2026 International Joint Graduate Course on Sustainable Energy

Participants:

Shanghai Jiao Tong University, China

Waseda University, Japan

Korea University, South Korea

University of Maryland, U.S.A.

Hamburg University of Technology, Germany (Host)

2026 Host:

Hamburg University of Technology, Germany

21073 Hamburg, Deutschland

July 20 - July 31, 2026

Monday-Friday, 8 am-5 pm

Below is the course information of 2025, provided for reference only. Please refer to the final arrangement of 2026 when available.

Course Objectives: Sustainable Energy Production, Conversion, Utilization, and Recovery

- Gain understanding of production, storage, conversion and utilization of sustainable energy.
- Understand limitations, challenges, and opportunities.
- Gain experience in designing sustainable energy systems.
- Develop own vision for a future sustainable energy scenario and a strategic plan.
- Learn about assessing and enhancing sustainability of current energy resources.

Main instructors

Instructors from Shanghai Jiao Tong University, Waseda University, Korea University, Hamburg University of Technology, University of Maryland, as well as visiting experts from Chinese industry, will guide the students.

Dr. Ruzhu Wang, Shanghai Jiao Tong University
Dr. Zhenyuan Xu, Shanghai Jiao Tong University
Dr. Baowen Zhou, Shanghai Jiao Tong University
Dr. Tao Ma, Shanghai Jiao Tong University
Dr. Reinhard Radermacher, University of Maryland
Dr. Gerhard Schmitz, Hamburg University of Technology
Dr. Hoseong Lee, Korea University
Dr. Niccolo` Giannetti, Waseda University/The University of Electro-Communication

Course Subjects / Outlines

- Solar thermal and sorption systems
- Solar PV
- Renewable synthetic fuels
- Wind energy
- Ocean energy and Nuclear energy
- Air as ultimate medium for power, cooling, heating, and storage cycles
- Heat storage
- Battery
- Fuel cell
- Air-conditioning demand and energy efficiency
- Desiccant-assisted Air Conditioning systems
- Heat pumps for heat decarbonization
- Net-zero-energy building
- Energy systems
- Waste heat recovery
- Carbon capture

- Other subject developments presented by visiting members from the industry.

These topics will be then developed in group work by the students. Grading is based on homework projects and presentations, for two assignments (Final selection of topics will be made jointly in class).

Grading

Final presentation (70%)
Homework reports (30%)

While in the course:

The students will attend classes for 8-hours per day, for 10 days. A typical class day will have lectures, in-class projects, and homework assignments.