

Call for application of “Summer Course” Inter-University Exchange Project (Japan-Europe)



August 19-September 3, 2025

at Higashi-Hiroshima campus, Hiroshima University

“AI Applications in Maritime and Ocean Studies”

1. Background and Program Objective

The maritime and ocean-related fields are not only about technologies and businesses associated with the sea, but are also deeply connected to global sustainable development and environmental protection. Covering approximately 70% of the Earth’s surface, the ocean plays a vital role in biodiversity conservation, climate regulation, and as the foundation of global trade infrastructure. Therefore, challenges such as marine resource management and the optimization of ship operations are recognized as critical global issues. Furthermore, innovation in marine technology presents an exciting research area for students from diverse disciplines such as environmental science, economics, and tourism.

In this context, Hiroshima University applied for and was selected for the “Inter-University Exchange Project” by the Ministry of Education, Culture, Sports, Science and Technology (MEXT), with its program titled “Training program for Next Generation Leaders in AI in Maritime Economic Security and Sustainability”. This is a five-year program implemented in collaboration with five leading European universities—Ca’ Foscari University of Venice, University of Graz, World Maritime University, University of the Basque Country, and Leipzig University—offering cutting-edge research and education.

The program aims to foster experts equipped with interdisciplinary and internationally applicable perspectives, knowledge, research skills, and experience in AI technologies and maritime fields, which are crucial to economic security between Japan and the EU. These experts will contribute to the realization of a more sustainable and better society.

As part of this initiative, Hiroshima University will host a summer Course that explores case studies of big data and AI applications in the maritime and ocean fields, aiming to develop new business models through data analysis powered by AI. The program consists of lectures, group work, and fieldwork, culminating in a final competition where the most compelling business models will be selected.

During the lectures, participants will learn about current measurement technologies and data in the marine and maritime sectors, analysis methods, the latest ocean policies, carbon neutrality goals for 2050, and relevant legal regulations. Following this, participants will form groups to investigate and analyze issues of their interest and work on developing business ideas that apply their findings.

This summer course will also include visits to related companies and organizations as part of the curriculum, offering students hands-on learning opportunities. Additionally, cultural experiences such as visits to Miyajima and the Hiroshima Peace Memorial Park will provide participants with deeper insights into Japanese culture and the importance of peace and history in Hiroshima.

Learning Objectives

Through a combination of workshops, classroom instruction, field visits, & independent research, the program will enable students to:

- (1) The ability to conceptualize solutions to societal issues in the marine and maritime sectors using AI and big data.
- (2) The ability to combine knowledge and methods from multiple fields and apply them to real-world problems.

- (3) The ability to collaborate with international students from diverse cultural backgrounds, engage in discussions, and reach consensus toward a common goal.
- (4) The ability to autonomously advance data analysis and planning within a limited timeframe, and make decisions based on evidence.

2. **Program** (**TENTATIVE**. Will be updated once the details are finalized.)

(1) Program in Hiroshima (in-person)

| | Date | Contents |
|--------|---------------|--|
| DAY0 | Aug 18 Mon | Entry to Japan (Hotel check-in) |
| DAY1 | Aug 19 Tue | Opening ceremony, orientation, explanation of the 'Competition on Business Models Using Big Data and AI in the Marine and Maritime Sectors', Welcome Party |
| Day 2 | Aug 20 Wed | Lecture on the current status of ocean measurement and data (e.g., temperature, salinity, currents), group work |
| Day 3 | Aug 21 Thu | Group work |
| Day 4 | Aug 22 Fri | Miyajima and Peace Memorial Park (Japanese cultural experience) |
| Day 5 | Aug 23 Sat | OFF (reserve day) |
| Day 6 | Aug 24 Sun | OFF (reserve day) |
| Day 7 | Aug 25 Mon | Visit to Kure City, battleship tour, lectures, etc. |
| Day 8 | Aug 26 Tue | Lecture on the current status of maritime measurement and data (e.g., ships, navigation, port operations), group work |
| Day 9 | Aug 27 Wed | Lecture on regulations, the latest marine policies, and the 2050 carbon neutral goal, group work |
| Day 10 | Aug 28 Thu | Company/Organization visits, lecture |
| Day 11 | Aug 29 Fri | Group work |
| Day 12 | Aug 30 Sat | OFF (reserve day) |
| Day 13 | Aug 31 Sun | OFF (reserve day) |
| Day 14 | Sep 1 Mon | Group work |
| Day 15 | Sep 2 Tue | Presentation preparation |

| | | |
|--------|--------------|--|
| Day 16 | Sep 3 Wed | Final presentation (Competition), Closing ceremony & farewell party |
| | Sep 4 Thu | Departure from Hiroshima Airport (Hotel check-out) |

(2) Number of Participants: 15 students (5 from HU, 10 from HU's collaborating universities)

4. Application

(1) Number of positions: Up to **5 students** (A selection process will be applied if the number of applicants exceed the quota.)

(2) Requirements:

- ✓ Be a graduate student (Master's or Doctoral) enrolled in Hiroshima University.
- ✓ Have an equivalent of TOEIC L&R score of 680 or higher.
- ✓ Have an interest in marine and m
- ✓ Maritime issues (Open to students from any field).
- ✓ Be willing to attend lectures, participate in group work, and give presentations in English.
* Selected students are expected to bring their own PC.
- ✓ Be able to attend all classes throughout the program period.
- ✓ Be able to comply with program rules and regulations and fully participate in the entire program.

(3) How to apply

Each partner university office is requested to send students' application forms to Hiroshima University **by Tuesday, May 20, 2025**. *Each partner university needs to set an earlier date.

(4) Selection result

If the number of applicants exceeds the limit, a selection will be made.

The selection result will be informed **by the end of May (planned)**.

5. Fees

- ✓ Program fees: Free of charge (incl. lectures, excursion, welcome & farewell party. Meals and personal expenses are not included)

6. Credit and Certificate (Digital badge)

- ✓ Participants will receive a digital badge as a certificate from Hiroshima University upon completion of the course.
- ✓ 2 credits: X9001101 "AI Applications in Maritime and Ocean Studies"

7. Points of Contact

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