World-leading Innovative Graduate Study Program

Co-designing Future Society (WINGS-CFS)

or (未来に向けた課題指向型文理協創プログラム)

(Issue-Oriented Arts and Science Synergetic Program for the Future)

【Target】 Although common globally, we face many complex and compounded issues that must be solved based on the historical, political, and socio-economic contexts specific to each region, and there is an urgent need to develop cross-disciplinary human resources who can co-design future society.

- Declining population and birthrate, and aging population
- Intergenerational, gender and minority disparities
- Ethics of life and death in the context of increasing longevity
- Regional unevenness and disparities in socioeconomic resources, etc.

Current Status and Issues in Graduate Education

Conventional graduate school education has focused mainly on fostering successors but do not have envisions to educate highly intelligent human resources who will be active in society to solve practical issues.

- We should develop human resources who can change and advance their careers in response to academic progress and social needs.
- In addition to "acquisition of specialized knowledge", "acquisition of problem-solving skills (advanced learning skills)" is required.

Good practice in interdisciplinary education are very limited, because "joint research" or "academic fusion" between multiple disciplines has become a goal in itself.

- Methodologies from various fields of expertise should be brought together to create novel approaches and social innovations.
- The issues are compounded and complex. Therefore, we should take up the challenge of systematic cross-disciplinary education with a focus on the synergies of arts and science.

Capacity Development in Arts and Science Synergistically, and integrated promotion of graduate school reform

Supporting to build a global commons

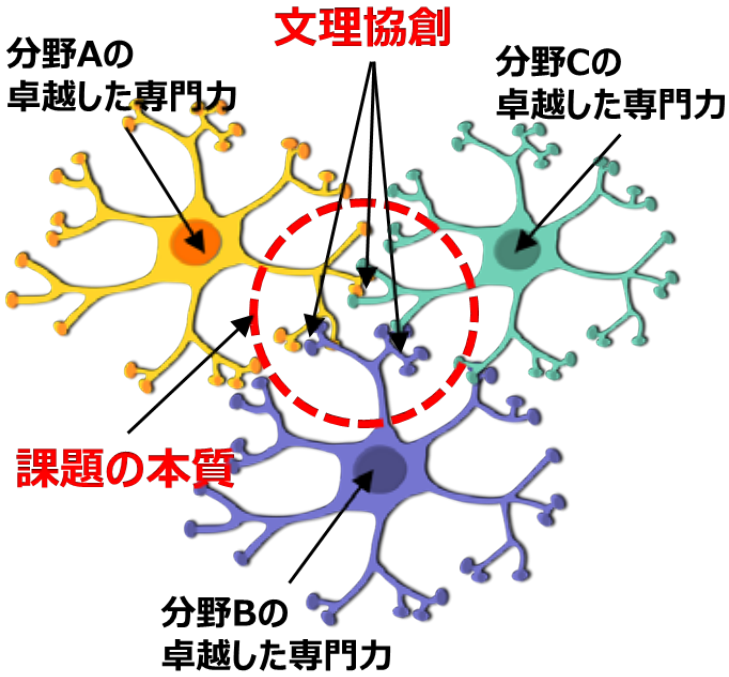
Arts and Science Synergistic Talents

Target Talent

- Excellence in the field of expertise and the flexibility not to stick to it.
- Aim for long-term global optimization rather than short-term local optimization.
- Designs synergistic co-design to solve problems that are difficult to achieve alone.

3 capabilities

- Resilient social imagination to discover social issues
- Ability to understand others and empathize with different fields and experts
- Future-oriented public empathy, not resigned to affirming the status quo



integrated promotion of graduate school reform

Promote faculty awareness and academic renewal, and drive the reform of the graduate school into a place for fostering knowledge professionals who create diverse values and systems as a global commons.

Issue-oriented education to nurture human resources for the synergistic co-design of arts and science

- The social imagination requires field experience.
- Self-relativization is necessary for the ability to understand others.
- Public empathy requires an intrinsic motivation.

Traditional graduate education has not provided the opportunity to face real-life issues head-on, and has failed to instill social imagination, understanding of others, and public empathy.

Issue-oriented education through synergistic work in the arts and science

Cross-disciplinary synergistic work

Issue setting	Identify what needs to be done to realize the vision for the future and present it as a clear issue.
Issue analysis	Choosing an appropriate analytical method to determine the nature of the issue and reveal the background mechanism.
Developing the issue	Conceptualize the process that leads to the solution of the issue, and link it to the next policy development and social implementation.

Standard Curriculum of Issue-oriented Education

M1 M2 D1 D2 D3

Master's Research | Master Thesis | Doctoral Research | Ph.D Thesis

Specific Research

Issue Setting

Special Lectures on Issue Setting I-V

(elective mandatory course: 2 classes 4 credits)

- Intersectional lecture with multiple faculty members in the humanities and sciences at the same time
- Five lectures (ethics x AI, ideology x robotics, history x energy, disability x city planning, longevity x big data, etc.)

Issue Analysis

Special Lectures on Issue Analysis I-V

(elective mandatory course: 2 classes 4 credits)

- Multi-disciplinary lecture on problem analysis methods across the humanities and sciences
- Five lecture courses (ideological analysis, historical analysis, institutional analysis, spatial analysis, information analysis, numerical analysis, etc.)

Issue setting and analysis

Cross-disciplinary collaborative seminar I-II

(elective mandatory course: 1 classes 2 credits)

- Field exercises to deepen understanding and skills in issue setting and analysis through interviews with residents and community surveys (two exercises with different assignments)
- A series of collaborative work: discovering issues, crossing new multidisciplines, embodying issues, selecting and analyzing analytical methods, considering them, sharing multidisciplines, and explaining them to others

Issue development

- Practical exercises that allow students to gain hands-on experience in solving actual problems in collaboration with practitioners and experts during a short-term stay at the site of the problem
- 2 practicum subjects in different forms (multidisciplinary exchange practicum, domestic and international internship)

Global Commons Practice I-II

(elective mandatory course: 1 classes 2 credits)

- 12 or more credits from lectures, exercises, and practical training courses are systematically taken.
- Interactive sessions (about once a month) for mutual discussions between a diverse group of outstanding students and faculties.

Completion Requirements

Requirements

- Meet the completion requirements of the major.
- A minimum of 12 credits from lectures, exercises, and practical courses are systematically taken.
- Has the major and minor, and is supervised by a major and minor supervisors.
- Pass the mid-term, QE, and final examinations.

Evaluation Points

- Are students learning in a issue-oriented and synergistic manner through lectures, exercises, and practical training?
- Does he or she incorporate discipline that is not in his or her area of expertise?
- Is the review of the past and the vision for the future described in the research paper in a synergistic manner?
- Have they had experiences that lead to their social imagination?

Arts and Science Synergistic Talents

D3

Final Exam.
Ph.D Thesis,
Course Status

Document Review
Interview
Presentation

D2

Interim exam.
Ph.D Thesis,
Course Status

D1

Qualifying exam.
Master's Thesis,
Course Status

Internal and external judges
- faculty member in charge
- Directors, etc.
- Faculty members of overseas universities
- experts in international organizations
- corporate practitioners

M2

Interim exam.
Master's Thesis, Course Status
(Only students who are suitable for the arts and science synergistic talents will be promoted as program students.)

M1

Entrance exam.
Motivation, activities, and ability to carry out research

Entrance to Graduate School

Collaboration with external organizations

Collaboration with Top Universities

- Special seminars and lectures by top-notch faculty members from top foreign universities based on cutting-edge researches.
- Promotion of excellent international research through overseas research surveys
- Joint implementation of overseas internships and summer schools
- Personnel exchange and training for young faculty and researchers through sabbaticals, etc.

- Princeton University
- Massachusetts Institute of Technology
- Yale University
- Imperial College London.
- Ecole des Ponts Parisiques
- Technical University of Munich
- Swiss Federal Institute of Technology Zurich
- Royal Institute of Technology, Sweden
- Stockholm University
- Australian National University
- National University of Singapore
- Vietnam National University, Hanoi
- Padjadjaran University
- Tsinghua University
- National Taiwan University
- Seoul National University
- University of Cape Town
- University of Nairobi
- University of Sao Paulo

Collaboration with International Organizations

- Special practical seminars and lectures by internationally-active experts on issue-solving
- Joint implementation of domestic and international internships that address international social issues in a practical manner
- Double degree program with the United Nations University, etc.

- Japan International Cooperation Agency (JICA)
- United Nations University Institute for Advanced Studies in Sustainability (UNU-IAS)
- United Nations Industrial Development Organization (UNIDO)
- Asian Development Bank Institute (ADBI)

(Coordinator Oki is also the Senior Vice Rector of the United Nations University)

Collaboration with global enterprizes

- Special practical seminars and lectures by experienced experts on the process of issue solving
- Joint implementation of multidisciplinary exchange training that develops manufacturing and policy discussions to solve issues
- Joint implementation of domestic and international internships to learn methodologies for solving issues in industry
- Deeper communication between students and business people through recurrent education, etc.

- SDGs Civil Society Network
- EBARA Corporation
- Suntory Global Innovation Center
- Shimizu Corporation
- Daikin Industries, Ltd.
- Toshiba (company)
- Toyota Central R&D Labs.
- IBM Japan
- Hitachi, Ltd.
- Fast Retailing
- Honda Motor Co.