

WINGS advanced skill training programs

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You are required to participate in at least one advanced skill training program per year.

The contents provided by WINGS are as follows. You have to take the contents marked as "Required to take".

01 WINGS name: Next Generation Development Program for International Excellence

Offered contents

| Content name | days / hours | online or face-to-face | Target grade | Requirement*1 | Notes |
|--|--|------------------------|--------------|---------------|---|
| Task-oriented seminar in research activity | Occasional(All year · Intensive lecture) | online · face-to-face | D1~D3 | ○ | Set a research activity in consultation with the supervisor |

*1 ○: Required to take, △: Required to take one of them

02 WINGS name: WINGS for Creating Educational Research (WINGS-CER)

Offered contents

| Content name | days / hours | online or face-to-face | Target grade | Requirement*1 | Notes |
|--|--|------------------------|--------------|---------------|---|
| Stanford/Utokyo Partnership Program on International/Cross-Cultural Education and Global Citizenship | ~6 lectures in total (Partial enrollment possible) | online | D1~D3 | ○ | |
| International Scholarly Dialogue for Developng Global Leaders | 2-3 days | online or face-to-face | D1~D3 | | Depending on the situation, there is a possibility of face-to-face implementation in a foreign country. |

*1 ○: Required to take, △: Required to take one of them

03 WINGS name: WINGS: Advanced Business Law Program

Offered contents

| Content name | days / hours | online or face-to-face | Target grade | Requirement*1 | Notes |
|---------------------------------------|---|------------------------|--------------|---------------|-------|
| Advanced Business Law Program Lecture | 105 min./ lecture ~10 lectures/ year | online | D1~D3 | ○ | |

*1 ○: Required to take, △: Required to take one of them

※D3 includes D4 belonging to a fourth-year PhD course.

04 WINGS name: WINGS of Advanced Economics

Offered contents

| Content name | days / hours | online or face-to-face | Target grade | Requirement*1 | Notes |
|---|-----------------------|------------------------|--------------|---------------|-------|
| Workshops for WINGS of Advanced Economics | once a week, All year | online or face-to-face | D1~D3 | ○ | |
| Individual meetings with top researchers in Economics | ~twice a year | online or face-to-face | D1~D3 | | |

*1 ○: Required to take, △: Required to take one of them

05 WINGS name: Global Studies Initiative: WINGS (GSI WINGS)

Offered contents

| Content name | days / hours | online or face-to-face | Target grade | Requirement*1 | Notes |
|-------------------|----------------------------|------------------------|--------------|---------------|-------|
| GSI Seminar | 90 min., occasionally held | online or face-to-face | D1~D3 | | |
| GSI WINGS Meeting | 50 min., twice a month | online | D1~D3 | ○ | |

*1 ○: Required to take, △: Required to take one of them

06 WINGS name: WINGS of Advanced Basic Science Course (WINGS-ABC)

Offered contents

| Content name | days / hours | online or face-to-face | Target grade | Requirement*1 | Notes |
|---------------------------------|--------------|-----------------------------------|--------------|---------------|--|
| Advanced Basic Sciences Seminar | ~half a day | online(if possible, face-to-face) | D1~D3 | ○ | The content will be limited to the introduction of research to the master course students. The content will be held during the lunch time, and a practice session will be held in front of the WINGS-ABC course students in advance. |

*1 ○: Required to take, △: Required to take one of them

08 WINGS name: Global Science Graduate Course (GSGC)

Offered contents

| Content name | days / hours | online or face-to-face | Target grade | Requirement*1 | Notes |
|----------------------|--------------|------------------------|--------------|---------------|-------|
| GSGC Exchange Semina | 3時間 | online | D1~D3 | ○ | |

*1 ○: Required to take, △: Required to take one of them

09 WINGS name: International Graduate Program for Excellence in Earth-Space Science (IGPEES)

Offered contents

| Content name | days / hours | online or face-to-face | Target grade | Requirement*1 | Notes |
|--|--------------------|------------------------|--------------|---------------|-------|
| Special Lectures on Earth-Space Frontier Science | 1 class × 13 times | online | D1~D3 | △ | |
| Exercises in Earth-Space Frontier Science | 3 days | online | D1~D3 | △ | |
| Onsite Training in Earth-Space Frontier Science | more than 2 weeks | face-to-face or online | D1~D3 | △ | |

*1 ○: Required to take, △: Required to take one of them

10 WINGS name: Forefront Physics and Mathematics Program to Drive Transformation (FoPM)

Offered contents

| Content name | days / hours | online or face-to-face | Target grade | Requirement*1 | Notes |
|-----------------------------------|-------------------|------------------------|--------------|---------------|-------|
| Diversity and Ethic Training | 2 hours × 3 times | online | D1~D3 | ○ | |
| 4PM Seminar | 2 hours/1 lecture | online | D1~D3 | △ | |
| International Career Seminar | 1 day | online/face-to-face | D1~D3 | △ | |
| International Research Experience | 2 weeks~3 months | face-to-face | D1~D3 | | |

★The students have to select two from the above contents.

*1 ○: Required to take, △: Required to take one of them

11 WINGS name: WINGS: Co-designing Future Society (WINGS CFS)

Offered contents

| Content name | days / hours | online or face-to-face | Target grade | Requirement*1 | Notes |
|--|---|---|--------------|---------------|-------|
| Engineering Competency I-Project Based Learning | Once a week, half a year | online | D1~D3 | | |
| Engineering Competency II-Research Internship | 1~2 months (internship at a company), All year | online or local face-to-face (depending on company: FY2021) | D1~D3 | | |
| Engineering Competency III-Summer Camp | 5 days (training camp style) | online | D1~D3 | | |
| Fundamentals of Future Society Initiative I | 4 lectures × 3 days (Intensive lecture course), half a year | online | D1~D3 | | |
| Fundamentals of Future Society Initiative IIE | 4 lectures × 3 days (Intensive lecture course), half a year | online | D1~D3 | | |
| Engineering Literacy II -Business Strategy, Intellectual Property- | Once a week, half a year | online | D1~D3 | | |
| Poster Presentation | half a day | online | D1~D3 | ○ | |

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12 WINGS name: WINGS Program for Materials Research, Information, and Technology (MERIT-WINGS)

| Offered contents | | | | | |
|--|--------------------------|---------------------------------|--------------|---------------|--|
| Content name | days / hours | online or face-to-face | Target grade | Requirement*1 | Notes |
| Conspectus of advanced materials science | S semester, every week | face-to-face or online | D1~D3 | ○ | Must be taken while enrolled in the course. |
| Material science executive seminar | All year, 4 times a year | On-site, face-to-face or online | D1~D3 | ○ | Opportunities for visiting innovation sites such as domestic and foreign companies, and research institutes, as well as on-site discussion at public offices. Must be taken at least three times while enrolled in the course. |

*1 ○: Required to take, △: Required to take one of them

13 WINGS name: WINGS Program in Gerontology Global Leadership Initiative for Age-Friendly Society (WINGS-GLAFS)

| Offered contents | | | | | |
|------------------------------------|-------------------------------|------------------------|--------------|---------------|---|
| Content name | days / hours | online or face-to-face | Target grade | Requirement*1 | Notes |
| General Theory of Gerontology 1 | one period per week, one term | online or face-to-face | D1~D3 | ○ | Since this course is an omnibus lecture, the required number of attendance is set depending on students' school year. |
| General Theory of Gerontology 2 | one period per week, one term | online or face-to-face | D1~D3 | ○ | Since this course is an omnibus lecture, the required number of attendance is set depending on students' school year. |
| Practical Exercise for Gerontology | Half a day (Once) | online or face-to-face | D1~D3 | | Available to students who want to take. |

*1 ○: Required to take, △: Required to take one of them

※D3 includes D4 belonging to a fourth-year PhD course.

14 WINGS name: Sustainable Agriculture Education Program

| Offered contents | | | | | |
|---|--------------------------------|--|--------------|---------------|------------------|
| Content name | days / hours | online or face-to-face | Target grade | Requirement*1 | Notes |
| Mathematical sciences in agriculture | Once a week 4 months | online | D1~D3 | △ | |
| One Earthology I | Depends on each person's plan | Depends on each person's plan | D1~D3 | △ | |
| One Earthology II | Depends on each person's plan | Depends on each person's plan | D1~D3 | △ | |
| One Earthology III | Depends on each person's plan | Depends on each person's plan | D1~D3 | △ | |
| Sequence Statistics and Mathematical Biology | Once a week 1 month | online | D1~D3 | | |
| Introduction to Genome Informatics | Once a week 1 month | online | D1~D3 | | |
| Introduction to Biostatistics | Once a week 1 month | online | D1~D3 | | |
| Knowledge Information Processing | Once a week 2 months | online | D1~D3 | | |
| Sequence Statistics and Mathematical Biology | Once a week 1 month | online | D1~D3 | | every other year |
| Molecular Modeling and Simulation | Once a week 1 month | online | D1~D3 | | |
| Omics Analysis | Once a week 1 month | online | D1~D3 | | every other year |
| Functional Genomics | Once a week 1 month | online | D1~D3 | | |
| Introduction to Systems Biology | Once a week 1 month | online | D1~D3 | | |
| Introduction to Structural Bioinformatics | Once a week 1 month | online | D1~D3 | | |
| Field Informatics | Once a week 1 month | online | D1~D3 | | |
| Special Lectures on Agricultural Bioinformatics I | Once a week 1 month | online | D1~D3 | | |
| Special Lectures on Agricultural Bioinformatics II | Not available | Not available | D1~D3 | | |
| Special Lectures on Agricultural Bioinformatics III | Once a week 1 month | online | D1~D3 | | |
| Special Lectures on Agricultural Bioinformatics IV | twice a month 2 months | online | D1~D3 | | |
| Special Lectures on Agricultural Bioinformatics I | Not available | Not available | D1~D3 | | |
| Research Exercise on Agricultural Bioinformatics | Occasional | online | D1~D3 | | |
| Food Science Seminar Series I | Once a week 4 months | online | D1~D3 | | |
| Food Science Seminar Series II | Once or twice a month 4 months | online | D1~D3 | | |
| Food Science Seminar Series III | During Summer vacation | face-to-face (Internship at the Ministry of Health, Labour and Welfare or the Ministry of Agriculture, Forestry and Fisheries) | D1~D3 | | |
| Topics in Biomass Utilization Research I | Once a week 2 months | face-to-face (field trip) | D1~D3 | | every other year |
| Topics in Biomass Utilization Research II | Once a week 2 months | online | D1~D3 | | |
| Biomass Utilization Research Seminar I | 2 days | face-to-face | D1~D3 | | every other year |
| Biomass Utilization Research Seminar II | 2 days | face-to-face | D1~D3 | | |
| Seminar for Global Agriculture and Culture | 3 days | online | D1~D3 | | |

| | | | | | |
|---|--|---|---------------|--|------------------|
| Seminar for Global Agriculture and Culture | Domestic training (dates TBD, April-August) Overseas training: 10 days (February-March) | face-to-face (domestic training, overseas training) | D1~D3 | | |
| Biodiversity and Agriculture | 4 days | face-to-face (field training) | D1~D3 | | |
| Training in Nature Restoration Operation Monitoring | Not available | Not available | D1~D3 | | |
| Agro-Informatics Seminar | Occasional | face-to-face (Attendance at symposiums, tours and seminars) | D1~D3 | | |
| Radioactive Substances Influences in Agriculture | Once a week 1 month | online | D1, D2 | | |
| Influences of Radioactive Substances in Forested Ecosystems | Not available | Not available | D1~D3 | | |
| Writing a Research Proposal | 1~3 days | online | D1~D3 | | |
| Writing a Research Article | 1~3 days | online | D1~D3 | | |
| Science Communication | Once a week 1 month | online | D1~D3 | | |
| Seminar in Science Communication | 6 days | online | D1~D3 | | |
| Research Ethics and Clinical Ethics I | 2 days | online | D1~D3 | | |
| Basic Lecture for Data Science for Drug Development | Once a week 1 month | online | D1~D3 | | |
| Data Mining for Biology | Not available | Not available | Not available | | |
| Software and Algorithm Design for Biology | twice a week 2 months | online | D1~D3 | | every other year |
| Debate on Ethics in Science and Technology | Once a week 2 months | online | D1~D3 | | |
| Statistical Analysis for Biosciences | Once a week 3 months | online | D1~D3 | | |

*1 ○: Required to take, △: Required to take one of them

※D3 includes D4 belonging to a fourth-year PhD course.

15 WINGS name: WINGS for Life Science and Technology (WINGS-LST)

| Offered contents | | | | | |
|--|---|--|--------------|--------------------------|--|
| Content name | days / hours | online or face-to-face | Target grade | Requirement*1 | Notes |
| Multidisciplinary Lecture Series in Life Science & Technology | Once a week half term 105 min. / 1 lecture | online or face-to-face | D1~D4 | <input type="checkbox"/> | English, held on S term. 2 credits. Credit can be given. |
| World-leading Innovative Lectures in Life Science & Technology | 4 times a year, take 4 lectures 2 hours / lecture | online | D1~D4 | <input type="checkbox"/> | English, point system. 2 credits. Credit can be given. |
| WINGS-LST Laboratory Training ① Large Experimental Animal Exercise ② Collaborative projects with industrial companies ③ Global Faculty Development Course ④ Internship at industrial companies ⑤ Short-term stays overseas ⑥ Summer Internship ⑦ Support for the participation in the online conferences ⑧ Designed by student | ① Attended 2 lectures out of 4 lectures a year, about half a day for each lecture ② Several times a year, about half a day ③ Two days, about two hours for each lectures ④ Half a day to several days ⑤ About 2 weeks or more ⑥ About 2 months or more ⑦ Occasionally ⑧ Occasionally | ① face-to-face ② online or face-to-face ③ online or face-to-face ④ online or face-to-face ⑤ face-to-face ⑥ face-to-face ⑦ online ⑧ online or face-to-face | D1~D4 | <input type="checkbox"/> | Report submission required. Point system. 2 credits. Credits can be given for one or two courses, depending on the project. For projects that incur expenses, students can participate if the expenses can be covered by the expenses from SPRING or others. |
| WINGS-LST Seminars ① WINGS Journal Club ② WINGSセミナー (WINGS Seminars) | ① Once a month, about 5 times in total, about 1 hour ② Occasionally held, 30 minutes to half a day | online or face-to-face | D1~D4 | <input type="checkbox"/> | 1 credit. Credit can be given. A point system for each project (a credit is given with 7 points). |
| WINGS-LST General Meeting / WINGS-LST Colloquium | Twice a year, half day to one day each | online or face-to-face | D1~D4 | <input type="radio"/> | This is a social event for all. No credits will be given; if there is a participation fee for a face-to-face event, you can participate if it can be covered by SPRING or other expenses. |
| Coaching in English | ~1 hour | online or face-to-face | D1~D4 | <input type="checkbox"/> | No credits will be given |
| WINGS-LST Collaboration Project | half a year | online or face-to-face | D1~D4 | <input type="checkbox"/> | No credits will be given. When the WINGS program student is the applicant, the SPRING student can participate as a co-applicant. However, they can only participate as a co-applicant if the cost of the joint research can be covered by SPRING or others. |
| WINGS-LST Advanced Training | From Mentor Assignment to Completion | online or face-to-face | D1~D4 | <input type="radio"/> | No credit given. Research guidance by a mentor. |

*1 ○: Required to take, △: Required to take one of them

16 WINGS name: WINGS for Frontiers of Mathematical Sciences and Physics (WINGS-FMSP)

Offered contents

| Content name | days / hours | online or face-to-face | Target grade | Requirement*1 | Notes |
|--|---|------------------------|--------------|---------------|-------|
| Frontiers of Mathematical Sciences and Society II | Autumn semester | online | D1~D3 | ○ | |
| Frontiers of Mathematical Sciences and Society IV | Autumn semester (5 days in mid-December) | online | D1~D3 | | |
| Frontiers of Mathematical Sciences and Physics I~X | Summer semester · Autumn semester | online | D1~D3 | | |

*1 ○: Required to take, △: Required to take one of them

※D3 includes D4 belonging to a fourth-year PhD course.

17 WINGS name: WINGS Program in Proactive Environmental Studies (WINGS-PES)

| Offered contents | | | | | |
|--|---|--|--------------|--------------------------|---|
| Content name | days / hours | online or face-to-face | Target grade | Requirement*1 | Notes |
| Overseas Exercise in Proactive Environmental Studies II | Overseas Study for 3-6 months | | D1~D3 | <input type="checkbox"/> | Follow the course guidelines for the subjects in the Environmental Knowledge Professional Practicum Group (Subject Group C) (https://wings-pes.edu.k.u-tokyo.ac.jp/home-english/subject-list) . |
| Research Internship for Proactive Environmental Studies I/II | Internship for 3-6 months | Possibly face-to-face depending on content | D1~D3 | <input type="checkbox"/> | Follow the course guidelines for the subjects in the Environmental Knowledge Professional Practicum Group (Subject Group C) (https://wings-pes.edu.k.u-tokyo.ac.jp/home-english/subject-list) . |
| Transdisciplinary Skills and Theories I/II | Participation in seminars of other lab. 6 months - 1 year | online (Possibly face-to-face) | D1~D3 | <input type="checkbox"/> | Follow the course guidelines for the subjects in the Environmental Knowledge Professional Practicum Group (Subject Group C) (https://wings-pes.edu.k.u-tokyo.ac.jp/home-english/subject-list) . |
| Critical Thinking Basics -Select concepts, tools and techniques I | 12 lectures in S semester | online | D1~D3 | <input type="checkbox"/> | |
| Critical Thinking Basics -Select concepts, tools and techniques II | 12 lectures in A semester | online | D1~D3 | <input type="checkbox"/> | |
| Critical Thinking Skills -Select applications & reflection I | 12 lectures in S semester | online | D1~D3 | <input type="checkbox"/> | |
| Critical Thinking Skills -Select applications & reflection II | 12 lectures in A semester | online | D1~D3 | <input type="checkbox"/> | |
| Special Lecture on Frontier Science X | 12 lectures in S semester | online | D1~D3 | <input type="checkbox"/> | |
| Special Lecture on Frontier Science XI | 12 lectures in A semester | online | D1~D3 | <input type="checkbox"/> | |
| Salon of Excellence | Once in 1-2 months | online (Possibly face-to-face) | D1~D3 | <input type="radio"/> | No credit given. |

*1 ○: Required to take, △: Required to take one of them

※D3 includes D4 belonging to a fourth-year PhD course.

18 WINGS name: International Graduate Program of Innovations for Intelligent World

| Offered contents | | | | | |
|---|---|------------------------|--------------|---------------|-------|
| Content name | days / hours | online or face-to-face | Target grade | Requirement*1 | Notes |
| Intoroduction to Management / Lecture for Global Creative Leaders II | 1 lecture / week (6th period of Thu., A1/A2 terms) | online | D1~D3 | △(D1,D2) | |
| Facing Social Issues with ICT / Lecture for Global Creative Leaders IX | 1 lecture / week (6th period of Tue., S1/S2 terms) | online | D1~D3 | △(D1,D2) | |
| Practice of Future Creation Innovation/ Lecture for Global Creative Leaders X | 1 lecture / week (5th period of Thu., A1/A2 terms) | online | D1~D3 | △(D1,D2) | |
| Introduction to Machine Learning / Intelligent World Informatics Lecture V | 1 lecture / week (4th period of Fri., A1/A2 terms) | online | D1~D3 | △(D1,D2) | |
| Information System Exercises/Intelligent World Informatics Special Lecture VI | 1 lecture / week (6th period of Thu., A1 term) | online | D1~D3 | △(D1,D2) | |
| Training Camp for Intelligent Society | 2 days | online/face-to-face | Newcomers | ○ | |
| Orientation for new students | 1 hour | online | Newcomers | ○ | |
| Elevator pitch | 1 day | online | D1 | ○ | |
| Monthly Meeting | 2 hours / month | online | D1~D3 | ○ | |
| Research Presentation (Poster Session) | Half day / year | online/face-to-face | D1~D3 | ○ | |

*1 ○: Required to take, △: Required to take one of them

※D3 includes D4 belonging to a fourth-year PhD course.

19 WINGS name: Quantum Science and Technology fellowship Program (WINGS-QSTEP)

Offered contents

| Content name | days / hours | online or face-to-face | Target grade | Requirement*1 | Notes |
|---|--------------|------------------------|--------------|---------------|-------|
| Q-STEP seminar | Occasional | online | D1~D3 | ○ | |
| Quantum Science Technology Overlook Lecture III | 12 lectures | online | D1~D3 | ○ | |

*1 ○: Required to take, △: Required to take one of them

20 WINGS name: Global Leadership Program for Social Design and Management (WINGS-GSDM)

Offered contents (Students are recommended to take one course each year from the categories of ①, ②, and ③. In no particular order.)

| Content name | days / hours | online or face-to-face | Target grade | Requirement*1 | Notes |
|--|--|------------------------|--------------|----------------------------|---|
| Lecture : Social Design and Global Leadership | 2 credits (S semester, Intensive lecture) | online or face-to-face | D1~D3 | <input type="checkbox"/> ① | Students are recommended to take the course. |
| Lecture : Engineering Competency I - Project Based Learning- | 2 credits (A semester · Thursday, 5th period) | online or face-to-face | D1~D3 | <input type="checkbox"/> ② | Students are recommended to take either of the courses of <input type="checkbox"/> ②. |
| Lecture : Case Study (Project Based Learning on the Technological Innovation and the Social Solutions) | 2 credits (A semester · Intensive lecture) | online or face-to-face | D1~D3 | <input type="checkbox"/> ② | |
| Lecture : Case Study (Social Design and Management) | 2 credits (Intensive lecture, S semester) | online or face-to-face | D1~D3 | <input type="checkbox"/> ③ | Students are recommended to take one of the courses of <input type="checkbox"/> ③. |
| Lecture : Engineering Competency II -Research Internship- | 2 credits (All year · Intensive lecture) | online or face-to-face | D1~D3 | <input type="checkbox"/> ③ | |
| International Project (= Application support for the GX Overseas Study Program, etc.) | at any time | online or face-to-face | D1~D3 | <input type="checkbox"/> ③ | |

*1 ○: Required to take, △: Required to take one of them

※D3 includes D4 belonging to a fourth-year PhD course.