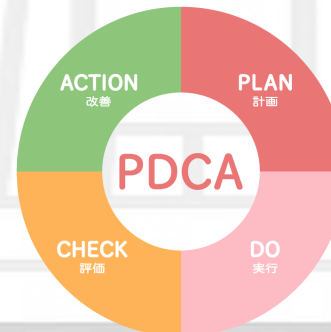
- Signing of MoA for the DD Program



Pillar 2

Management and Evaluation Framework

- Establishment of an operational and evaluation framework based on the PDCA cycle
 - A3I Steering Committee
 - A3I International Evaluation Committee



Pillar 3

Information Sharing and Communication System

- Holding steering committee meetings at least twice a year
 - Annual plans, etc.
- Utilizing communication tools like Slack to achieve close collaboration

Quality Assurance of Educational Content

● Quality Assurance Based on International Standards

- Quality assurance based on MEXT's *"Guidelines for Establishing International Joint Degree Programs such as Joint Degrees and Double Degrees"*
 - ✓ Education programs are also reviewed by the Internal Quality Assurance Committee at the University of Yamanashi
- Partner universities are also accredited by quality assurance agencies in their respective countries, such as the Accreditation Board for Engineering Education of Korea, the Board of Engineers Malaysia, and the Higher Education Teaching Evaluation Center of the Chinese Ministry of Education

● Clarification of requirements for obtaining DD degree

- Based on each university's prescribed degree awarding process

● Credit Transfer Scheme

- Establishment of a credit transfer scheme and effective course enrollment model
- Newly established common courses (online courses) between universities, recognized as credits for completion

Establishment of an International Quality Assurance Framework

- **Quality Assurance System**

- Establishment of an operational and evaluation framework following **the PDCA cycle**

- **Evaluation System**

- **A³I Steering Committee**

- ✓ Planning and decision-making: One representative each from each university responsible for education, research, and international affairs.

- **A³I International Evaluation Committee**

- ✓ Evaluation and advice by external experts. One academic and one industry representative appointed from each country

- **Degree**

- Earn the required credits (or receive credit transfers) in accordance with each university's educational program regulations and policies
- Dissertations are rigorously reviewed based on each university's degree examination regulations

- **Grading**

- Development of a system capable of issuing transcripts that clearly visualize learning objectives and assessment methods, based on the *"ASEAN+3 Guidelines on Transcripts and Supplementary Materials for International Students' Academic Records"*

Quality Assurance PDCA Cycle

● Improvements Based on Evaluation Results

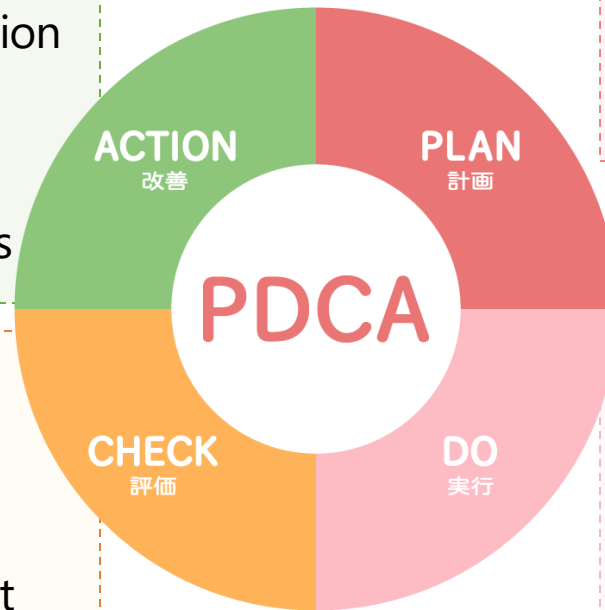
- Based on the evaluation results and advice from the International Evaluation Committee, the Steering Committee discusses improvement proposals
- Implementation of improvements to activities and operational frameworks

● Internal Evaluation

- Survey and analysis of participating students
- Preparation of self-assessment report

● External Evaluation

- Review by the A³I International Evaluation Committee



● A³I Steering Committee

- Review program curricula and credit transfer schemes
- Planning various initiatives

● Program Implementation

- Operation of short programs, summer schools, and short-term/mid-to-long-term study abroad programs according to the plan
- Close collaboration between universities is maintained to resolve any unexpected issues that arise during program operation

Conclusion

- **Overview of the A3I Program**

- **Purpose:** To serve as a bridge between Japan and Asia, fostering AI talent
- **Target Talent Profile:** Individuals equipped with international perspective, knowledge, and applied skills
- **Collaboration leveraging the strengths of four universities:** Yamanashi University, PKNUP, HDU, and UniMAP

- **Quality Assurance Framework for the Program**

- **International Quality Assurance Framework:** PDCA cycle is implemented effectively. A system is established to conduct inspections by the Evaluation Committee and constantly measure improvement
- **Quality Assurance of Educational Content:** Establishment of a quality-assured DD education program through credit transfer schemes, electronic transcripts, and collaborative research frameworks

The A³I Program aims for continuous development as an Asian AI talent development model, grounded in international quality assurance