Degree Completion Guide 2017-2018

JAIST
JAPAN
ADVANCED INSTITUTE OF
SCIENCE AND TECHNOLOGY
1990

Degree Completion Guide

2017-2018

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JAIST Founding Principle and Education Policy

Japan Advanced Institute of Science and Technology (JAIST) was established in 1990 as the first national university specializing only in graduate studies in Japan. Since then JAIST has been leading the development of graduate education in Japan through positive introduction and continuous improvement of various new education ideas and systems including admissions in Spring and Fall, quarter system, multiple supervisory system, and minor research project. This pioneering education has been recognized by many industries that hire our graduates.

More than 20 years have passed since our establishment, however, and many other universities have come to introduce the same systems. Today JAIST needs to introduce new innovative and effective ideas of its own. In order to improve our education further, we decided to set “respecting students’ aim to study and intentions as much as possible” as a basic principle. Concretely speaking, hopefully we will allow students to design their course selection by themselves based on their career goal.

In April 2016, JAIST combined all the three schools into one. Free from the limitation set by the previous three schools, students now have a wider range of courses to choose from.

When graduating, students receive a transcript showing the list of the courses they have taken and their grades. By selecting courses voluntarily, students will be able to explain their reason for the selection of courses and their relevance to their career goal to their supervisor at JAIST and future employers.

JAIST has recently changed its goal on education. We put more emphasis on what ability students have obtained than on what they have understood. Reflecting this idea, every course evaluates students’ performance in terms of the level of ability acquisition. This idea is also shared in the supervision of students in every laboratory.

We hope every student makes the best use of education opportunities at JAIST through their positive commitment in order to prepare for their bright future.

President

Tetsuo Asano

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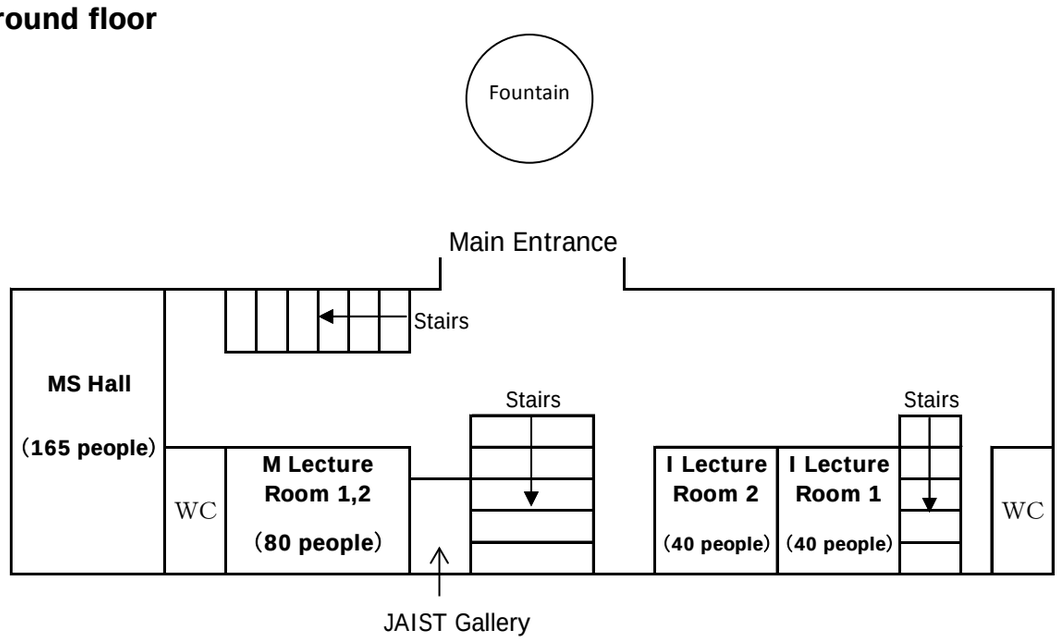
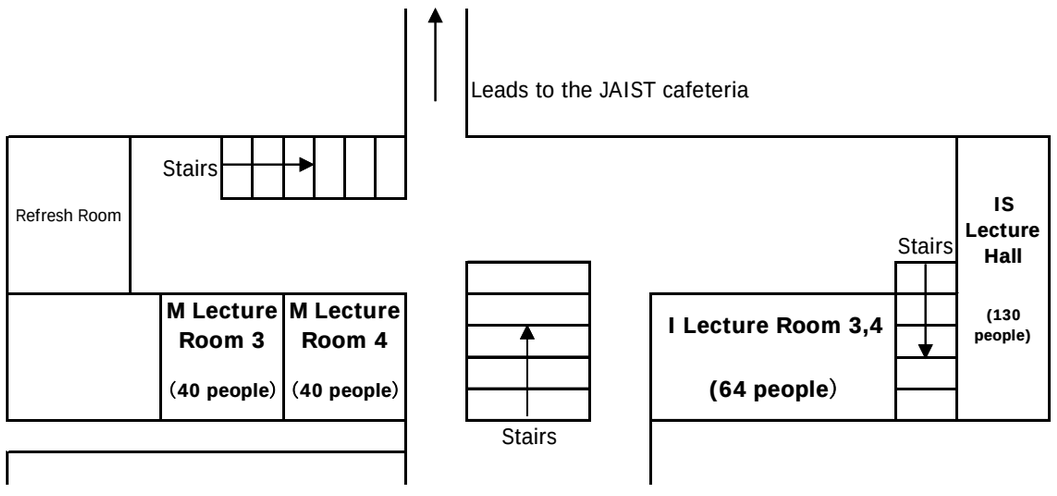
Ground floor

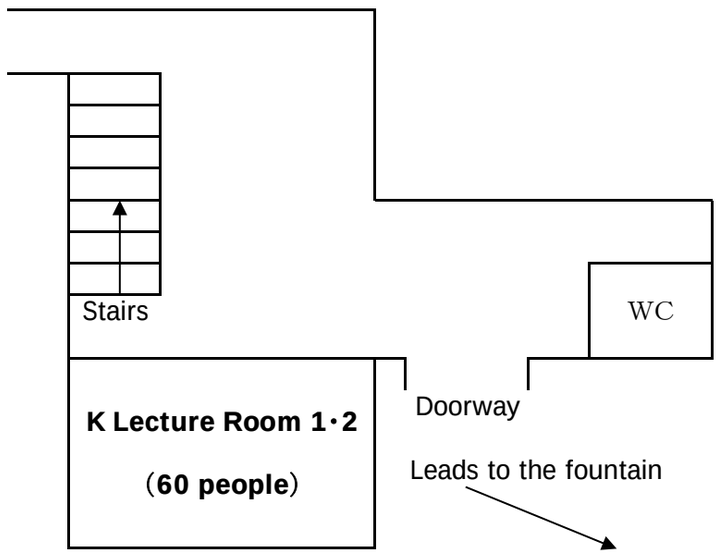


First floor

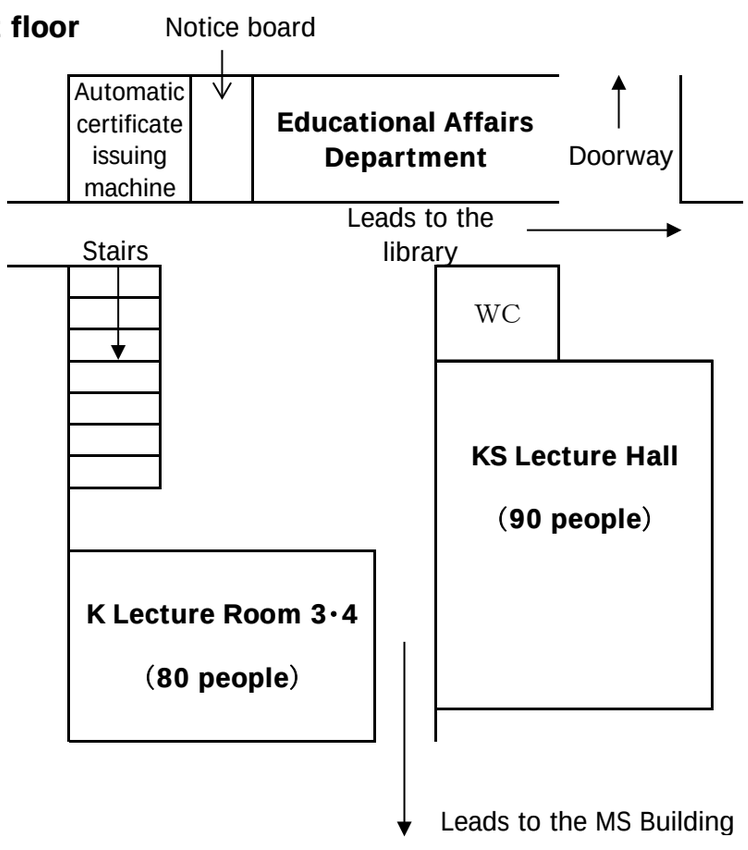


○KS Lecture Hall

Ground floor



First floor



I. Mission, Goals, Human Resource Development, and Policies of JAIST

● Mission of JAIST

JAIST endeavors to foster leaders capable of contributing to the making of a future world by creation of science and technology, through its most advanced education and research in an ideal academic environment.

● Goals of JAIST

- JAIST develops leaders in society or industry who hold credible expertise in the frontier science and technology, broad perspectives, high level of autonomy and communication skills, through its systematic advanced graduate education.
- JAIST, to contribute to societies with research outcomes, creates a center of excellence for advancement of researches for solving problems of our world and society and develops new fields through a variety of basic researches.
- JAIST fosters active human resources by promoting faculty and student exchanges with leading institute overseas and globalizing its education and research.

● Human Resource Development of JAIST

JAIST develops leaders in a society or industry who hold credible expertise in the frontier science and technology, broad perspective, high level of autonomy and communication skills. In the master's program, JAIST endeavors to fulfill the role of fostering human resources capable of understanding a variety of fundamental theories and applying them to problem solving. In the doctoral program, we aim to fulfill the role of fostering researchers or engineers capable of identifying and solving problems with their global-standard research ability and comprehensive perspective.

● Policies of JAIST

JAIST sets the following policies to advance the education for our students.

Curriculum Policies

JAIST aims to develop leaders in society or industry by fostering researchers and engineers with advanced expertise who understand the fundamental concepts in the area of advanced science and technology, hold ability to put expert knowledge into practice, comprehend diverse cultures, possess reliable communication skills and high ethical awareness, understand a wide range of relevant fields in a comprehensive manner, and are capable of finding and solving problems. To materialize this aim, JAIST designs the curriculum hierarchically and systematically to meet the needs of each degree program.

- **Master's program**

The curriculum of the master's program is designed to promote understanding of fundamental concepts of the advanced science and technology without any overspecialization, develop ability to apply expert knowledge to problem solving, foster ability to comprehend diverse cultures, enhance communication skills, and acquire high ethical awareness.

- **Doctoral program**

The curriculum of the doctoral program is designed to foster ability to identify and solve problems based on solid understanding of theories and frameworks of the area of advanced science and technology, and develop abilities to take leadership in the area of advanced science and technology based on reliable global communication skills, high ethical awareness, and comprehensive perspectives.

Laboratory Education Policy

JAIST considers the research education based in the laboratory as important as the coursework in graduate education. Laboratories provide students a versatile educational environment that can enhance their various qualities and serve diverse goals of their study. The laboratory education provides students with abilities necessary for a series of research processes from designing and implementation of research based on acquisition of expert knowledge and survey of relevant researches, to production of research theses, and eventually to presentation of research. It also aims to foster researchers or expert engineers necessitated by society by empowering students' social competencies through the laboratory environment containing diverse goals, backgrounds and nationalities.

● Master's program

In the master's program, in order for students to obtain ability to apply their expert knowledge to problem solving in addition to comprehension of fundamental concepts in the area of advanced science and technology, we carry out one-on-one or small group research guidance in accordance with the need of each student. Simultaneously, we train students to obtain knowledge of diverse cultures, communication skills, and high ethical awareness.

● Doctoral program

In the doctoral program, we provide research guidance on a one-on-one base in order for students to acquire abilities to identify a special issue in a research field without losing a comprehensive viewpoint and to apply scientific solution to it. We foster their ability to achieve excellence in the research processes up to the presentation of research outcomes at international conferences or in academic journals, while respecting and developing their individuality. Simultaneously, we develop their ability to lead advance research projects.

Policy for Awarding of M.Sc. and Ph. D. Degrees

JAIST implements degree awarding processes with quality assurance for each academic degree by establishing flexible and versatile guidance system for education and research based on lowered barriers among fields and among laboratories, which enables students to take courses from different fields and/or fusion fields in accordance with their career goal and to receive research guidance from different viewpoints by three professors.

● Master's program

JAIST awards the degree of Master of Science to the students who have:

- an understanding of a wide range of fundamental concepts in the field of advanced science and technology
- the ability to apply the fundamental theories to problem solving
- the research ability and academically and socially valuable expert knowledge and skills in a particular field
- comprehension of diverse cultures
- communication skills and high ethical awareness
- completed the master's program within the specified number of years
- acquired the required number of credits
- passed their oral defense and the final examination for a master thesis or a project report, or a Ph.D. Qualifying Examination.

● Doctoral program

JAIST awards the degree of Doctor of Philosophy to students who have:

- an understanding of framework and theories in the field of advanced science and technology
- the ability to apply the framework and theories to identify and solve problems
- global communication skills and high ethical awareness
- the ability to think from comprehensive perspectives
- the ability to take leadership in the field of advanced science and technology
- global standard research achievements in a particular research field
- completed the doctoral program within the specified number of years
- acquired the required number of credits
- passed their oral dissertation defense and the final examination

Ⅱ.Academic Calendar 2017-2018

First Semester (April 1 - September 30)	April 1 (Sat) - April 3 (Mon)	Spring Break
	April 4 (Tue)	Entrance Ceremony
	April 1 (Sat)	Orientation at Tokyo Satellite
	April 5 (Wed) - April 11 (Tue)	Orientation at Ishikawa Campus
	April 12 (Wed) - June 2 (Fri) **NOTE***	Term 1-1
	June 5 (Mon)	Safty Guidance
	June 6 (Tue) , June 7 (Wed) **NOTE****	No Class Day
	June 8 (Thu) - July 27 (Thu)	Term 1-2
	June 23 (Fri)	Degree Conferment Ceremony
	July 28 (Fri) - September 29 (Fri)	Summer Intensive
	August 1 (Tue) - August 31 (Thu)	Summer Break
	August 14 (Mon) - August 16 (Wed)	School Office Closed (Summer Break)
	September 22 (Fri)	Degree Conferment Ceremony
	NOTE* July 27 follws the Monday schedule. **NOTE** The last class of S102 and S503 meets either on June 6 or June 7.**	
Second Semester (October 1 - March 31)	October 1 (Sun)	School Office Closed (JAIST Anniversary)
	October 2 (Mon)	Entrance Ceremony
	October 1 (Sun)	Orientation at Tokyo Satellite
	October 3 (Tue) - October 10 (Tue)	Orientation at Ishikawa Campus
	October 11 (Wed) - November 30 (Thu) **NOTE*****	Term 2-1
	December 1 (Fri), December 4 (Mon) **NOTE******	No Class Day
	December 5 (Tue) - February 5 (Mon)	Term 2-2
	December 22 (Fri)	Degree Conferment Ceremony
	December 26 (Tue) - January 5 (Fri)	Winter Break
	December 29 (Fri) - January 3 (Wed)	School Office Closed (Winter Break)
	February 6 (Tue) - March 30 (Fri)	Winter Intensive
	March 23 (Fri)	Degree Conferment Ceremony
	NOTE* November 29 follows the FRIDAY schedule.** **NOTE**** The last class of S102 and S503 meets either on December 1 or December 4.**	

Period for Registration and Change of Courses at Ishikawa Campus

Terms	Period for Rregistration and Course Change
Term 1-1	April 12 (Wed) - April 25 (Tue)
Term 1-2	June 8 (Thu) - June 21 (Wed)
Term 2-1	October 11 (Wed) - October 24 (Tue)
Term 2-2	December 5 (Tue) - December 18 (Mon)

The terms at Tokyo Satellite

April - June: Term I
July - September: Term II
October - December: Term III
January - March: Term IV

Check the web <http://www.jaist.ac.jp/satellite/sate/outline/facility/> for the Tokyo Satellite operating hours since it occasionally varies.

Period for Registration and Change of Courses at Tokyo Satellite

Terms	Period for Rregistration and Course Change
Term I	April 12 (Wed) - April 25 (Tue)
	NOTE: April 12 (Wed) - April 18 (Tue) for courses begin in April
Term II	June 8 (Thu) - June 21 (Wed)
Term III	October 11 (Wed) - October 24 (Tue)
	NOTE: October 11 (Wed) - October 17 (Tue) for courses begin in October
Term IV	December 5 (Tue) - December 18 (Mon)

III. Study outline

1 Campus

JAIST's campus is in Nomi City, Ishikawa Prefecture. The program for Working Professionals in Tokyo is offered at Tokyo Satellite (Minato-ku, Tokyo).

2 Programs

The Graduate School of Advanced Science and Technology at JAIST offers a doctoral program which is divided into an initial two-year program and a subsequent three-year program. The initial two-year program is called the master's program and the subsequent three-year program is called the doctoral program.

3 Academic calendar

JAIST academic calendar shows the dates of classes, vacations, institute-wide activities, course registration periods, and so on. Students must check the academic calendar which is displayed on the notice board next to the automatic certificate issuing machine and is published on JAIST's website (Education → Academic calendar).

4 Semesters and class terms/periods

Semesters and class terms/periods at JAIST are shown in the Table below. Each class is 100-minute long, and a class meets 14 times in one term to complete a course bearing 2 credits. Refer to the syllabus for details of each course. One credit is awarded for the study amounts of 45 hours in self-study periods in addition to class periods (for the Required courses A, one credit is awarded for the study amounts in accordance with the necessary workload for appropriate results as defined by the supervisor). Students are expected to plan their coursework and keep their study record, accordingly using a study/plan record (See the section VI.4.2 for details) under the guidance of their supervisor so that they can have sufficient time for their efficient academic work toward a degree acquisition.

Appendix Table

Location	Class Terms	Class Periods
Ishikawa	First Semester: Term 1-1, Term 1-2 (8 weeks each) Summer Intensive (August, September) Second Semester: Term 2-1, Term 2-2 (8 weeks each) Winter Intensive (February, March)	1st Period 9:00 - 10:40 2nd Period 10:50 - 12:30 3rd Period 13:30 - 15:10 (Office Hours) 4th Period 15:20 - 17:00 5th Period 17:10 - 18:50
Tokyo	First Semester: Term I (classes starting in April to June) Term II (classes starting in July to September) Second Semester: Term III (classes starting in October to December) Term IV (classes starting in January to March)	1st Period 9:20 - 11:00 (Sat, Sun) 2nd Period 11:10 - 12:50 (Sat, Sun) 3rd Period 13:50 - 15:30 (Sat, Sun) 4th Period 15:40 - 17:20 (Sat, Sun) 5th Period 17:30 - 19:10 (Sat, Sun) 6th Period 18:30 - 20:10 (Mon to Fri) 7th Period 20:15 - 21:55 (Mon to Fri) Note: Video streaming classes in Ishikawa follows the Ishikawa class periods.

IV. Matters related to tuition fees and enrollment

1 Tuition fees

Tuition fees are collected separately for the full amount for each semester (first semester: April 1st - September 30th, second semester: October 1st - March 31st), and as a rule are to be paid by bank transfer (see details in *HANDBOOK for Students*). Note that if the tuition fees are revised while in school, the new fees will be applied upon the revision.

2 Leaves of absence

When students are not able to progress in their study for more than two consecutive months due to illness or other special reasons, they may apply for a leave of absence. The maximum period of leave in total for each of the programs, the master's and the doctoral, is 12 months. Please note that as the leave of absence is not counted in the total period required to complete a degree, study progression including course registration and research mentoring will not be recognized during the leave of absence, but there are no restrictions on use of the JAIST library or intra-school email.

The start date of a leave of absence should be the first of each month, and it will not be permitted midway through a month. If you wish to apply for a leave of absence, you must collect an Application for Leave of Absence from the Educational Service Section (hereafter, Kyoumu) and get approval from the supervisors, and submit the application to the president (via Kyoumu) no later than one month before the desired start of the leave of absence. If leave of absence is due to bad health, you must submit a doctor's statement also.

Please note that if the tuition payment is not completed before the desired leave of absence start date, the application will not be accepted.

If you wish to have a leave of absence midway through either semester, and you submit an application by April 10th (for the first semester) or October 10th (for the second semester), tuition will not be charged for the leave of absence. If the application is made after these dates, the full amount of tuition must be paid before the application is accepted. Check details of tuition fee payment during leaves of absence on the JAIST website (Education → Academic Procedures → Absence and Withdrawal).

3 Returning

You return when the leave of absence ends. If you wish to return to school before the end of the leave of absence, you must collect an Application for Returning at Kyoumu and submit it to the president (via Kyoumu) at least one month before your proposed month of returning. Returning status starts on the first day of the month.

4 Withdrawal

A date for withdrawal should be the last day of the month, and withdrawal midway through the month is not permitted. Students who wish to withdraw must collect an Application for Withdrawal from Kyoumu and obtain comments from the supervisors, and submit the application to the president (via Kyoumu) no later than one month before the proposed start of the withdrawal.

Regardless of the date of withdrawal, if the tuition and other fee payments required by JAIST are not completed, the application will not be accepted.

5 Disenrollment (loss of student status)

Students falling under any one of the following categories will result in the loss of student status:

(1) Those who have spent more than the permitted maximum periods (four years for the master's program, six years for the doctoral program)
*Students who wish to withdraw must complete the withdrawal procedures.

(2) Those whose leave of absence exceeds the period specified in Paragraph 4, Article 27 of the JAIST School Regulations (two years).

(3) Those who have not paid their entrance fee by the specified date and fall into one of the categories below:
- Students who have not been granted an entrance fee reduction or deferment.
- Students who have not been granted a half entrance fee reduction or deferment.

- Students whose entrance fee reduction or deferment has been revoked.

(4) Those who have neglected to pay their tuition fees and have not paid even at urging.

Note that if course credits have been earned during the period in which the tuition was unpaid for those who fall under either (3) or (4), the credits will also be cancelled.

6 Supplemental student status

Doctoral students who have spent more than three years in the doctoral program may be allowed to keep student status for a maximum period of two years only if they have met all the following requirements:

(1) Have obtained all the required credits for degree completion, except for credits from S601 “Advanced Science and Technology Dissertation”.

(2) Have submitted the outline of doctoral dissertation with the necessary research guidance from supervisor by the designated date.

(3) Have been judged by the dean that the students will be able to apply for a degree conferment within two years.

Supplemental student status can start only on April 1, July 1, October 1 or January 1. It cannot start subsequently right after leave of absence. Students who wish to get this supplemental status must contact Kyoumu at least one month before the proposed starting day of the status. This status restricts you to conduct any academic work on campus, thus JAIST does not sponsor you to apply/extend/renew your student visa for the period.

7 Name changes

If you have changed your name, you must submit a Notification of Change of Name with evidential documents attesting to the change (e.g. a new resident’s registration) to the president (via Kyoumu). After acceptance of the notification, all certificates and documents of JAIST will be issued with your new name. If you wish to continue using the old name at JAIST, notify it to Kyoumu when submitting the notification, and your name will remain unchanged even after the acceptance of your notification. Certificates will be issued only with the name registered in JAIST records.

V. Educational system

JAIST provides a detailed and unique educational system that adjusts to the ambitions, experiences, and abilities of students with the goal of helping each one realize their career targets.

1 Educational programs

JAIST offers five different educational programs that can be chosen according to each individual's career goal. Students choose one of the educational programs below and take courses accordingly. Students in the program for Working Professionals in Tokyo who are in the master's program will be in the M program and those in the doctoral program will be in the 3D program. Therefore, they do not select an educational program.

Regarding selection of the Mα, and 5D programs, an inquiry is conducted after a formal laboratory assignment (three months after enrollment), and selection is determined according to academic grades, English proficiency (scores of TOEFL or TOEIC, etc.), reason for application, and other factors.

1.1 Types of educational programs

(1) SD program (master's program • doctoral program)

This educational program is designed to identify students with top-level abilities at an early stage and to train scientists who can tackle new research challenges and open up new fields from a global perspective through a consistent doctoral education. Only those who have been admitted through the entrance examination for scholarship students for the SD program can take this program.

SD program students are given guidance by faculty groups organized by specialist area, and aim to complete the master's program in 1.5 years and the doctoral program in 2.5 years, completing the entire program in four years. They may be recommended to change to another educational program if they have low academic performance.

(2) 5D program (master's program • doctoral program)

This educational program provides a consistent five-year doctoral education through the master's program and the doctoral program.

(3) 3D program (doctoral program)

This educational program provides a three-year doctoral education in the doctoral program.

Points common to both the 5D and 3D programs (only for Ishikawa Campus students):

Students in the programs are strongly encouraged to participate in research activities at other research institutes in Japan or overseas, and try out long-term advanced internships at companies in accordance with their choice of career paths.

In order to give yourself opportunities to consider your future desired careers, you will choose one of two career tracks after enrollment. The tracks are; type S, for those who wish to become creative scientists who can plan and implement advanced research at education and research institutes, or wish to become university professors; and type E, for those who wish to become advanced specialist engineers who can lead and manage the latest research and development at companies. After you choose a track, you must record it in the Study Plan/Record.

Students have equal opportunities for the Grant System for Off-campus Activity (see *HANDBOOK for Students* for details) and for taking courses.

(4) M program (master's program)

This educational program is designed to provide a master's-level education for two years in the master's program to train practical specialist engineers who can play a leading role at companies or in other areas based on specialist knowledge and skill.

(5) Mα program (master's program)

This educational program provides a master's education as the same as M program. But it is designed especially for students who wish to learn properly from the basics or who have changed

their major after obtaining their bachelor's degree. Mα program can be completed in from two to three years and the tuition fee would be waived for the period (up to one year) longer than two years.

Students who have selected Mα program can apply for shortening the completion period (minimum two years) only at the time of submitting the research proposal or applying for degree conferment. You cannot cancel the application for shortening once been approved.

1.2 Changing educational programs

Application for changing educational programs may be approved only in the following cases when it is necessary for educational reason. Those who wish to change programs must notify the Kyoumu.

- Changing from the SD program to the 5D program / M program
- Changing from the 5D program to the M program
- Changing from the M program to the 5D program (Application can be accepted only at limited designated time)

Note that the program will be changed as soon as it is recognized that the SD program or the 5D program cannot be completed within the allotted time including the following cases:

- When a student does not submit a research proposal by the designated submission due date in the master's program
- When a student does not submit a dissertation outline by the designated submission due date in the doctoral program

Changing the programs will disqualify the SD program students from receiving SD program scholarships.

2 Study Programs

Several study programs are offered at JAIST. Students can choose one according to your study interests. A certificate of completion will be granted to those who have completed the required program work. For details, see the chapter entitled “Study Programs”.

3 Innovation Theory and Methodology for Social Competencies Innovation Theory and Methodology for Creativity

S101 “Innovation Theory and Methodology for Social Competencies”, S102 “Innovation Theory and Methodology for Creativity” in the master's program and S503 “Innovation Theory and Methodology for Total Capability Development” in the doctoral program are required courses. They are designed for students to strengthen human resources and creativity based on knowledge science methodology. For the course details, see the chapter entitled “Courses and Class Schedules” and the courses' syllabi.

VI. Matters related to taking courses

1 Degree completion requirements

JAIST's curriculum, which is based on the university's mission statement, is designed to help students systematically progress from the basics of knowledge science to its cutting-edge frontiers while acquiring fundamental academic skills that will enable them to make significant contributions to the development of state-of-the-art technologies and the resolution of current and future problems faced by society.

It is insufficient for you merely to take lectures with a passive attitude. To acquire abilities that will benefit you in the future, JAIST expects you to actively sow and nurture the seeds of social, organizational, or technical innovation for the next era toward a thorough understanding of advanced science and technology, and social and organizational problems through your learning process.

2 Course divisions

Each course bears a course division which might vary according to the kind of degree students plan to pursue. For example, when a student in the master's program aiming for a degree in Knowledge Science completes I2xx, it will be treated as a Technical course which can be counted for program completion, while a student in the master's program aiming for a degree in Information Science and completes I2xx, it will be a Basic course.

The details of each course divisions are below. Read it through carefully. Check the chapter entitled "Courses and Class Schedules" for more details.

2.1 Common course divisions of the master's program and doctoral program

Optional course (Opt)

A course group that contributes to supplementary reinforcement of one's academic work.

○ Credits from the courses cannot be counted as completion credits

2.2 Course divisions for the master's program

1 Global Communication course (GC)

A course group that contributes to the reinforcement of global languages while giving exposure to different cultures.

○ Up to 2 credits can be counted as completion credits

2 Global Liberal Arts course (GLA)

A course group that contributes to widening one's specialty by giving understanding in a wide range of interdisciplinary fields.

○ Up to 4 credits can be counted as completion credits in addition to required 1 credit from S101 "Innovation Theory and Methodology for Social Competencies"

3 Introductory course (Intr)

A course group that contributes to providing a foundation for one's specialty by giving understanding of the boarders of interdisciplinary fields.

<Reinforcement of master's-level specialized foundation>

○ Up to 4 credits can be counted as completion credits in addition to required 1 credit from S102 "Innovation Theory and Methodology for Creativity"

4 Basic course (Bsc)

A course group that contributes to the spiralization of one's specialty by crossing the boundaries of interdisciplinary fields.

<Reinforcement of core knowledge and methodology, etc., in specialized fields>

○ 6 credits or more are required as completion credits in addition to one of the following required elective courses:

S201 Science and Technology Thesis (8 credits)
S202 Science and Technology Project Report (2 credits)
S203 Science and Technology Survey for Doctoral Research Plan (2 credits)

5 Technical course (Tech)

A course group that promotes advancement of one's specialty by giving an understanding of the development of science technology.

<Establishing ability to understand wide, basic, specialized knowledge and apply it for solving problems>

○ Credits from the courses can be counted as completion credits in addition to required 2 credits from S401 “Science and Technology Minor Research Project” or S402 “Science and Technology Internship”

2.3 Course divisions for the doctoral program

1 Intermediate course (Imd)

A course group that deepens one's specialty by giving an understanding of the development of advanced science technology.

<Course group that promotes reinforcement of doctoral-level specialty application, conducted in Japanese and English>

○ Credits from the courses can be counted as completion credits in addition to required 1 credit from S503 “Innovation Theory and Methodology for Total Capability Development” and required 2 credits from elective S501 “Advanced Science and Technology Minor Research Project” or S502 “Advanced Science and Technology Internship”

2 Advanced course (Adv)

A course group that promotes the establishment of one's specialty by giving an understanding of the depth of advanced science technology.

<Courses are conducted mainly in English>

<To obtain global advanced study ability and to have a panoramic perspective to discover and resolve problems>

○ 4 credits or more are required as completion credits in addition to required 6 credits from S601 “Advanced Science and Technology Dissertation”

3 Degree completion requirements

Degree completion requirements are shown below. All the academic activities should be planned with the advice of the assigned supervisor and other advisors. Students are responsible for reviewing their course registration carefully to satisfy the requirements of degree completion.

3.1.1 Degree completion requirements of the master's program

(1) In principle, students are required to spend a minimum of two years in the master's program. If a prior application for fast-track degree completion is made and granted, and the plan for degree completion in a shorter period (one year minimum) is carried out with the academic grades deemed sufficiently high by faculty, in according to Article 36 of the JAIST School Regulations, one will be able to finish in less than two years. Information on fast-track degree completion will be provided at enrollment.

(2) Students must submit a master’s thesis or a research project report after receiving sufficient research guidance, and pass the defense on the thesis and the final examination. Those who select a Survey for Doctoral Research Plan must submit a report of Survey for Doctoral Research Plan, and pass the Ph.D. Qualifying Examination.

(3) Students must satisfy the requirements for course credits shown in both of the following Appendix Tables 1 and 2.

Appendix Table1　Credit acquisition requirements according to Major Research Project

<table>
<tr><th rowspan="2">Major research projects</th><th colspan="2">Required credits</th><th rowspan="2">Elective credits (See Appendix Table 2)</th><th rowspan="2">Total number of credits</th></tr>
<tr><th>Required courses A*</th><th>Required courses B **</th></tr>
<tr><td>Master's Thesis Project</td><td>S201 Science and Technology Thesis (8 credits)</td><td rowspan="3">S101 Innovation Theory and Methodology for Social Competencies (1 credit)
S102 Innovation Theory and Methodology for Creativity (1 credit)

S401 Science and Technology Minor Research Project
OR
S402 Science and Technology Internship (2 credits)</td><td>20 credits or more</td><td rowspan="2">32 credits or more</td></tr>
<tr><td>Research Project</td><td>S202 Science and Technology Project Report (2 credits)</td><td>26 credits or more</td></tr>
<tr><td>Survey for Doctoral Research Plan</td><td>S203 Science and Technology Survey for Doctoral Research Plan (2 credits)</td><td>28 credits or more</td><td>34 credits or more</td></tr>
</table>

*A supervisor will give guidance on a major research project.

** S101 and S102 are courses designed to strengthening the human resource and creativity. Advisers will give guidance on a minor research project or an internship. (Same in Appendix Table 2)

Appendix Table 2　Credit acquisition requirements according to course divisions

<table>
<tr><th>Course Division</th><th>Required courses A*</th><th>Required courses B**</th><th>Counted as elective credits in Appendix Table 1</th><th>Total number of credits</th></tr>
<tr><td>GC course (Global Communication)</td><td>—</td><td>—</td><td>Up to 2 credits can be counted</td><td rowspan="5">At least 32 or 34 credits according to Appendix Table 1</td></tr>
<tr><td>GLA course (Global Liberal Arts)</td><td>—</td><td>1 credit</td><td>Up to 4 credits excluding Required courses B can be counted</td></tr>
<tr><td>Intr course (Introductory)</td><td>—</td><td>1 credit</td><td>Up to 4 credits excluding Required courses B can be counted</td></tr>
<tr><td>Bsc course (Basic)</td><td>8 or 2 credits</td><td>—</td><td>6 credits or more excluding Required courses A must be obtained</td></tr>
<tr><td>Tech course (Technical)</td><td>—</td><td>2 credits</td><td>Possible to count (No maximum)</td></tr>
</table>

Note: <u>There are courses with special completion conditions which may not be possible to be counted as degree completion requirements.</u> For details, check the note for the course list in the chapter entitled “Courses and Class Schedules”.

<Example>

A case of a master student pursuing a degree in Knowledge Science (with a master's thesis at the Ishikawa Campus)

1 Global Communication course
- E211 Intermediate Technical Communication 1 (2 credits)

2 Global Liberal Arts course
- S101 Innovation Theory and Methodology for Social Competencies / Required course B (1 credit)

- L222 Introduction to Management of Technology and Intellectual Property Rights (2 credits)

3 Introductory courses
- S102 Innovation Theory and Methodology for Creativity / Required course B (1 credit)
- K111 Introduction to Management (2 credits)
- I114 Fundamental Mathematics for Information Science (2 credits)

4 Basic courses
- S201 Science and Technology Thesis / Required course A (8 credits)
- K213 Methodology for Systems Science (2 credits)
- K214 Methodology for Knowledge Media (2 credits)
- K236 Basis of Data Analytics (2 credits)

5 Technical courses
- S401 Science and Technology Minor Research Project / Required course B (2 credits)
- K411 Theory of Knowledge Management (2 credits)
- K413 Comparative Study of Knowledge Institutions (2 credits)
- I235 Game Informatics (2 credits)

Total 32 credits

3.1.2 Progression within JAIST: internal admission requirements for 5D program students

In order to advance to the doctoral program as 5D students, in addition to the degree completion requirements described in 3.1.1 above, all of the following requirements must also be met.

(1) 18 credits (9 courses) or more must be obtained from the Introductory courses, the Basic courses, and the Technical courses (excluding Required courses). Only 2 credits (1 course) from the Introductory courses can be included in the 18 credits (9 courses).

(2) 4 credits (2 courses) or more must be obtained from the E/J/G/L/Bxxx courses (including the Optional courses).

(3) One of the following conditions of English proficiency
- complete E211 “Intermediate Technical Communication 1” or one of the higher lever courses (E212, 213, 411, 412, 413, 422)
- submit a master's thesis/research project report/report of Survey for Doctoral Research Plan in English and pass the exam.

3.2 Degree completion requirements for the doctoral program

(1) In principle, to be eligible for a doctoral degree from JAIST, students are required to spend a minimum of five years in a graduate institute (including the time spent in the master's program). If an application for fast-track degree completion is made by the specified time, and it is recognized at a faculty meeting that there are excellent research achievements, one will be able to complete a doctoral program in a shorter time after spending three years (including the time spent in the master's program) in according to Article 37 of the JAIST School Regulations. See the section VIII.2.1 for details on fast-track degree completion.

(2) Students must submit a doctoral dissertation after receiving sufficient research guidance, and pass the defense on the dissertation and the final examinations.

(3) Students must satisfy the requirements for course credits shown in the following Appendix Table. Note that credits earned while in the master’s program at JAIST cannot be counted toward requirements for the doctoral degree completion except for the credits recognized by transfer credit evaluation (details are explained in the section 7 below).

Appendix Table　Credit acquisition requirements according to course division

Course Division	Required credits (9 credits)		Elective credits (11 credits or more)	Total number of credits
	Required courses A*	Required courses B**		
Imd course (Intermediate)	—	S503 Innovation Theory and Methodology for Total Capability Development (1 credit) S501 Advanced Science and Technology Minor Research Project OR S502 Advanced Science and Technology Internship (2 credits)	Possible to count	20 credits or more
Adv course (Advanced)	S601 Advanced Science and Technology Dissertation (6 credits)	—	4 credits or more excluding the required courses A must be obtained	

*A supervisor will give guidance on a dissertation.

**S503 is a course designed to strengthen the human resource and creativity. Advisors will give guidance on a minor research project and an internship.

Note: There are courses with special completion conditions which may not be possible to be counted as degree completion requirements. For details, check the note for the course list in the chapter entitled “Courses and Class Schedules”.

<Example>

A case of a doctoral student pursuing a degree in Materials Science

1 Intermediate course

- S503 Innovation Theory and Methodology for Total Capability Development / Required courses B (1 credit)
- S501 Advanced Science and Technology Minor Research Project / Required courses B (2 credits)
- K213 Methodology for Systems Science (2 credits)
- I212 Analysis for Information Science (2 credits)

2 Advanced course

- S601 Advanced Science and Technology Dissertation / Required courses A (6 credits)
- M617 Molecular and Functionality Design of Polymers (2 credits)
- M618 Materials Design (2 credits)
- M619 Materials Morphology (2 credits)
- M622 Advanced Biomolecular Science (2 credits)

Total　21 credits

4　Course-related procedures

4.1　Gakumu System and course syllabi

4.1.1　Gakumu System (Academic Affairs System)

JAIST uses the Gakumu System for all procedures related to course registration, grade checking, and so on. Make sure that you fully understand how to use the system and that do not have any problems with registration or other actions. If there are any points that you do not understand after

reading the manual, contact the Kyoumu.

[Logging in to the Gakumu System]
<JAIST top page → Education → Taking Courses → Gakumu System (Academic Affairs System)>
Note that the user ID for login is the same one assigned at enrollment, and the password is the same as for JAIST Mail.

4.1.2 Syllabi
Syllabi can be viewed on the Gakumu System and on the JAIST website (Education → Taking Courses→ Syllabi). Copies of the syllabus booklet are not available.

4.2 Study Plan/Record and course registration
4.2.1 Study Plan/Record
The Study Plan/Record refers to the plans and records of academic work from student's enrollment to completion. You are expected to record the details of guidance from supervisors for later reviewing of your academic work. The entries should be checked carefully and be kept up to date. The Study Plan/Record is managed entirely through the Portfolio System. Check the section entitled "Study Plan/Record" in *HANDBOOK for Students* for details.

4.2.2 Course registration
Plan your course registration properly by checking the class schedule and the course syllabi carefully. Neither registration of two courses which have overlapping schedules (even if only partially), nor registration of courses from which you have obtained credits will be allowed.
Note that Ishikawa Campus students must take courses held at the Ishikawa Campus, and students in the program for Working Professionals in Tokyo must take courses held at the Tokyo Satellite. You must also register online for non-credit courses in order to attend them.
Make course registration through the Gakumu System. Check the system manual for how to register for courses online (JAIST top page → Education → Taking Courses → Gakumu System (Academic Affairs System) → student manual → Course Registration/Grades).
All the academic activities should be planned with the advice of your supervisor. Register online for courses through the Gakumu System during the designated period for each term after a consultation with your supervisor. You can add, change, and cancel courses freely during the designated registration period and no course can be added/removed after the registration period ends. You are responsible for reviewing your registration carefully, correcting any mistakes and making sure the course registration is properly done. Confirm the course registration period for each term on the academic calendar.
Notification of intensive courses and other irregular courses will be made to students once the schedules have been set.

4.2.3 Maximum number of credits in course registration credits
At JAIST, an approximate maximum number of credits in course registration is set as shown below in order to ensure the proper number of hours for academic work related to the registered courses. The following maximum numbers do not limit your course registration, but you are recommended to plan your course registration based on this maximum. This is only applicable to Ishikawa Campus students.

(1) Approximate maximum number of credits in course registration
10 credits for each term

(2) Target courses
All courses except for the following:
- Required courses (Required courses A and B)
- Courses offered by Global Communication Center
- Summer and winter intensive courses

4.3 Repeating a course in the same year

The repeating of courses in the same academic year is handled according to the following.

(1) Students who have exceeded the standard completion period for the master's/doctoral program
Application for course repeating will be approved without conditions

(2) Students who are within the standard completion period
Application for course repeating has to be approved by the school

If you wish to repeat a course, you must submit an Application for Repeating Courses to Kyoumu within one week of the start of the course registration period for the term when the course will be held. The application form is available on the web page (JAIST top page → Education → Taking Courses → Course Registration (On-campus use only)). Course registration for the repeated course will be done by Kyoumu. Note that taking a course with the same course number but in a different language (e.g. K211 and K211E) is considered repeating a course and is required the submission of an application form.

No any applications are required for repeating non-credited courses S101 “Innovation Theory and Methodology for Social Competencies”, S102 “Innovation Theory and Methodology for Creativity” or S503 “Innovation Theory and Methodology for Total Capability Development”. You can register these courses to repeat through the Gakumu System during the course registration period.

5 Examinations, grade assessments, etc.

(1) A final exam will generally be given to complete a course. When exams are difficult to be given, research reports or similar tasks will be required for grade assessment.

(2) Grades are assessed by the result of a final examination and student’s achievement using a 100 point scale with 60 points or higher being considered “Passing”, and 59 points or less being considered “Failing” based on the view point, method, and criteria listed in the syllabus. Courses which are difficult to score with points will be assessed as either “Pass” or “Fail”. The specified credits will be awarded to those who receive a “Passing” evaluation.

(3) Credits that have already been obtained cannot be cancelled.

(4) Grades can be confirmed on the Gakumu System around two weeks after the end of each term for Ishikawa Campus students, and once notification for grade reports has been received from Kyoumu for students in the program for Working Professionals in Tokyo. Contact Kyoumu for any questions regarding grade assessments.

(5) If there are any improprieties related to taking courses or examinations, all credits for that semester will be withdrawn.

(6) JAIST may calculate an objective academic performance index based on (1) and (2) so that it might be used for certain procedures that JAIST deems necessary.

6 Course evaluations

To help improve class quality, JAIST asks you to provide an evaluation for each course you have attended at the end of the course. The results are notified to the course instructors after grades are reported.

7 Recognition of credits obtained prior to admission

Credits obtained prior to admission can be recognized as credits obtained at JASIT by credits transfer. If you wish to apply for credits transfer, obtain approval from your supervisor and submit an application form “Request for Transfer Credit Evaluation” to the president (via Kyoumu) within two weeks of enrollment. Download the application form from the JAIST website (JAIST top page → Education → Academic Procedures → Request for Transfer Credit).To transfer credits obtained at other graduate institutes, the official transcript and syllabi for the courses must be submitted as well. The result of application for credit transfer will be noticed about two months after enrollment. You are not allowed to change or withdraw the approved application for credits transfer. The grade of the transferred course is recorded as “T” (Transferred), however by taking the same course at JAIST

after enrollment, the grade will be changed into numerical grade. All credits will be counted toward the degree completion requirements.
Check the following details.

(1) Credits obtained at other graduate institutes

The maximum number of credits that can be transferred is:

-up to 8 credits for the KS/IS/MS courses (Kxxx/Ixxx/Mxxx) in the master's program

-up to 8 credits for the KS/IS/MS courses except for those from the K1xx/I1xx/M1xx courses in the doctoral program

(2) Credits obtained in JAIST master's program

To transfer credits to the doctoral program, master's program students must have a minimum of 10 credits. Students who have more than 10 credits may transfer one credit for each credit in excess of 10 credits.

For example, 1 credit in the case of 11 credits, 2 credits in the case of 12 credits, up to a maximum of 8 credits.

Credits can come from KS/IS/MS courses, Nxxx courses and E413. Credits obtained from KS/IS/MS 1xx level courses, N001-N005 courses cannot be transferred.

(3) Credits obtained as a JAIST non-degree seeking student.

All credits of the courses successfully obtained in the year you enter as a degree seeking student will be recognized in the master's program.

All credits (except for those from the K1xx/I1xx/M1xx courses) which match the courses offered in the program of the year you enter as a degree seeking student will be recognized in the doctoral program.

(4) Other

Please contact Kyoumu.

8 Taking courses at other graduate institutes through the course interchange agreement

To promote exchange and cooperation with the graduate institutes listed in the Appendix Table (hereafter referred to as "Partner Institutes") and to enhance our educational content, JAIST has implemented a course interchange agreement whereby each other's courses can be taken by students. After checking the syllabi of our Partner Institutes, students who wish to take courses there should discuss with your supervisor and follow the procedures. When applying, you must confirm the class schedule to select courses that you can attend. For the first six months after enrollment, courses at JAIST have priority and you are not allowed to take courses at the partner institutes.

(1) Application fees, admission fees, and tuition fees

Students will be classified as "non-degree seeking students from a partner institute" and thus will not have to pay any fees for application, admission, or tuition except the tuition fees for the School of Graduate Studies at the Open University of Japan.

(2) Courses and credits

Courses that you can take at Partner Institutes (except the Open University of Japan) must be ones that can be beneficial for your research and that do not cover topics in the courses offered at JAIST. See the Appendix Table below. During your enrollment at JAIST, you can take up to five courses (10 credits) including the credits recognized at the section 7.

Permission for taking courses and the way JAIST will handle the obtained credits are determined at a faculty meeting after receiving your application. Credits obtained from the courses taken at the Open University of Japan will, in principle, only be recognized as credits from Optional/Global Communication/Global Liberal Arts courses.

(3) Application procedure

If you wish to take courses at a Partner Institute, consult with your supervisor and then carry out the procedure within the specified period. The class schedules, syllabi, and procedures for Partner Institutes will be notified once available.

Appendix Table

Partner Institutes	Courses available
Graduate School of Natural Science and Technology, Kanazawa University	Courses taught by full-time faculty members of Partner Institutes. (Laboratory work, practices, exercises, research projects, etc. are not included.) Only for master's students.
Graduate School of Engineering, Kanazawa Institute of Technology	
Graduate School of Arts and Sciences, the Open University of Japan	All the graduate school courses Only for master's students.
School of Multidisciplinary Sciences, the Graduate University for Advanced Studies	Courses announced by Kyoumu

VII. Matters related to study and research supervision

1 Study and research supervision

Since its founding, JAIST has used a supervisory system whereby, in addition to a research theme related to a major field of study (Major Research Project), you are required to take on a secondary research theme (Minor Research Project) to obtain some fundamental concepts, knowledge, and abilities from different research fields from your major field.

Furthermore, you can choose to study at other educational or research institutes in Japan or overseas as a part of a major research project, and undertake internships at companies in place of a minor research project, helping you create a career that allows your specialist skills to benefit society.

1.1 Major research projects

A major research project is a research project based on the research topic shared with the supervisor and students pursue by receiving guidance from the supervisor and gain research achievements. S201 “Science and Technology Thesis” (8 credits), S202 “Science and Technology Project Report” (2 credits) or S203 “Science and Technology Survey for Doctoral Research Plan” (2 credits) which are required elective courses in the master’s program, S601 “Advanced Science and Technology Dissertation” (6 credits) which is a required course in the doctoral program.

Only SD program and 5D program students can select S203 “Science and Technology Survey for Doctoral Research Plan”. Thus, students in the Working Professionals program in Tokyo cannot select S203 “Science and Technology Survey for Doctoral Research Plan”.

1.2 Minor research projects

In a minor research project, research is conducted under guidance from an advisor to acquire basic concepts, knowledge, abilities, etc., of neighboring or related fields different from the major research project, which will give students an opportunity to broaden their viewpoint. A minor research project is called S401 “Science and Technology Minor Research Project” (2 credits), a required elective course in the master’s program, and S501 “Advanced Science and Technology Minor Research Project” (2 credits), a required elective course in the doctoral program.

1.3 Internship

An internship is a research activity which can be recognized as a 2 credit course substituted for a minor research project. Students who wish to acquire practical research development ability in an industry can select S402 “Science and Technology Internship” (2 credits), a required elective course in the master’s program and S502 “Advanced Science and Technology Internship” (2 credits), a required elective course in the doctoral program.

Students must select either a minor research project or an internship during the specified period. Students in the Working Professionals program in Tokyo cannot choose an internship.

2 Multiple supervisory system

JAIST has a multiple supervisory system in which one student has three faculty members assigned so that students can receive comprehensive supervision and advice for both academic work and daily life in general with various issues students might face. JAIST faculty members are here to help you to develop characteristics that suit the ideal person JAIST strives to educate.

The system uses a supervisor, a second supervisor, and an advisor for Minor Research Project/Internship. Each faculty member plays the following roles. The period of determining each supervisor will be explained later.

(1) Supervisor

- (a) Plays the main role in supervising a students’ academic work and research.
- (b) Provides supervision for the research topic (Major Research Project) related to the student's research field, and for writing a thesis/dissertation.
- (c) Provides guidance for the student's life at the university, and for their career path and career formation.

(d) Help how to resolve various problems the student may face through collaboration with a second supervisor and other related parties.

(2) Second supervisor
   (a) Provides guidance for a student's academic work and research, and gives advice from a different perspective than the supervisor.
   (b) Provides guidance and advice for the student's life at the university, and for their career path and career formation from a different perspective than the supervisor.
   (c) Support supervisor to resolve various problems the student may face when necessary.

(3) Advisor for Minor Research Project/Internship
   (a) Faculty member from a related field but different from the major research theme that provides supervision for a secondary research topic (minor research project or internship).
   (b) Provides advice for various academic issues the student may have from a different perspective than the supervisor and second supervisor (including liaising with the internship location).

3 Research guidance in the master's program

Unless otherwise noted, the following items are the same for the Ishikawa Campus, the program for Working Professionals in Tokyo, and all Educational Programs.

3.1 Temporary lab assignments and formal lab assignments

All students are temporarily assigned to a laboratory upon enrollment (temporary assignment). You will be formally assigned to a lab (formal lab assignment) three months after that. During the first three months, you will be encouraged to visit labs of interest and to take courses to decide which lab you wish to join.

The procedure for applying for a formal lab assignment will be notified two months after enrollment. For students in the SD program, it is possible to receive a formal lab assignment to their desired laboratory immediately upon enrollment.

The second supervisor will be assigned in the next month of the formal lab assignment.

If you wish to change to another laboratory for some reason after receiving a formal lab assignment, you must contact Kyoumu.

3.2 Major research project

(1) In the master's program, students can choose to work on writing a thesis (Master's Thesis Project), or conducting a research (Research Project) or conducting a survey (Survey for Doctoral Research Plan) to complete the program. In order to choose Survey for Doctoral Research Plan you must be in the SD or 5D program. You must notify Kyoumu your intention at the same time you submit a form for choosing an educational program after the formal lab assignment. See the section 3.5 below for details regarding the Ph.D. Qualifying Examination for those who select a Survey for Doctoral Research Plan.

The selection of either a thesis, research project or Survey must be made under guidance of the supervisor and a research proposal must be submitted before the submission deadline shown below to the dean (via Kyoumu). If the submission of a research proposal is delayed, completion will be delayed.

(2) Submission deadlines for research proposal

The following are the submission deadlines for each educational program.

M and 5D: End of the first year (the end of March for students who enrolled in April, and end of September for students who enrolled in October)

Mα: One year before the planned date of completion (2 years and 3 months, 2 years and 6 months, 2 years and 9 months, or 3 years after enrollment)

SD: Within six months after enrollment (End of September of the first year for students who enrolled in April, and end of March of the first year for students who enrolled in October)

For students who use the extended study period for completion, it should be submitted at least one year prior to the planned date of completion.

(3) Submission requirements for research proposal

Students at Ishikawa Campus must meet all of the following requirements.

(i) Completion of S101 “Innovation Theory and Methodology for Social Competencies” and S102 “Innovation Theory and Methodology for Creativity”

(ii) 6 credits (3 courses) or more obtained from the Basic courses.

(iii) 10 credits (5 courses) or more including (ii) obtained except for those from the Required courses B and the Optional courses.

(iv) The research plan should have sufficient contents.

Students in the program for Working Professionals in Tokyo must meet all of the following requirements.

(i) 6 credits (3 courses) or more obtained from the Basic courses.

(ii) 10 credits (5 courses) or more including (i) obtained except for those from the Required courses B and the Optional courses.

(iii) The research plan should have sufficient contents.

(4) Time for beginning research

You can formally begin a major research project after your research proposal is accepted and approved by your three advisers.

(5) Research period

At least one year (seven months for those who select the Survey for Doctoral Research Plan) is required to spend to complete a major research project. Therefore, if the research proposal cannot be submitted by the deadline mentioned in the above (2), it will not be possible to complete the program within the standard completion period for master's/doctoral program.

(6) Notes

- As you must fulfill the requirement in (3) above before submission of a research proposal, you must check as early enough as possible and see whether the requirements are met. In addition, keep in mind that an advisor for Minor Research Project/Internship must be determined before you submit a research proposal (does not apply to the SD program students).
- Bibliographic research related to the research project is required for writing a research proposal, and therefore, you are strongly encouraged to find a research topic as early as possible and start collecting related literature to read while consulting with your supervisor.
- If you wish to change from writing a master's thesis to a research project after submitting a research proposal, contact Kyoumu to confirm the necessary procedure.

3.3 Minor research project

(1) Time for beginning research

Students enrolled in April will be asked to submit names of their choice for the advisor for Minor Research Project/Internship in September and the advisor will be determined in October. You must start a minor research project by early December. Submit a research title to Kyoumu within one month of starting after consulting with the advisor. For students enrolled in October, the schedule is basically shifted by six months.

(2) Research period

The standard research period for a minor research project is two months. Before application for conferment of degree (for those who select the Survey for Doctoral Research Plan, before the Ph.D. Qualifying Examination), achievements as of the end of the minor research project must be submitted to the advisor for Minor Research Project and the dean (via Kyoumu) to receive accreditation.

(3) Notes

It is also possible to conduct a minor research project as group work and receive guidance as a group or as individuals (group minor research). The following are the two cases.

*A student recruits several other students with the same interests and finds an advisor for Minor Research Project/Internship.

*An advisor proposes a group work topic for a minor research project and recruits members.

Students earn credits after the advisor for Minor Research Project evaluates the reports written by each individual member. An additional report written as a group might be requested.

For more details about group minor research projects, there will be a separate notification.

3.4 Internship

(1) Internships generally include high-level research and study at a company (approximately at least two weeks).
(2) If you wish to obtain credits by an internship, consult with your supervisor, submit “Application for Science and Technology Internship” to Kyoumu at least one month prior to the first day of the month you intend to start internship and determine an advisor for Internship. You must also contact the Career Support Section for procedures beforehand.
(3) An internship must be completed before the application for conferment of degree (or a Ph.D. Qualifying Examination for those who select the Survey for Doctoral Research Plan). An achievement report must be submitted to the advisor for Internship and Kyoumu.

3.5 Ph.D. Qualifying Examination

(1) If you wish to select a Survey for Doctoral Research Plan, you must plan a doctoral research for the doctoral program, prepare and conduct a survey, and take the Ph.D. Qualifying Examination. You are expected to aspire to be a highly effective researcher and to exercise advanced research skills with firm fundamental knowledge acquired through a consistent five-year doctoral education. The following are the guidelines for the Ph.D. Qualifying Examination.
(2) The preliminary examination
You must take a preliminary exam and receive an evaluation.
(3) The final examination and requirements
Those who have finished the preliminary exam must take the final examination (Ph.D. Qualifying Examination) which will be conducted twice a year in April and October (students enrolled in April must take the exam 18 months later in October in the second year, those enrolled in October, take the exam in April in the second year). The exam will test fundamental understanding and ability for a doctoral research, and English proficiency. You must earn 32 credits or more excluding S203 “Science and Technology Survey for Doctoral Research” and submit a report of the Survey for Doctoral Research Plan to your supervisor and the dean (via Kyoumu) before the final exam. If you decide not to continue on to the doctoral program after passing the final examination, your educational program will be changed to the M program.
If you fail in the examination, you can select one of the following.
A. To take the exam again (the second time) in six months after the first examination.
This means the master's program cannot be completed within two years (the standard completion period) and the program will be changed from the 5D program to the M program.
B. To change from taking the Ph.D. qualifying exam to conducting a research project.
If you pass an oral defense for a project report and the exam in February (for those enrolled in April), it may be possible to complete the master's program in two years and continue on to the doctoral program at JAIST. You remain in the 5D program.
(4) Changing from Survey for Doctoral Research Plan to Master's Thesis Project or Research Project
If you decide not to pursue the Ph.D. qualifying exam and wish to finish the program in two years, you can choose to work on a thesis or a research instead of a survey following the instructions below.
A. Before submission of a research proposal (within 12 months after enrollment)
You can choose either Master's Thesis Project or Research Project and have to submit a proposal before the designated submission deadline.
B. It is possible to change to Research Project after submitting a research proposal and before the preliminary exam (before October in the second year for students enrolled in April)
C. When failed in the final exam, it is possible to change to Research Project.
Students who wish for B or C must confirm the necessary procedures with Kyoumu. You will be able to remain in the 5D program if you complete the master’s program in two years even after changing to Research Project.

3.6 Degree conferment schedule for the master's program

The standard schedule for those enrolled in April to complete the program in two years is below. For students enrolled in October, the schedule is shifted by six months. The schedule shows only some main items. You must check the detailed information in other pages of this guide and other announcements and notifications made by JAIST.

○ For students selected Master's Thesis Project / Research Project

Month	First Year	Second Year
April	- Temporary lab assignment - Take both courses in Term 1-1/Term I: S201 Innovation Theory and Methodology for Social Competencies S202 Innovation Theory and Methodology for Creativity	
May		
June	- Laboratory inquiry/Degree inquiry - Formal lab assignment - Educational program (Mα, 5D) inquiry (Ishikawa students only)	
July	- Determination of Second Supervisor - Determination of educational program (Mα, 5D) (Ishikawa students only)	
August		
September	- Minor research inquiry	
October	- Determination of Advisor for Minor Research Project/Internship - Start Minor Research Project (By early December) and complete before degree application	
November		
December		
January		- Submit an application for conferment of degree
February		- Submit master's thesis/research project report - Defense of thesis/project report
March	- Submit a research proposal	- Degree conferment

[Main tasks and time by completion time]

	March completion	June completion	September completion	December completion
Submission of research proposal	By the end of March of the previous year	By the end of June of the previous year	By the end of September of the previous year	By the end of December of the previous year
Minor research project or internship	Complete before application for conferment of degree			
Submission of application for conferment of degree	Late January of the 2nd year	Late April of the 2nd year	Late June of the 2nd year	Late October of the 2nd year
Submission of master's thesis/research project report	Early February	Early May	Early August	Early November
Thesis/report defense	February	May	August	November
Conferment of degree	March	June	September	December

Note: SD program students can complete only in September. March/June completion is possible for fast-track degree completion.

○ For students selected Survey for Doctoral Research Plan

Month	First Year	Second Year
April	- Temporary lab assignment - Take both courses in Term 1-1/Term I: S201 Innovation Theory and Methodology for Social Competencies S202 Innovation Theory and Methodology for Creativity	
May		
June	- Laboratory inquiry/Degree inquiry - Formal lab assignment - Educational program (Mα, 5D) inquiry (Ishikawa students only): Select 5D Notify selection of Survey for Doctoral Research Plan	
July	- Determination of second supervisor - Determination of educational program (5D) (Ishikawa students only)	
August		- Application for receiving Ph.D. Qualifying Examination - Preliminary examination (Complete before Ph.D. Qualifying Examination)
September	- Minor research inquiry	
October	- Determination of Advisor for Minor Research Project/Internship - Start Minor Research Project (By early December) and complete before Ph.D. qualifying examination	- Submit a report of Survey for Doctoral Research Plan - Ph.D. Qualifying Examination
November		
December		
January		- Submit an application for degree conferment
February		
March	- Submit a research proposal	- Conferment of degree

[Main tasks and time by completion time]

	March completion	September completion
Submission of research proposal	By the end of March of the previous year	By the end of September of the previous year
Minor research projects or Internship	Complete before the Ph.D. Qualifying Examination	
Preliminary examination	Complete before the Ph.D. Qualifying Examination	
Submission of a report of Survey for Doctoral Research Plan report	Early October	Early April
Ph.D. Qualifying Examination	October	April
Submission of application for conferment of degree	Late January	Late June
Conferment of degree	March	September

Note: SD program students can complete only in September.

4 Research guidance for the doctoral program

Unless otherwise noted, the following items are the same for the Ishikawa Campus, the program for Working Professionals in Tokyo, and all Educational Programs.

4.1 Formal lab assignment

Students in the 5D and SD programs will be assigned to the laboratory which they were assigned in the master's program. The 3D program students will be assigned upon enrollment to the laboratory after consultation with the proposed supervisor prior to enrollment. The second supervisor will be determined in the month of enrollment.

If you wish to change to another laboratory after the formal lab assignment, contact Kyoumu.

4.2 Major research project

(1) After consulting with the supervisor, students must submit a research proposal for a doctoral dissertation to the dean (via Kyoumu) by the specified deadline mentioned below.

(2) Submission deadlines for research proposal

3D/5D program: Within one year of enrollment in the doctoral program.

SD program: Within six months of enrollment in the doctoral program.

The above submission deadlines do not apply to students who have extended study period for completion, but it is recommended they submit a research proposal as early as possible to make sure of completion within the designated period.

(3) Submission requirements for research proposal

The research plan have sufficient contents.

(4) Time for beginning research

Research begins after a research proposal is accepted and approved by the three advisors.

(5) Dissertation outline

After gaining the approval of all three advisors, you can submit a dissertation outline to Kyoumu at least six months before application for a degree.

(6) Fast-track degree completion

Students who wish for fast-track degree completion should first consult with your supervisor and set an earlier outline submission time. Then notify your plan to the dean via the supervisor to apply for fast-track degree completion.

(7) Notes

- Keep in mind that an advisor for Minor Research Project/Internship must be determined before the submission of a research proposal.
- The 3D students who have not decided a research theme prior to enrollment should choose one as early as possible. You should consult with their supervisor to choose a theme and conduct a bibliographic review while fulfilling course requirements. Many reviews on the research theme are indispensable before a good research proposal can be written.

4.3 Minor research project

(1) Time for beginning research

You must first ask a proposed advisor for Minor Research Project to agree with your research theme and accept to be your advisor. Then submit a research title for Minor Research Project to Kyoumu by the end of February in the first year if enrolled in April (by the end of August in the first year for the SD program students) to determine your advisor for Minor Research Project/Internship. For students enrolled in October, the schedule is basically shifted by six months. A minor research project should start as soon as possible after your advisor for Minor Research Project/Internship is determined.

(2) Research period

The standard research period for a minor research project is six months. Before submission of application for the preliminary defense, achievements as of the end of the minor research must be submitted to the advisor for Minor Research Project and the dean (via Kyoumu) to receive accreditation.

(3) Notes

- Doctoral students are encouraged to present your minor research project report at conferences and submit it as an article for publication in refereed academic journals.
- It is also possible to conduct a minor research project as group work and receive guidance as a group or as individuals (group minor research). The followings are the two types.
  *A student recruits several other students with the same interests and finds an advisor for Minor Research Project/Internship.
  *An advisor proposes a group work topic for a minor research project and recruits members.

Students earn credits after the advisor for Minor Research Project evaluates the reports written by each individual member. An additional report written as a group might be requested. For more details about group minor research projects, there will be a separate notification.

4.4 Internship

(1) Internships generally include high-level research and study at a company for at least three months (or total duration of short internships must be at least three months) .

(2) If you wish to obtain credits by an internship, consult with your supervisor and submit a proposal for an internship to Kyoumu by the end of February in the first year if enrolled in April (by the end of August in the first year if you are in the SD program) so that an Advisor for Internship will be determined. You also must contact the Career Support Section for the procedures beforehand. For students enrolled in October, the schedule is basically shifted by six months.

(3) All the internship(s) must be completed before submitting a preliminary defense application and an achievement report must be submitted to the advisor for internship and Kyoumu.

4.5 Degree conferment schedule for the doctoral program

The standard schedule for those enrolled in April to complete a program in three years is shown below. For students enrolled in October, the schedule is shifted by six months. The schedule shows only some main information. You must check the detailed information in the related pages of this guide and announcements and notifications made by JAIST.

Month	First Year	Second Year	Third Year
April	- Formal lab assignment - Determination of second supervisor - Take course in Term 1-1/Term I: S503 Innovation Theory and Methodology for Total Capability Development		
May	[Determination of advisor for Minor Research Project/Internship and start minor research project between here and the end of February.] Complete before preliminary defense application.		
June			
July			- Submit dissertation outline
August			
September			
October			- Submit application for preliminary defense
November			
December			- Preliminary defense
January			- Submit an application for conferment of degree - Submit doctoral dissertation
February			- Final defense and examination
March	- Submit a research proposal		- Conferment of degree

[Main tasks and time by completion time]

	March completion	June completion	September completion	December completion
Submission of research proposal	Within one year of enrollment (Within six months for SD program students)			
Submission of dissertation outline	Early July of 3rd year	Early October of 3rd year	Early January of 3rd year	Early April of 3rd year
Minor research projects or Internship	Complete before application for preliminary defense			
Submission of application for preliminary defense	Early October	Early January	Early April	Early July
Preliminary defense	December	March	June	September
Submission of application for degree/dissertation/abstract	Early January	Early April	Early July	Early October
Formal hearing/ final defense and final examination	February	May	August	November
Conferment of degree	March	June	September	December

Note: SD program students can complete only in March. June/September/December completion is for fast-track degree completion.

5 Research guidance at other graduate institutes

(1) Receiving guidance for a major research project at other graduate institutes

Under the guidance of the supervisor, you can conduct part of the major research project at another graduate institute.

(2) Receiving guidance for a minor research project at other graduate institutes

If the dean approves, you can conduct the minor research project at another graduate institute outside JAIST with a JAIST faculty member as an advisor for Minor Research Project.

(3) Research period

A research period at other graduate institutes should be no longer than 12 months for the master's program and 18 months for the doctoral program.

(4) Procedures

If you wish to receive research guidance at another graduate institute outside JAIST, you must submit an “Entrustment of Research Guidance Outside JAIST” form at least two months prior to the start of research to the president (via Kyoumu) through your supervisor. SD program students are required to conduct either (1) or (2) above or an internship detailed in 4.4 above.

VIII. Matters related to conferment of degree

The conferment of a degree will be conducted on specified dates in March, June, September, and December.

1 Degree defense for the master's program

The procedures related to a defense and a final examination are laid out in the “Degree Regulations” and the “Bylaws Related to the Defense for Granting the Master's Degree” and other arrangements. Students will be asked to choose a type of degree they plan to earn at the same time of inquiry for a formal lab assignment. It is possible to change the type of degree by notifying Kyoumu by March in the first year before submitting a research proposal.

1.1 Application for conferment of degree

If you have met all the degree completion requirements except for the Required course A and wish to apply for a degree conferment, first you must carefully read the *Application Guide for the Award of Master's Degrees*. Then with your supervisor’s approval, submit an Application for Conferment of Degree and the necessary documents to the president (via Kyoumu).
The deadline for submitting the Application for Conferment of Degree will be two months before the scheduled completion month. For those who wish to graduate in September, the deadline will be a specified date about three months before the scheduled completion month.

1.2 Submission of master's thesis or research project report

Degree applicants in Master’s Thesis Project or Research Project must submit the master's thesis or research project report by the date specified by JAIST to the President (via Kyoumu) after obtaining the approval of your supervisor, and then distribute copies to the examination committee including the supervisor. Note that names of the examination committee will be announced accordingly along with the thesis presentation schedule. Degree applicants will undergo a private thesis defense and final examination once you have publically presented their thesis/report.
Those who choose Survey for Doctoral Research Plan must check VII.3.5 in this guide and announcements made by JAIST regarding this matter.

1.3 Conferment of degree

The decision of degree conferment will be made by the president after a deliberation by the degree awarding committee. Successful candidates will be announced on the bulletin board next to the automatic certificate issuing machine (email notification for students in the Working Professionals program in Tokyo).

2 Degree defense for the doctoral program

The procedures related to a defense and a final examination are laid out in the “Degree Regulations” and the “Bylaws Related to the Defense for Granting the Master's Degree” and other arrangements. Students are asked to choose a type of degree they plan to earn at enrollment. It is possible to change the type of degree by notifying Kyoumu by March in the first year before submitting a research proposal.

2.1 Dissertation outline

After gaining the approval of all three advisors, a dissertation outline must be submitted to Kyoumu at least six months before application for a degree.
Students who wish for fast-track degree completion should first consult with your supervisor and set an earlier outline submission time. Then notify your plan to the dean via their supervisor to apply for fast-track degree completion.

2.2 Preliminary defense

If you have obtained all the required credits except for Required course A, with your supervisor’s approval, you must submit an application for the doctoral dissertation preliminary defense to the dean (via Kyoumu) three months before your degree application. Your supervisor will carry out the

procedures for holding a preliminary defense based on this request. You must provide drafts of your dissertation to each prospective examination committee members two weeks before the preliminary defense. Names of the examination committee will be announced accordingly along with the preliminary defense schedule.

2.3 Application for conferment of degree and conferment of degree

Those who pass the preliminary defense must carefully read the *Application Guide for the Award of Doctoral Degrees*. Then with the approval of all three supervisors, submit an Application for Conferment of Degree with the necessary documents to the president (via Kyoumu) by the designated date. Degree applicants will first present your work publically at a formal hearing and then you will undergo a private defense of the dissertation and final examination.

The decision of degree conferment will be made by the president after a deliberation by the degree awarding committee. The results will be announced on the bulletin board next to the automatic certificate issuing machine (email notification for students in the Working Professionals program in Tokyo). Please note that the successful candidates must check the necessary procedures in the *Application Guide for Awarding Doctoral Degrees* and must ensure them done before the conferment of degree.

IX Education and Training Programs offered by Global Communication Center

1 The Outline of Global Communication Center (GCC)

Japan has become increasingly affected by the trend of globalization. Many corporations now focus on overseas operations. The objectives of postgraduate education today should place great emphasis not only on fostering highly specialized researchers and engineers of advanced science and technology, but also on the development of individuals who can exercise leadership globally with a broad perspective. It is absolutely imperative for global leaders to acquire advanced and practical communication ability. GCC at JAIST prepares students for their future activities on the global stage by providing carefully designed education and training programs for all the students to improve their English communication ability and for international students to master necessary level of Japanese language proficiency.

We consider standard language proficiency tests as one of the means to measure the improvement in language acquisition. All the students are expected to have achieved 600 points or above in TOEIC test by the time of graduation. TOEIC scores are utilized to help them decide which level of English courses to take. For example, students with a TOEIC score of 499 points or below would take Interaction Seminars (E011, E021) and those with a score above 500 points and below 599 points Introduction to Technical English (E111, E112, E113). International students who need Japanese language proficiency for employment in Japan are expected to achieve Level B1 of the JF Japanese Language Education Standard.

2 Global Communication Center Education Programs

Anyone who wishes to take an active role in the globalizing world, technical communication skills are indispensable. To develop the skills, GCC offers systematic technical English communication education program (courses numbered as Exxx) and technical Japanese language education program (courses numbered as Jxxx) covering from basic to advanced levels. In addition, there are courses of intercultural understanding and special communication skills to reinforce language acquisition (courses numbered as Gxxx).

Technical English communication education program consists of twelve courses in four levels from Interaction Seminar to Advanced Technical English aiming at improving students' communication skills from basic to technical communication in the field of science and technology. Technical Japanese language education program serves international students with nine courses in four levels from introductory to advanced to improve their Japanese language ability from basic to communication for business or the field of science and technology. In addition, to reinforce the language education and develop adaptability to a culturally diverse global society, Global Communication for Building Collaboration, Skills in Language Expressions, and Japan Studies are offered.

For details of each course, refer to the chapter entitled "Courses and Class Schedules" and the course syllabi.

Students must take a language course adequate to the level of their current language ability.

3 Global Communication Center Training Programs

3.1 TOEIC IP

For students to measure their level of achievement in English study, TOEIC IP are carried out on campus. Ishikawa Campus students must take their first TOEIC IP when they enter JAIST and their second TOEIC 18 months after enrollment. (When necessary, students can take the tests on the different dates.)

Since JAIST aims at having all the graduates carry 600 points or above in TOEIC, any student whose score of the second TOEIC IP has not reached the target needs to take the next TOEIC IP.

Students in the program for Working Professionals in Tokyo can take any scheduled TOEIC IP based on their need.

Test schedule

On the Ishikawa Campus

1. **TOEIC IP***
   Monday, April 10 09:15 ~ 11:45
2. **TOEIC IP**
   Friday, August 4 15: 30 ~ 18:00
3. **TOEIC IP***
   October (To be announced)
4. **TOEIC IP**
   Friday, February 2, 2018 15: 30 ~ 18:00

*NOTE : TOEIC IP in April and October are limited only for object students.

3.2 TOEIC Preparation Training Workshops

To prepare for the TOEIC IP test scheduled four times at Ishikawa Campus, GCC offers TOEIC Preparation Training Workshops from four to eight times a year. Student who apply for academic exchanges with overseas institutions in middle or long term (longer than one month) are strongly recommended to participate in these workshops if you have not achieved the target score, 730.

3.3 Japanese Language Proficiency Test (JLPT) Preparation Training Workshops

To prepare for the JAPT held in July and December, GCC offers JLPT Preparation Workshops twice a year.

3.4 Summer and Winter English Intensive Seminars

There are three-day English Intensive Seminars (held in summer and winter) intended for students with the TOEIC IP score of 600 or below. The seminars help students obtain profound interest and positive attitude in studying English through 24 hours of intensive discussions, presentations and conversations. The seminars in summer and winter are designed for Japanese students and the seminar in winter for international students, the details will be announced.

3.5 Summer Japanese Intensive Seminar

There is a three-day Japanese Intensive Seminar in summer intended for international students with N1 or N2 level of JLPT. The seminar helps students obtain Japanese language ability to prepare for employment at a Japanese corporation through 24 hours of intensive discussions, presentations and conversations.

3.6 Global Leadership Training Workshops

To contribute to producing intellectually tough global leaders, GCC offers workshops intended for students who wish to study abroad with a special focus on India. Three workshops per week in the sixth class period will be held year round.

X. Systems in place

1 Extended study period for completion

Students may be granted extension of your study period when you face difficulty in completing the degree within the standard study period due to fair reasons related to their work or some personal affairs. Students who wish to extend study period must check the JAIST website (Education → Academic Procedures → Extended Study Period for Completion) and contact Kyoumu to apply by the designated deadline.

2 Progression within JAIST

Students who have completed a master's program at JAIST and wish to continue onto the doctoral program must check the Application Guide or the JAIST website (Education → Application Guide for Internal Entrance Examination for Doctoral Program) to apply for the Internal Entrance Examination.

3 Finding employments

(1) JAIST will conduct guidance and supervision for finding employments and other career formation matters at specified periods.

(2) School recommendations for employment can only be given if you:

i) are expected to satisfy required course credits for degree completion.

ii) have been approved by your supervisor.

iii) have had your research proposal for a master's thesis/project report or a survey for the doctoral research plan accepted.

iv) have taken the SPI (Synthetic Personality Inventory) examination twice or more at JAIST. You do not have to meet iv) if your Japanese is not fluent enough to take the SPI exam but a professor in charge of career assessment approves upon your supervisor's request.

4 Study and training benefit plans

Check the details in the relevant pages with the Japanese-language version of *Degree Completion Guide.*

Courses and Class Schedules

The courses for Working Professionals in Tokyo offered at the Tokyo Satellite are conducted mainly in Japanese and Japanese language proficiency is required to attend them. See the chapter entitled “授業科目・授業時間割 (Courses and Class Schedules)” in the Japanese language edition for details of them.

Courses and Class Schedules

1 Overview

At the Ishikawa Campus, a course may be offered in Japanese and English within the same academic year. In the program for Working Professionals in Tokyo, education programs which target working adults who are already on the front lines of research and business are offered mainly conducted in Japanese.

Each course has its course number which has either K (Knowledge Science course group), I (Information Science course group), M (Materials Science course group) etc. preceding three digits. The letter E at the end of the course number indicated the course is conducted in English (K/I/MxxxE). The N/E/J/G/L/Bxxx courses are not offered in the program for Working Professionals in Tokyo.

1.1 Courses

Tables shown in the section 2 below list the courses, language, terms and instructors. The number of credits is 2 unless otherwise indicated in the "Note" row. Check the syllabi for details about the courses.

(1) The J, E, EJ codes in the language row indicate the language of instruction: J indicates the course is conducted in Japanese; E, English; EJ in both English and Japanese. If a course has multiple instructors, either "," or "•" are used between the names. "," indicates each instructor teaches the course and "•" indicates the course is taught by all the instructors in turns (course in relay). See the faculty profiles page on the web for more information about the course instructors(JAIST top page → Research → Faculty Profiles).

(2) The course divisions of each course corresponding to the degree of choice are shown in the rows of degree kinds (KS: Knowledge science, IS: Information science, MS: Material science).
The following are the abbreviations for each course divisions. For details, check VI.2 Course divisions.

- "Opt": The Optional course
- "GC": The Global Communication course
- "GLA": The Global Liberal Arts course
- "Intr": The Introductory course
- "Bsc": The Basic course
- "Tech": The Technical course
- "Imd": The Intermediate course
- "Adv": The Advanced course

<Example>

I211 "Mathematical Logic" was completed by a student who is in the master's program pursuing:
a master's degree in Knowledge Science –I211 will be treated as the Technical course (Tech)
a master's degree in Information Science –I211 will be treated as the Basic course (Bsc)
a master's degree in Materials Science –I211 will be treated as the Global Liberal Arts course (GLA)

I211 "Mathematical Logic" was completed by a student who is in the doctoral program pursuing:
a doctoral degree in Knowledge Science –I211 will be treated as the Intermediate course (Imd)
a doctoral degree in Information Science –I211 will be treated as the Intermediate course (Imd)
a doctoral degree in Materials Science –I211 will be treated as the Optional course (Opt)

1.2 Class schedules

At Ishikawa Campus, each course is held twice a week except for intensive courses. KS/IS/MS courses are held in the morning (1st and 2nd period), and 3rd period is for the office hours for the 1st period class on that day. Students can ask questions or discuss with the instructor during the office hours and the time can be used for exercises, exams etc. Afternoons (4th and 5th periods) are for holding other courses. Class schedules with the assigned rooms will be displayed on the bulletin board next to the automatic certificate issuing machine and on the JAIST website (Education

→ Taking Courses → Class Schedule). You must check the schedule before the start of classes each term.

At the Tokyo Satellite, classes are held in the evening during weekdays and on Saturdays and Sundays (including holidays).

The KS courses are mainly given as a one-week intensive from Monday through Saturday.

The IS courses (except for courses conducted at National Institute of Informatics: I4xxG) meet

- four times through Friday evening, Saturday and Sunday for four weeks.
- twice a week or four times every two weeks for two months.
- eight times on two weekends as intensive.

2 Courses for 2017-2018 (Ishikawa Campus)

2.1 Required courses（Sxxx courses（Ishikawa））

○ For the master's program

Course Number	Master's Degree			Doctoral Degree			Course Title	Lan-guage	Course Term		Instructor(s)	Note
	KS	IS	MS	KS	IS	MS			1-1 1-2	2-1 2-2		
Required courses A												
S201	Bsc	Bsc	Bsc				Science and Technology Thesis				Supervisor	8 credits, Required elective course
S202	Bsc	Bsc	Bsc				Science and Technology Project Report				Supervisor	2 credits, Required elective course
S203	Bsc	Bsc	Bsc				Science and Technology Survey for Doctoral Research Plan				Supervisor	2 credits, Required elective course
Required courses B												
S101	GLA	GLA	GLA				Innovation Theory and Methodology for Social Competencies	J/E	1-1	2-1	Kohda,etc.	1 credit, Required course
S102	Intr	Intr	Intr				Innovation Theory and Methodology for Creativity	J/E	1-1	2-1	Kohda,etc.	1 credit, Required course
S401	Tech	Tech	Tech				Science and Technology Minor Research Project				Advisor for Minor Research Project	2 credits, Required elective course
S402	Tech	Tech	Tech				Science and Technology Internship				Advisor for Internship	2 credits, Required elective course

Note 1: S101 and S102 are simultaneously offered in both Japanese and English (in separate rooms).
Note 2: Students enrolled before April 2016 cannot take S101 and S102.

○ For the doctoral program

Course Number	Master's Degree			Doctoral Degree			Course Title	Lan-guage	Course Term		Instructor(s)	Note
	KS	IS	MS	KS	IS	MS			1-1 1-2	2-1 2-2		
Required courses A												
S601				Adv	Adv	Adv	Advanced Science and Technology Dissertation				Supervisor	6 credits, Required course
Required courses B												
S501				Imd	Imd	Imd	Advanced Science and Technology Minor Research Project				Advisor for Minor Research Project	2 credits, Required elective course
S502				Imd	Imd	Imd	Advanced Science and Technology Internship				Advisor for Internship	2 credits, Required elective course
S503				Imd	Imd	Imd	Innovation Theory and Methodology for Total Capability Development	J/E	1-1	2-1	Kohda,etc.	1 credit, Required course

Note 1: S503 is simultaneously offered in both Japanese and English (in separate rooms).
Note 2: Students enrolled before April 2016 cannot take S503.

2.2 Knowledge Science courses （Kxxx courses（Ishikawa））

○ K1xx courses

Course Number	Master's Degree			Doctoral Degree			Course Title	Lan-guage	Course Term		Instructor(s)	Note
	KS	IS	MS	KS	IS	MS			1-1 1-2	2-1 2-2		
K111	Intr	GLA	GLA	Opt	Opt	Opt	Introduction to Management	J	1-1		Shirahada	
								E		2-1	Zelaya	
K114	Intr	GLA	GLA	Opt	Opt	Opt	Introduction to Social Research Methods	J	1-2		Kobayashi	
								E		2-2	Masuda	
K121	Intr	GLA	GLA	Opt	Opt	Opt	Introduction to Cognitive Science	J	1-2		Hidaka･K.Tanaka	
K124	Intr	GLA	GLA	Opt	Opt	Opt	Advanced Project Management - Basics	J	Summer		Susumu Miura	
								E		Winter		

○ K2xx courses

Course Number	Master's Degree			Doctoral Degree			Course Title	Lan-guage	Course Term		Instructor(s)	Note
	KS	IS	MS	KS	IS	MS			1-1 1-2	2-1 2-2		
K211	Bsc	GLA	GLA	Adv	Imd	Opt	Methodology for the Social Sciences	J	1-1		Shikida	
								E	Summer		Umemoto	
K213	Bsc	GLA	GLA	Adv	Imd	Imd	Methodology for Systems Science	J	1-1		Nakamori	
								E		2-2	Huynh	
K214	Bsc	GLA	GLA	Adv	Imd	Opt	Methodology for Knowledge Media	J	1-2		Yuizono	
								E		2-2	Kanai	
K228	Bsc	GLA	GLA	Adv	Imd	Imd	Introduction to Knowledge Science	J	1-1		Hashimoto･Dam	
								E		2-1	Dam･Hashimoto･Huynh	
K229	Bsc	GLA	GLA	Adv	Imd	Opt	Innovation Design	J	1-2		Nagai･Yuizono･Miyata	
								E		2-2	Nagai･Yuizono･Miyata･Zelaya	
K236	Bsc	GLA	Intr	Adv	Imd	Opt	Basis of Data Analytics	EJ	1-2		Ho･Dam	

Note 1: Students enrolled before April 2013 who have completed K225 cannot take K214.
Note 2: Students enrolled before April 2016 who have completed K230 cannot take K229.

○ K4xx courses

Course Number	Master's Degree			Doctoral Degree			Course Title	Lan-guage	Course Term		Instructor(s)	Note
	KS	IS	MS	KS	IS	MS			1-1 1-2	2-1 2-2		
K411	Tech	GLA	GLA	Imd	Opt	Opt	Theory of Knowledge Management	J		2-1	Hirata･T.Hayashi	
								E		2-2	Kim･Zelaya	
K412	Bsc	GLA	GLA	Adv	Opt	Opt	The Knowledge Society	J	1-2		Ito	
K413	Tech	GLA	GLA	Imd	Opt	Opt	Comparative Study of Knowledge Institutions	J	Summer		Nagata	Offered in alternate years
K414	Bsc	GLA	GLA	Adv	Opt	Opt	Complex Systems Analysis	J		2-2	Hashimoto･Kobayashi	
K417	Bsc	GLA	Intr	Adv	Opt	Opt	Data Analytics	EJ		2-1	Ho･Dam	
K418	Bsc	GLA	GLA	Adv	Opt	Opt	Representation of Knowledge	J		2-1	Yuizono	
K420	Bsc	GLA	GLA	Adv	Opt	Opt	Research & Development Management	J		2-2	Kosaka	
K421	Bsc	GLA	GLA	Adv	Opt	Opt	Essence of Systems Methodologies	E	1-1		T.Yoshida	
								J		2-1		
K427	Bsc	GLA	GLA	Adv	Opt	Opt	Theory on Creative Process in Design	EJ	*	*	Nagai	Offered in alternate years
K433	Tech	GLA	GLA	Imd	Opt	Opt	Practice of Management of Technology Innovations	J		2-1	Kondo	
K444	Bsc	GLA	GLA	Adv	Opt	Opt	Design Cognition	EJ	1-1		Nagai･Maekawa	Offered in alternate years
K447	Tech	GLA	GLA	Imd	Opt	Opt	Advanced Project Management - Project and Program Management	E	Summer		H.Tanaka	
								EJ		Winter		
K464	Bsc	GLA	GLA	Adv	Opt	Opt	Cognitive Science	EJ		2-1	Fujinami	
K469	Bsc	GLA	GLA	Adv	Opt	Opt	Knowledge Creation Support Systems	J	1-1		Nishimoto	
K470	Bsc	GLA	GLA	Adv	Opt	Opt	Introduction to Knowledge Creation	J	1-1		Kunifuji	
K471	Bsc	GLA	GLA	Adv	Opt	Opt	Media Creation	J	1-1		Miyata･Ura	
K472	Bsc	GLA	GLA	Adv	Opt	Opt	Media Interaction	J	1-2		Nishimoto	
K473	Bsc	GLA	GLA	Adv	Opt	Opt	Management of Innovation	J	1-2		Uchihira	
K479	Bsc	GLA	GLA	Adv	Opt	Opt	Service Management	J		2-2	Shirahada	
K480	Bsc	GLA	GLA	Adv	Opt	Opt	Methodology for Regional Revitalization	J	Summer		Kunifuji	
K482	Bsc	GLA	GLA	Adv	Opt	Opt	Community Management Strategy	J	Summer		Shikida･K.Suzuki	
K483	Bsc	GLA	GLA	Adv	Opt	Opt	Community System Management	J	Summer		Fujinami･Hirai	
K484	Bsc	GLA	GLA	Adv	Opt	Opt	Public Philosophy for Community Management	J	Summer		Y.Iida･Shikida	
K485	Bsc	GLA	GLA	Adv	Opt	Opt	Public Economics for Community Management	J	Summer		Yamamoto･Shin	
K486	Tech	GLA	GLA	Imd	Opt	Opt	Business Management & Entrepreneurship	J	Summer		Yanagishita	
								E		Winter		

Note 1: * indicates the course is not offered in the 2017 academic year.

Note 2: When students enrolled before April 2016 take K486, it will be treated as B211. Those who have completed B211 cannot take K486.

○ K6xx courses

Course Number	Master's Degree			Doctoral Degree			Course Title	Lan-guage	Course Term		Instructor(s)	Note
	KS	IS	MS	KS	IS	MS			1-1 1-2	2-1 2-2		
K611	Bsc	GLA	GLA	Adv	Opt	Opt	Next-Generation Management of Technology	E		2-1	Kohda	Offered in alternate years
K612	Bsc	GLA	GLA	Adv	Opt	Opt	Next-Generation Knowledge Management	E	*	*	Shikida	Offered in alternate years
K613	Bsc	GLA	GLA	Adv	Opt	Opt	Social-Technical Complex Systems	E	1-2		Huynh	Offered in alternate years
K619	Bsc	GLA	Tech	Adv	Opt	Imd	Advanced Data Analytics	E	*	*	Ho・Dam	Offered in alternate years
K626	Bsc	GLA	GLA	Adv	Opt	Opt	Advanced Topics in Media Design	E	*	*	Miyata・Nagai・Nishimoto・Kanai・Miyashita・Koizumi	Offered in alternate years

Note : * indicates the course is not offered in the 2017 academic year.

2.3 Information Science courses （Ixxx courses（Ishikawa））

○ I1xx courses

Course Number	Master's Degree			Doctoral Degree			Course Title	Lan-guage	Course Term		Instructor(s)	Note
	KS	IS	MS	KS	IS	MS			1-1 1-2	2-1 2-2		
I111	Intr	Intr	GLA	Opt	Opt	Opt	Algorithms and Data Structures	J	1-1		K.Ikeda	
I112	Opt	Opt	Opt	Opt	Opt	Opt	Basics of Computer Systems	J	1-1		Yoshitaka	
I114	Intr	Intr	GLA	Opt	Opt	Opt	Fundamental Mathematics for Information Science	J	1-2		Yokoyama	
I115	Intr	Intr	GLA	Opt	Opt	Opt	Digital Logic and Computer Design	J	1-1		M.Kaneko・K.Tanaka	
I116	Intr	Intr	Intr	Opt	Opt	Opt	Fundamentals of Programming	J	1-2		Terauchi	
I118	Intr	Intr	GLA	Opt	Opt	Opt	Graphs and Automata	J	1-1		Ogawa	
I119	Intr	Intr	Intr	Opt	Opt	Opt	Statistics for Data Analytics	J	1-1		Akagi	
I120	Intr	Intr	GLA	Opt	Opt	Opt	Fundamentals of Logic and Mathematics	J	1-1		Ishihara・Nemoto	

Note 1: Follwoing relates only to students enrolled in the School of Knowledge Science before April 2016.
- I115 will be treated as K123. Those who have completed K123 cannot take I115.
- I116 will be treated as K119. Those who have completed K119 cannot take I116.
- I119 will be treated as K112. Those who have completed either K112 or K116 cannot take I119.
- I120 will be treated as K115. Those who have completed K115 cannot take I120.

No Application for Taking Courses from Other Schools is necessary to take the above courses.

Note 2: Students enrolled in the School of Information Science before April 2016 who have completed I117 cannot take I116.

○ I2xx courses

Course Number	Master's Degree			Doctoral Degree			Course Title	Lan-guage	Course Term		Instructor(s)	Note
	KS	IS	MS	KS	IS	MS			1-1 1-2	2-1 2-2		
I211	Tech	Bsc	GLA	Imd	Imd	Opt	Mathematical Logic	E	1-1		Ishihara・Nemoto	
								J		2-1	Ogawa・Yokoyama	
I212	Tech	Bsc	GLA	Imd	Imd	Imd	Analysis for Information Science	J	1-1		Kotani	
								E		2-1		
I213	Tech	Bsc	GLA	Imd	Imd	Imd	Discrete Signal Processing	J	1-2		Asano	
								E		2-2	Chong	
I214	Tech	Bsc	GLA	Imd	Imd	Opt	System Optimization	J	1-1		M.Kaneko・Hiraishi	
								E		2-1		
I216	Tech	Bsc	GLA	Imd	Imd	Opt	Computational Complexity and Discrete Mathematics	J	1-1		Uehara・To be announced	
								E		2-1		
I217	Tech	Bsc	GLA	Imd	Imd	Opt	Functional Programming	J	1-2		Ogata	
								E		2-1	Hirokawa	
I218	Tech	Bsc	GLA	Imd	Imd	Opt	Computer Architecture	E	1-1		Inoguchi	
								J		2-1	K.Tanaka	

Course Number	Master's Degree			Doctoral Degree			Course Title	Lan-guage	Course Term		Instructor(s)	Note
	KS	IS	MS	KS	IS	MS			1-1 1-2	2-1 2-2		
I219	Tech	Bsc	GLA	Imd	Imd	Opt	Software Design Methodology	J	1-2		Aoki	
								E		2-2	Ogata	
I223	Tech	Bsc	GLA	Imd	Imd	Opt	Natural Language Processing I	E	1-2		Nguyen	
								J		2-1	Shirai	
I225	Tech	Bsc	GLA	Imd	Imd	Imd	Statistical Signal Processing	E	1-1		Unoki	
								J		2-1		
I226	Tech	Bsc	GLA	Imd	Imd	Opt	Computer Networks	J	1-2		Tan	
								E		2-2	Lim	
I232	Tech	Bsc	GLA	Imd	Imd	Imd	Information Theory	E	1-2		Matsumoto	
								J		2-2		
I233	Tech	Bsc	GLA	Imd	Imd	Opt	Operating Systems	J	1-1		Shinoda	
								E		2-1	Beuran	
I234	Tech	Bsc	GLA	Imd	Imd	Opt	Foundation of Software Environment	E	1-2		M.Suzuki	
								J		2-1	Terauchi	
I235	Tech	Bsc	GLA	Imd	Imd	Opt	Game Informatics	J	1-1		K.Ikeda・Iida・ [Viennot]	
								E		2-1	Iida	
I236	Tech	Bsc	GLA	Imd	Imd	Opt	Logical Inference and Knowledge Representation	J	1-1		Hasegawa	
								E		2-2	Nguyen	

Note 1: Instructors in brackets [ ] are in charge of the office hours.
Note 2: Students enrolled before April 2013 who have completed I215 cannot take I235 nor I236.

○ I4xx courses

Course Number	Master's Degree			Doctoral Degree			Course Title	Lan-guage	Course Term		Instructor(s)	Note
	KS	IS	MS	KS	IS	MS			1-1 1-2	2-1 2-2		
I411	Tech	Tech	GLA	Opt	Adv	Opt	Pattern Analysis and Recognition	J	*	*	Kotani	Offered in alternate years
I413	Tech	Tech	GLA	Opt	Adv	Opt	Theoretical Computer Science	J		2-2	Ishihara	Offered in alternate years
I414	Tech	Tech	GLA	Opt	Adv	Opt	Natural Language Processing II	J	*	*	Shirai	Offered in alternate years
I416	Tech	Tech	GLA	Opt	Adv	Opt	Parallel Processing	J	*	*	Inoguchi	Offered in alternate years
I419	Tech	Tech	GLA	Opt	Adv	Opt	Image Information Science	J		2-2	Yoshitaka	Offered in alternate years
I427	Tech	Tech	GLA	Opt	Adv	Opt	System Control Theory	J		2-1	Asano	Offered in alternate years
I431	Tech	Tech	GLA	Opt	Adv	Opt	Theory of Algorithms and Computational Geometry	J	*	*	Uehara	Offered in alternate years
I432	Tech	Tech	GLA	Opt	Adv	Opt	Theory of Discrete-State Systems	J	*	*	Hiraishi	Offered in alternate years

Course Number	Master's Degree			Doctoral Degree			Course Title	Lan-guage	Course Term		Instructor(s)	Note
	KS	IS	MS	KS	IS	MS			1-1 1-2	2-1 2-2		
I435	Tech	Tech	GLA	Opt	Adv	Opt	Software Architecture	J		2-2	M.Suzuki	Offered in alternate years
I437	Tech	Tech	GLA	Opt	Adv	Opt	Coding Theory	E	*	*	Matsumoto･Kurkoski	Offered in alternate years
I438	Tech	Tech	GLA	Opt	Adv	Opt	Exercises on Graph Theory	J	1-2		M.Kaneko	Offered in alternate years
I439	Tech	Tech	GLA	Opt	Adv	Opt	Speech Signal Processing	J	1-2		Akagi･Dang	Offered in alternate years
I440	Tech	Tech	GLA	Opt	Adv	Opt	Enhanced Operating Systems	J		2-2	K.Tanaka	Offered in alternate years
I441	Tech	Tech	GLA	Opt	Adv	Opt	Advanced Computer Networks	J	1-2		Shinoda	Offered in alternate years
I442	Tech	Tech	GLA	Opt	Adv	Opt	Advanced System Software Laboratory	J	1-2		Chinen	
I443	Tech	Tech	GLA	Opt	Adv	Opt	Foundation of Software Verification	J	*	*	Aoki	Offered in alternate years
I444	Tech	Tech	GLA	Opt	Adv	Opt	Embedded Software Engineering	J	Summer		Kishi	
I445	Tech	Tech	GLA	Opt	Adv	Opt	Distributed Systems	J	Summer		Matsutsuka･ Maruhashi	
I448	Tech	Tech	GLA	Opt	Adv	Opt	Distance Learning System	J		2-1	Hasegawa	Offered in alternate years
I450	Tech	Tech	GLA	Opt	Adv	Opt	Network Design Laboratory	J		2-2	Tan･Chinen	
I455	Tech	Tech	GLA	Opt	Adv	Opt	Information Security Application	J	*	*	To be announced	Offered in alternate years
I465	Tech	Tech	GLA	Opt	Adv	Opt	Information Security	J	*	*	To be announced	
I466	Tech	Tech	GLA	Opt	Adv	Opt	Introduction to International Standardization	J		2-1 &2-2	Tan,etc.	
I467	Tech	Tech	GLA	Opt	Adv	Opt	Processor Design Laboratory	J	*	*	Inoguchi･K.Tanaka	Offered in alternate years
I468	Tech	Tech	Tech	Opt	Adv	Imd	Modeling of Dynamics	J	*	*	Maezono･[Hongo]	Offered in alternate years
I469	Tech	Tech	GLA	Opt	Adv	Opt	Advanced Algorithms for Computational Geometry	J		2-1	Uehara	Offered in alternate years

Note 1: Instructors in brackets [ ] are in charge of the office hours.

Note 2: * indicates the course is not offered in the 2017 academic year.

Note 3: When students enrolled before April 2013 take I465, it will be treated as I461S. Those who have completed I461S cannot take I465.

Note 4: The class schedule of I466 will be irregular. Check the class schedule for detailed schedule.

○ Specialized Technical courses for Highly-Dependable IoT Systems Program

Course Number	Master's Degree			Doctoral Degree			Course Title	Lan-guage	Course Term		Instructor(s)	Note
	KS	IS	MS	KS	IS	MS			1-1 1-2	2-1 2-2		
Progressive courses												
I473	Tech	Tech	GLA	Opt	Imd	Opt	Hardware/Software Codesign	J	Summer		Wakabayashi	
I478	Tech	Tech	GLA	Opt	Imd	Opt	IT Project Management	J	Summer		K.Okada	
Practical courses												
I481	Tech	Tech	GLA	Opt	Imd	Opt	Software Development Laboratory for Highly Dependable Embedded Systems	J		2-1	M.Suzuki	
I482	Tech	Tech	GLA	Opt	Imd	Opt	Software Process Design for Highly Dependable Embedded Systems	J		2-2	M.Suzuki・Aoki	
I483	Tech	Tech	GLA	Opt	Imd	Opt	Smart Embedded System Development	J	1-2		To be announced	

Note 1: When students enrolled before April 2014 take I481, it will be treated as I480. Those who have completed I480 cannot take I481.

Note 2: When students enrolled before April 2014 take I482, it will be treated as I479. Those who have completed I479 cannot take I482.

○ Specialized Technical courses for Information Security Program

Course Number	Master's Degree			Doctoral Degree			Course Title	Lan-guage	Course Term		Instructor(s)	Note
	KS	IS	MS	KS	IS	MS			1-1 1-2	2-1 2-2		
Progressive courses												
I465S	Tech	Tech	GLA	Opt	Imd	Opt	Literacy in Information Security Management	J	1-1 &1-2	2-1	To be announced	☆
I466S	Tech	Tech	GLA	Opt	Imd	Opt	Advanced Information Security Theory and Application	J		2-1 &2-2	Miyaji,etc.	☆
Practical courses												
I471S	Tech	Tech	GLA	Opt	Imd	Opt	Project-based Learning of Information Security Practice	J	*	*	To be announced	Offered in alternate years

Note 1: * indicates the course is not offered in the 2017 academic year.

Note 2: ☆ indicates the course is offered at other graduate schools and conducted by remote delivery system in JAIST.

Note 3: Students in the Information Security Program have priority to register for the above courses. Those who are not in the Program may not take the courses.

Note 4: The class schedule of I465S and I466S will be irregular. Check the class schedule for detailed schedule.

○ I6xx courses

Course Number	Master's Degree			Doctoral Degree			Course Title	Lan-guage	Course Term		Instructor(s)	Note
	KS	IS	MS	KS	IS	MS			1-1 1-2	2-1 2-2		
I613	Tech	Tech	GLA	Opt	Adv	Opt	Algebraic Formal Methods	E		2-2	Ogata	Offered in alternate years
I615	Tech	Tech	GLA	Opt	Adv	Opt	Robotics	E	*	*	Chong	Offered in alternate years
I620	Tech	Tech	GLA	Opt	Adv	Opt	Foundation of VLSI Design	E	*	*	M.Kaneko	Offered in alternate years
I645	Tech	Tech	GLA	Opt	Adv	Opt	Human Perceptual Systems and its Models	E	*	*	Unoki	Offered in alternate years
I649	Tech	Tech	GLA	Opt	Adv	Opt	Wireless Sensor Networks	E	*	*	Lim	Offered in alternate years
I655	Tech	Tech	Tech	Opt	Adv	Imd	Modern Quantum and Neural Computation	E	1-1		Maezono	Offered in alternate years
I656	Tech	Tech	GLA	Opt	Adv	Opt	Logical Decision Procedures	E	1-2		Hirokawa	Offered in alternate years

Note: * indicates the course is not offered in the 2017 academic year.

○ Irregular courses

Course Number	Master's Degree			Doctoral Degree			Course Title	Lan-guage	Course Term		Instructor(s)	Note
	KS	IS	MS	KS	IS	MS			1-1 1-2	2-1 2-2		
I456	Tech	Tech	GLA	Opt	Adv	Opt	Information Science Laboratory I					1 credit
I457	Tech	Tech	GLA	Opt	Adv	Opt	Information Science Laboratory II					1 credit
I458	Tech	Tech	GLA	Opt	Adv	Opt	Software Development Laboratory I					1 credit
I459	Tech	Tech	GLA	Opt	Adv	Opt	Software Development Laboratory II					1 credit
I628	Tech	Tech	GLA	Opt	Adv	Opt	Information Processing Theory	J	Summer		To be announced	Offered in alternate years

Note: I456 and I457 are seminars offered by invited lecturers. Students can attend them without registration. 1 credit can be given by attending 7 times of the seminars and submitting a report for each seminar attended to the corresponding host faculty member. Check the details in the JAIST website (Education → Seminars (On-campus use only)).

2.4 Materials Science courses （Mxxx courses）

○ M1xx courses

Course Number	Master's Degree			Doctoral Degree			Course Title	Lan-guage	Course Term		Instructor(s)	Note
	KS	IS	MS	KS	IS	MS			1-1 1-2	2-1 2-2		
M111A	Intr	GLA	Intr	Opt	Opt	Opt	Introduction to Physics A	J	1-1		Horita	
M111B	Intr	GLA	Intr	Opt	Opt	Opt	Introduction to Physics B	E		2-1	Mizutani･Khuat	
M112	Intr	GLA	Intr	Opt	Opt	Opt	Introduction to Chemistry	J	1-1		Taniike･Matsumura	
M113	Intr	GLA	Intr	Opt	Opt	Opt	Introduction to Bioscience	J	1-1		Takagi･Shimokawa	

Note 1: Students who have completed M111A cannot take M111B.
Note 2: Students who have completed M111B cannot take M111A.
Note 3: When students enrolled before April 2017 take M111B, it will be treated as M111A. Those who have completed M111A or M111B cannot take either M111A or M111B.

○ M2xx courses

Course Number	Master's Degree			Doctoral Degree			Course Title	Lan-guage	Course Term		Instructor(s)	Note
	KS	IS	MS	KS	IS	MS			1-1 1-2	2-1 2-2		
M211	Tech	GLA	Bsc	Imd	Imd	Imd	Quantum Mechanics	J	1-1	2-1	Murata, Iwasaki	
M212	Tech	GLA	Bsc	Imd	Imd	Imd	Statistical Mechanics	J		2-1	Shimoda	
M213	Tech	GLA	Bsc	Imd	Imd	Imd	Electromagnetic Theory	J	1-2		Tomitori	
M221	Tech	GLA	Bsc	Imd	Imd	Imd	Organic Chemistry	J	1-1		Matsumi	
M222	Tech	GLA	Bsc	Imd	Imd	Imd	Computational Material Design	J	1-2		Shimoda･Dam	
M223	Tech	GLA	Bsc	Imd	Imd	Imd	Properties of Organic Materials	J	1-1		Nagao･Jiang	
M224	Tech	GLA	Bsc	Imd	Imd	Imd	Inorganic Materials Chemistry	J	1-2		Maenosono	
M225	Tech	GLA	Bsc	Imd	Imd	Imd	Instrumental Analytical Chemistry	J		2-1	Shinohara	
M231	Tech	GLA	Bsc	Imd	Imd	Imd	Bioorganic Chemistry	J	1-1	2-1	Fujimoto･Hohsaka	
M232	Tech	GLA	Bsc	Imd	Imd	Imd	Biophysics and Biophysical Chemistry	J	1-2		Hamada	
M243	Tech	GLA	Bsc	Imd	Imd	Imd	Solid State Physics I	J	1-2		Yukiko Takamura	
M245	Tech	GLA	Bsc	Imd	Imd	Imd	Mathematics for Condensed Matter Science and Technology	J	1-1	2-1	Koyano, Mizuta	
M251	Tech	GLA	Bsc	Imd	Imd	Imd	Chemistry of Catalyst and Catalysis	J	1-1		Ebitani	
M254	Tech	GLA	Bsc	Imd	Imd	Imd	Polymer Chemistry I	J	1-2		T.Kaneko	
M261	Tech	GLA	Bsc	Imd	Imd	Imd	Functional Biomolecules	J	1-2		H.Tsutsui	
M262	Tech	GLA	Bsc	Imd	Imd	Imd	Biomaterial Sensing	J		2-1	Yuzuru Takamura	
M281	Tech	GLA	Bsc	Imd	Imd	Imd	Solid State Physics and its Application to Electronics I	E		2-2	Mizuta･Muraka･An	
M282	Tech	GLA	Bsc	Imd	Imd	Imd	New Materials Design and Synthesis	E		2-1	M.Yamaguchi･Jiang	
M283	Tech	GLA	Bsc	Imd	Imd	Imd	Biofunction and Organization	E		2-2	Takagi･Tsukahara･ Yuzuru Takamura･Ohki	

Course Number	Master's Degree			Doctoral Degree			Course Title	Lan-guage	Course Term		Instructor(s)	Note
	KS	IS	MS	KS	IS	MS			1-1 1-2	2-1 2-2		
M284	Tech	GLA	Bsc	Imd	Imd	Imd	Solid State Physics and its Application to Electronics II	E	1-1		Oshima・T.Suzuki・Ohdaira	
M285	Tech	GLA	Bsc	Imd	Imd	Imd	Bioscience and Biotechnology	E	1-1		T.Yamaguchi・Hamada・Fujimoto・H.Tsutsui・Hohsaka	

Note1: M2xx courses conducted in Japanese cover the contents of M281, M282, M283, M284 and M285. Students cannot count credits combined M2xx courses conducted in English with ones in Japanese (vice versa) to satisfy the requirement below.
- The submission requirements for research proposal and the degree completion requirements in the master's program
- The degree completion requirements in the doctoral program

*As long as students don't combine the M2xx courses conducted in English with ones in Japanese, M281, M282, M283, M284 and M285 can be counted as the course divisions in the master's program below and as the Intermediate courses (Imd) in the doctoral program to satisfy the requirements above.
- A student pursuing a master's degree in Knowledge Science : The Technical course (Tech)
- A student pursuing a master's degree in Information Science : The Global Liberal Arts course (GLA)
- A student pursuing a master's degree in Materials Science : The Basic course (Bsc)

Note2: Students enrolled before April 2016 who have completed M281 cannot take M284.

○ M4xx courses

Course Number	Master's Degree			Doctoral Degree			Course Title	Lan-guage	Course Term		Instructor(s)	Note
	KS	IS	MS	KS	IS	MS			1-1 1-2	2-1 2-2		
M413	Tech	GLA	Bsc	Opt	Opt	Imd	Functional Nanomaterials	E	1-1		Maenosono・Nagao・Taniike・Mott	
M414	Tech	GLA	Tech	Opt	Opt	Imd	Device Physics	J		2-2 intensive	Tokumitsu	
M415	Tech	GLA	Tech	Opt	Opt	Imd	Medical Biomaterials	J	1-2		Tsukahara	
M420	Tech	GLA	Tech	Opt	Opt	Imd	Solid State Physics II	J		2-1	Akabori	
M421	Tech	GLA	Tech	Opt	Opt	Imd	Electronics	J	1-2		T.Suzuki	
M423	Tech	GLA	Tech	Opt	Opt	Imd	Functional Protein Device	J	1-2		Hiratsuka	
M424	Tech	GLA	Tech	Opt	Opt	Imd	Polymer Chemistry II	J		2-1	M.Yamaguchi・Matsumura	

Note: Students enrolled before April 2016 who have completed M252 cannot take M424.

○ M6xx courses

Course Number	Master's Degree			Doctoral Degree			Course Title	Lan-guage	Course Term		Instructor(s)	Note
	KS	IS	MS	KS	IS	MS			1-1 1-2	2-1 2-2		
M611	Tech	GLA	Tech	Opt	Opt	Adv	Electronic Structures of Solids and Surfaces	E	1-1		Tomitori・Mizutani・Yukiko Takamura・Fleurence	Offered in alternate years
M612	Tech	GLA	Tech	Opt	Opt	Adv	Optical Properties of Solids	E	*	*	Mizutani・Khuat・Murata・Koyano	Offered in alternate years
M613	Tech	GLA	Tech	Opt	Opt	Adv	Quantum Phenomena in Condensed Matter	E	*	*	Iwasaki・Mizuta	Offered in alternate years
M614	Tech	GLA	Tech	Opt	Opt	Adv	Advanced Device Physics	E		2-1	Ohdaira	Offered in alternate years
M615	Tech	GLA	Tech	Opt	Opt	Adv	Advanced Biofunctions	E	1-1		Takagi・Yuzuru Takamura	Offered in alternate years
M616	Tech	GLA	Tech	Opt	Opt	Adv	Advanced Biomaterials	E		2-1 intensive	Hiratsuka・H.Tsutsui・Hamada・K.Nagai	Offered in alternate years
M617	Tech	GLA	Tech	Opt	Opt	Adv	Molecular and Functionality Design of Polymers	E	*	*	M.Yamaguchi・Shinohara・T.Kaneko	Offered in alternate years
M618	Tech	GLA	Tech	Opt	Opt	Adv	Materials Design	E		2-2 intensive	Ebitani・Matsumura・Jiang	Offered in alternate years
M619	Tech	GLA	Tech	Opt	Opt	Adv	Materials Morphology	E	*	*	Taniike・Matsumi・Vedarajan	Offered in alternate years

Course Number	Master's Degree			Doctoral Degree			Course Title	Lan-guage	Course Term		Instructor(s)	Note
	KS	IS	MS	KS	IS	MS			1-1 1-2	2-1 2-2		
M620	Tech	GLA	Tech	Opt	Opt	Adv	Electronic Properties of Condensed Matter	E	1-2		Oshima・Sakai・Koyano・An	Offered in alternate years
M622	Tech	GLA	Tech	Opt	Opt	Adv	Advanced Biomolecular Science	E	*	*	Ohki・Osaka	Offered in alternate years

Note: * indicates the course is not offered in the 2017 academic year.

○ Irregular courses

Course Number	Master's Degree			Doctoral Degree			Course Title	Lan-guage	Course Term		Instructor(s)	Note
	KS	IS	MS	KS	IS	MS			1-1 1-2	2-1 2-2		
M431	Tech	GLA	Tech	Opt	Opt	Imd	Evaluation of Properties of Materials	J	Summer		Jiang・T.Kaneko・Shinichi Miura・T.Oda	
M432	Tech	GLA	Tech	Opt	Opt	Imd	Evaluation of Functions of Materials	E	1-2 intensive		Miyake・Iwamoto	

2.5 Courses offered by Center for Nano Materials and Technology （Nxxx courses）

○ Specialized Technical courses in Nano Materials Technology Program

Course Number	Master's Degree			Doctoral Degree			Course Title	Lan-guage	Course Term		Instructor(s)	Note
	KS	IS	MS	KS	IS	MS			1-1 1-2	2-1 2-2		
N001	Intr	GLA	Intr	Opt	Opt	Opt	Fabrication of Nano-Devices with Training Course	J		2-1	T.Suzuki･Akabori	
N002	Intr	GLA	Intr	Opt	Opt	Opt	Study on Nanobiotechnology with Training Course	J		2-1	Hohsaka･Watanabe･Yuzuru Takamura･Phan	
N003	Intr	GLA	Intr	Opt	Opt	Opt	Analysis of Nano-Materials with Training Course	J		2-1	Ohki･Osaka	
N004	Intr	GLA	Intr	Opt	Opt	Opt	Structural Analysis of Solids on Nano-Scale with Training Course	J		2-1	Maenosono･Mott･Tomitori	
N005	Intr	GLA	Intr	Opt	Opt	Opt	Material Analysis with Training Course	J		2-1	M.Yamaguchi･T.Kaneko･Shinohara･Okeyoshi	

2.6 Courses offered by Global Communication Center （E/J/Gxxx courses）

○ Exxx courses

Course Number	Master's Degree			Doctoral Degree			Course Title	Lan-guage	Course Term		Instructor(s)	Note
	KS	IS	MS	KS	IS	MS			1-1 1-2	2-1 2-2		
E011							Interaction Seminar 1	E	1-1 1-2	2-1 2-2	Chassen	Non-credit
E021							Interaction Seminar 2	E	1-1 1-2	2-1 2-2	Chassen	Non-credit
E111	Opt	Opt	Opt	Opt	Opt	Opt	Basic Technical Communication 1	E		Winter	Holden	
E112	Opt	Opt	Opt	Opt	Opt	Opt	Basic Technical Communication 2	E	1-1	2-1	Holden	
E113	Opt	Opt	Opt	Opt	Opt	Opt	Basic Technical Communication 3	E	1-1	2-1	Holden	
E211	GC	GC	GC	Opt	Opt	Opt	Intermediate Technical Communication 1	E	1-2	2-2	Holden	
E212	GC	GC	GC	Opt	Opt	Opt	Intermediate Technical Communication 2	E	1-2	2-2	Holden	
E213	GC	GC	GC	Opt	Opt	Opt	Scientific Discussions 1	E	1-1	2-1	Terrillon	
E411	GC	GC	GC	Opt	Opt	Opt	Advanced Technical Communication 1	E	1-1 1-2	2-1 2-2	Terrillon	
E412	GC	GC	GC	Opt	Opt	Opt	Advanced Technical Communication 2	E		Winter	Terrillon	
E413	Tech	GC	GC	Imd	Opt	Opt	Scientific Discussions 2	E	1-2	2-2	Terrillon	
E422	GC	GC	GC	Opt	Opt	Opt	Seminar for Practical English	E				1 credit, Offered as necessary

○ Jxxx courses

Course Number	Master's Degree			Doctoral Degree			Course Title	Lan-guage	Course Term		Instructor(s)	Note
	KS	IS	MS	KS	IS	MS			1-1 1-2	2-1 2-2		
J001							KANJI Special Training Seminar	J	1-2	2-1	Honda	Non-credit
J011							Introductory Technical Japanese 1	J	1-1	2-1	M.Tsutsui	Non-credit
J012							Introductory Technical Japanese 2	J	1-2	2-2	M.Tsutsui	Non-credit
J111	Opt	Opt	Opt	Opt	Opt	Opt	Basic Technical Japanese 1	J	1-1	2-1	Michiyo Yamaguchi	
J112	Opt	Opt	Opt	Opt	Opt	Opt	Basic Technical Japanese 2	J	1-2	2-2	Michiyo Yamaguchi	
J211	GC	GC	GC	Opt	Opt	Opt	Intermediate Technical Japanese 1	J	1-1	2-1	Horiguchi	
J212	GC	GC	GC	Opt	Opt	Opt	Intermediate Technical Japanese 2	J	1-2	2-2	Horiguchi	
J411	GC	GC	GC	Opt	Opt	Opt	Advanced Technical Japanese 1	J	1-1	2-1	Honda	
J412	GC	GC	GC	Opt	Opt	Opt	Advanced Technical Japanese 2	J	1-2	2-2	Honda	

○ Gxxx courses

Course Number	Master's Degree			Doctoral Degree			Course Title	Lan-guage	Course Term		Instructor(s)	Note
	KS	IS	MS	KS	IS	MS			1-1 1-2	2-1 2-2		
G211	GC	GC	GC	Opt	Opt	Opt	Global Communication for Collaboration Building	E	1-2	2-2	Kawanishi	
G212	GC	GC	GC	Opt	Opt	Opt	Writing and Presentation Skills	J	1-1	2-1	Tsuji	
G213	GC	GC	GC	Opt	Opt	Opt	Japan Studies	E	1-1	2-1	Kawanishi	

2.7 Individual courses （L/Bxxx courses）

○ Lxxx courses

Course Number	Master's Degree			Doctoral Degree			Course Title	Lan-guage	Course Term		Instructor(s)	Note
	KS	IS	MS	KS	IS	MS			1-1 1-2	2-1 2-2		
L212	GLA	GLA	GLA	Opt	Opt	Opt	History and Philosophy of Science	E	1-1		Mizumoto	
								J		2-1		
L221	GLA	GLA	GLA	Opt	Opt	Opt	Ethical Issues in Science	J	Summer		Higashijima	
								E		Winter		
L222	GLA	GLA	GLA	Opt	Opt	Opt	Introduction to Management of Technology and Intellectual Property Rights	J	Summer		Hirata, Matsushita	
								E	*	*	Kawamura, Mitani	
L223	GLA	GLA	GLA	Opt	Opt	Opt	Media Theory	E	Summer		Merklejn	
								J		Winter	Mizukoshi	
L224	GLA	GLA	GLA				Introduction to Science and Technology in Global Perspective	J	Summer		To be announced	1 credit
L225	GLA	GLA	GLA				Seminar on Science and Technology after Off-Campus Study				To be announced	1 credit, Offered as necessary
L226				Imd	Imd	Imd	Introduction to Advanced Science and Technology in Global Perspective	J	Summer		To be announced	1 credit
L227				Imd	Imd	Imd	Seminar on Advanced Science and Technology after Off-Campus Study				To be announced	1 credit, Offered as necessary

Note: * indicates the course is not offered in the 2017 academic year.

○ Bxxx科目

Course Number	Master's Degree			Doctoral Degree			Course Title	Lan-guage	Course Term		Instructor(s)	Note
	KS	IS	MS	KS	IS	MS			1-1 1-2	2-1 2-2		
B213	GLA	GLA	GLA	Opt	Opt	Opt	Career Awareness Development	J			Director, Career Service Center,etc.	1 credit, Offered as necessary

3 Class schedules for 2017-2018 (Ishikawa Campus)

Term 1-1 (April 12 – June 2) 1st - 3rd periods

	1 9:00－10:40	2 10:50－12:30	3
Mon.	K470 Introduction to Knowledge Creation（Kunifuji） L212E History and Philosophy of Science（Mizumoto）	K228 Introduction to Knowledge Science（Hashimoto・Dam） K421E Essence of Systems Methodologies（T.Yoshida）	Office Hours（13:30－15:10）
	I119 Statistics for Data Analytics（Akagi） I120 Fundamentals of Logic and Mathematics（Ishihara・Nemoto） I235 Game Informatics（K.Ikeda・Iida・[Viennot]）	I118 Graphs and Automata（Ogawa） I214 System Optimization（M.Kaneko・Hiraishi） I218E Computer Architecture（Inoguchi）	
	M221 Organic Chemistry（Matsumi） M245 Mathematics for Condensed Matter Science and Technology（Koyano） M615E Advanced Biofunctions（Takagi・Yuzuru Takamura）	M113 Introduction to Bioscience（Takagi・Shimokawa） M231 Bioorganic Chemistry（Fujimoto・Hohsaka） M284E Solid State Physics and its Application to Electronics II（Oshima・T.Suzuki・Ohdaira）	
Tue.	K213 Methodology for Systems Science（Nakamori） K471 Media Creation（Miyata・Ura）	K111 Introduction to Management（Shirahada） K469 Knowledge Creation Support Systems（Nishimoto）	
	I112 Basics of Computer Systems（Yoshitaka） I216 Computational Complexity and Discrete Mathematics（Uehara・To be announced） I225E Statistical Signal Processing（Unoki）	I111 Algorithms and Data Structures（K.Ikeda） I211E Mathematical Logic（Ishihara・Nemoto） I212 Analysis for Information Science（Kotani） I233 Operating Systems（Shinoda）	
	M111A Introduction to Physics A（Horita） M413E Functional Nanomaterials（Maenosono・Nagao・Taniike・Mott）	M211 Quantum Mechanics（Murata） M223 Properties of Organic Materials（Nagao・Jiang） M285E Bioscience and Biotechnology（T.Yamaguchi・Hamada・Fujimoto・H.Tsutsui・Hohsaka）	
Wed.	K211 Methodology for the Social Sciences（Shikida） K444EJ Design Cognition（Nagai・Maekawa）	K470 Introduction to Knowledge Creation（Kunifuji） L212E History and Philosophy of Science（Mizumoto）	
	I115 Digital Logic and Computer Design（M.Kaneko・K.Tanaka） I236 Logical Inference and Knowledge Representation（Hasegawa） I655E Modern Quantum and Neural Computation（Maezono）	I119 Statistics for Data Analytics（Akagi） I120 Fundamentals of Logic and Mathematics（Ishihara・Nemoto） I235 Game Informatics（K.Ikeda・Iida・[Viennot]）	
	M112 Introduction to Chemistry（Taniike・Matsumura） M251 Chemistry of Catalyst and Catalysis（Ebitani） M611E Electronic Structures of Solids and Surfaces（Tomitori・Mizutani・Yukiko Takamura・Fleurence）	M221 Organic Chemistry（Matsumi） M245 Mathematics for Condensed Matter Science and Technology（Koyano） M615E Advanced Biofunctions（Takagi・Yuzuru Takamura）	
Thu.	K228 Introduction to Knowledge Science（Hashimoto・Dam） K421E Essence of Systems Methodologies（T.Yoshida）	K471 Media Creation（Miyata・Ura）	
	I118 Graphs and Automata（Ogawa） I214 System Optimization（M.Kaneko・Hiraishi） I218E Computer Architecture（Inoguchi）	I112 Basics of Computer Systems（Yoshitaka） I216 Computational Complexity and Discrete Mathematics（Uehara・To be announced） I225E Statistical Signal Processing（Unoki）	
	M113 Introduction to Bioscience（Takagi・Shimokawa） M231 Bioorganic Chemistry（Fujimoto・Hohsaka） M284E Solid State Physics and its Application to Electronics II（Oshima・T.Suzuki・Ohdaira）	M111A Introduction to Physics A（Horita） M413E Functional Nanomaterials（Maenosono・Nagao・Taniike・Mott）	
Fri.	K111 Introduction to Management（Shirahada） K469 Knowledge Creation Support Systems（Nishimoto）	K211 Methodology for the Social Sciences（Shikida） K444EJ Design Cognition（Nagai・Maekawa）	
	I111 Algorithms and Data Structures（K.Ikeda） I211E Mathematical Logic（Ishihara・Nemoto） I212 Analysis for Information Science（Kotani） I233 Operating Systems（Shinoda）	I115 Digital Logic and Computer Design（M.Kaneko・K.Tanaka） I236 Logical Inference and Knowledge Representation（Hasegawa） I655E Modern Quantum and Neural Computation（Maezono）	
	M211 Quantum Mechanics（Murata） M223 Properties of Organic Materials（Nagao・Jiang） M285E Bioscience and Biotechnology（T.Yamaguchi・Hamada・Fujimoto・H.Tsutsui・Hohsaka）	M112 Introduction to Chemistry（Taniike・Matsumura） M251 Chemistry of Catalyst and Catalysis（Ebitani） M611E Electronic Structures of Solids and Surfaces（Tomitori・Mizutani・Yukiko Takamura・Fleurence）	

Irregular class schedule:

K213 Methodology for Systems Science（Nakamori）
1st period and 3rd period of every Tuesday

I465S Literacy in Information Security Management（To be announced）
1:00 p.m.- 4:10 p.m. of April 8, 15, 22, July 15, October 14, 28, November 11, 25

NOTE:

The class schedule of the courses with the assigned lecture rooms will be posted on the notice board next to the automatic certificate issuing machine before each term begins. It can also be viewed on the JAIST website (Education → Taking Courses → Class Schedule).

Class schedule for 2017-2018 (Ishikawa Campus)

Term 1-1 (April 12 – June 2) 4th - 5th periods

	4 15:20－17:00	5 17:10－18:50
Mon.	E011A Interaction Seminar 1（Chassen） E112A Basic Technical Communication 2（Holden） E213A Scientific Discussions 1（Terrillon） J111 Basic Technical Japanese 1（Michiyo Yamaguchi） G212 Writing and Presentation Skills（Tsuji）	E011B Interaction Seminar 1（Chassen） E112B Basic Technical Communication 2（Holden） E213B Scientific Discussions 1（Terrillon） G213E Japan Studies（Kawanishi）
Tue.	E021A Interaction Seminar 2（Chassen） E113A Basic Technical Communication 3（Holden） E411A Advanced Technical Communication 1（Terrillon） J011A Introductory Technical Japanese 1（M.Tsutsui） J211 Intermediate Technical Japanese 1（Horiguchi） J411 Advanced Technical Japanese 1（Honda）	E021B Interaction Seminar 2（Chassen） E113B Basic Technical Communication 3（Holden） E411B Advanced Technical Communication 1（Terrillon） J011B Introductory Technical Japanese 1（M.Tsutsui）
Wed.	E011A Interaction Seminar 1（Chassen） E112A Basic Technical Communication 2（Holden） E213A Scientific Discussions 1（Terrillon） J111 Basic Technical Japanese 1（Michiyo Yamaguchi） G212 Writing and Presentation Skills（Tsuji）	E011B Interaction Seminar 1（Chassen） E112B Basic Technical Communication 2（Holden） E213B Scientific Discussions 1（Terrillon） G213E Japan Studies（Kawanishi）
Thu.	E021A Interaction Seminar 2（Chassen） E113A Basic Technical Communication 3（Holden） E411A Advanced Technical Communication 1（Terrillon） J011A Introductory Technical Japanese 1（M.Tsutsui） J211 Intermediate Technical Japanese 1（Horiguchi） J411 Advanced Technical Japanese 1（Honda）	E021B Interaction Seminar 2（Chassen） E113B Basic Technical Communication 3（Holden） E411B Advanced Technical Communication 1（Terrillon） J011B Introductory Technical Japanese 1（M.Tsutsui）
Fri.	S101 Innovation Theory and Methodology for Social Competencies（Kohda,etc.） S102 Innovation Theory and Methodology for Creativity（Kohda,etc.） * S102 will follow when S101 ends after 7 class meetings. S503 Innovation Theory and Methodology for Total Capability Development（Kohda,etc.）	S101 Innovation Theory and Methodology for Social Competencies（Kohda,etc.） S102 Innovation Theory and Methodology for Creativity（Kohda,etc.） * S102 will follow when S101 ends after 7 class meetings. S503 Innovation Theory and Methodology for Total Capability Development（Kohda,etc.）

Class schedule for 2017-2018 (Ishikawa Campus)

Term 1-2 (June 8 – July 27) 1st - 3rd periods

NOTE:
Thursday, July 27 will follow the MONDAY schedule.

	1 9:00－10:40	2 10:50－12:30	3
Mon.	K121 Introduction to Cognitive Science（Hidaka･K.Tanaka） K214 Methodology for Knowledge Media（Yuizono） I114 Fundamental Mathematics for Information Science（Yokoyama） I234E Foundation of Software Environment（M.Suzuki） I441 Advanced Computer Networks（Shinoda） M222 Computational Material Design（Shimoda･Dam） M254 Polymer Chemistry I（T.Kaneko）	K114 Introduction to Social Research Methods（Kobayashi） K472 Media Interaction（Nishimoto） I219 Software Design Methodology（Aoki） I438 Exercises on Graph Theory（M.Kaneko） I483 Smart Embedded System Development（To be announced） M232 Biophysics and Biophysical Chemistry（Hamada） M421 Electronics（T.Suzuki）	**Office Hours (13:30 — 15:10)**
Tue.	K229 Innovation Design（Nagai･Yuizono･Miyata） K613E Social-Technical Complex Systems（Huynh） I213 Discrete Signal Processing（Asano） I217 Functional Programming（Ogata） I656E Logical Decision Procedures（Hirokawa） M213 Electromagnetic Theory（Tomitori） M261 Functional Biomolecules（H.Tsutsui）	K236EJ Basis of Data Analytics（Ho･Dam） K412 The Knowledge Society（Ito） I116 Fundamentals of Programming（Terauchi） I232E Information Theory（Matsumoto） I442 Advanced System Software Laboratory（Chinen） M243 Solid State Physics I（Yukiko Takamura） M423 Functional Protein Device（Hiratsuka）	
Wed.	K473 Management of Innovation（Uchihira） I223E Natural Language Processing I（Nguyen） I226 Computer Networks（Tan） I439 Speech Signal Processing（Akagi･Dang） M224 Inorganic Materials Chemistry（Maenosono） M415 Medical Biomaterials（Tsukahara） M620E Electronic Properties of Condensed Matter（Oshima･Sakai･Koyano･An）	K121 Introduction to Cognitive Science（Hidaka･K.Tanaka） K214 Methodology for Knowledge Media（Yuizono） I114 Fundamental Mathematics for Information Science（Yokoyama） I234E Foundation of Software Environment（M.Suzuki） I441 Advanced Computer Networks（Shinoda） M222 Computational Material Design（Shimoda･Dam） M254 Polymer Chemistry I（T.Kaneko）	
Thu.	K114 Introduction to Social Research Methods（Kobayashi） K472 Media Interaction（Nishimoto） I219 Software Design Methodology（Aoki） I438 Exercises on Graph Theory（M.Kaneko） I483 Smart Embedded System Development（To be announced） M232 Biophysics and Biophysical Chemistry（Hamada） M421 Electronics（T.Suzuki）	K229 Innovation Design（Nagai･Yuizono･Miyata） K613E Social-Technical Complex Systems（Huynh） I213 Discrete Signal Processing（Asano） I217 Functional Programming（Ogata） I656E Logical Decision Procedures（Hirokawa） M213 Electromagnetic Theory（Tomitori） M261 Functional Biomolecules（H.Tsutsui）	
Fri.	K236EJ Basis of Data Analytics（Ho･Dam） K412 The Knowledge Society（Ito） I116 Fundamentals of Programming（Terauchi） I232E Information Theory（Matsumoto） I442 Advanced System Software Laboratory（Chinen） M243 Solid State Physics I（Yukiko Takamura） M423 Functional Protein Device（Hiratsuka）	K473 Management of Innovation（Uchihira） I223E Natural Language Processing I（Nguyen） I226 Computer Networks（Tan） I439 Speech Signal Processing（Akagi･Dang） M224 Inorganic Materials Chemistry（Maenosono） M415 Medical Biomaterials（Tsukahara） M620E Electronic Properties of Condensed Matter（Oshima･Sakai･Koyano･An）	

Irregular class schedule:

I465S Literacy in Information Security Management（To be announced）
1:00 p.m.- 4:10 p.m. of April 8, 15, 22, July 15, October 14, 28, November 11, 25

M432E Evaluation of Functions of Materials（Miyake･Iwamoto）
Dates to be announced

NOTE:

The class schedule of the courses with the assigned lecture rooms will be posted on the notice board next to the automatic certificate issuing machine before each term begins. It can also be viewed on the JAIST website (Education → Taking Courses → Class Schedule).

Class schedule for 2017-2018 (Ishikawa Campus)

Term 1-2 (June 8 – July 27) 4th - 5th periods

NOTE:
Thursday, July 27 will follow the MONDAY schedule.

	4 15:20－17:00	5 17:10－18:50
Mon.	E011A Interaction Seminar 1（Chassen） E211A Intermediate Technical Communication 1（Holden） E413A Scientific Discussions 2（Terrillon） J001 KANJI Special Training Seminar（Honda） J112 Basic Technical Japanese 2（Michiyo Yamaguchi）	E011B Interaction Seminar 1（Chassen） E211B Intermediate Technical Communication 1（Holden） E413B Scientific Discussions 2（Terrillon） G211E Global Communication for Collaboration Building（Kawanishi）
Tue.	E021A Interaction Seminar 2（Chassen） E212A Intermediate Technical Communication 2（Holden） E411A Advanced Technical Communication 1（Terrillon） J012A Introductory Technical Japanese 2（M.Tsutsui） J212 Intermediate Technical Japanese 2（Horiguchi） J412 Advanced Technical Japanese 2（Honda）	E021B Interaction Seminar 2（Chassen） E212B Intermediate Technical Communication 2（Holden） E411B Advanced Technical Communication 1（Terrillon） J012B Introductory Technical Japanese 2（M.Tsutsui）
Wed.	E011A Interaction Seminar 1（Chassen） E211A Intermediate Technical Communication 1（Holden） E413A Scientific Discussions 2（Terrillon） J001 KANJI Special Training Seminar（Honda） J112 Basic Technical Japanese 2（Michiyo Yamaguchi）	E011B Interaction Seminar 1（Chassen） E211B Intermediate Technical Communication 1（Holden） E413B Scientific Discussions 2（Terrillon） G211E Global Communication for Collaboration Building（Kawanishi）
Thu.	E021A Interaction Seminar 2（Chassen） E212A Intermediate Technical Communication 2（Holden） E411A Advanced Technical Communication 1（Terrillon） J012A Introductory Technical Japanese 2（M.Tsutsui） J212 Intermediate Technical Japanese 2（Horiguchi） J412 Advanced Technical Japanese 2（Honda）	E021B Interaction Seminar 2（Chassen） E212B Intermediate Technical Communication 2（Holden） E411B Advanced Technical Communication 1（Terrillon） J012B Introductory Technical Japanese 2（M.Tsutsui）
Fri.		

Class schedule for 2017-2018 (Ishikawa Campus)

Term 2-1 (October 11 – November 30) 1st - 3rd periods

NOTE:
Wednesday, November 29 will follow the Friday schedule.

	1 9:00－10:40	2 10:50－12:30	3
Mon.	K111E Introduction to Management（Zelaya） K411 Theory of Knowledge Management（Hirata･T.Hayashi） K418 Representation of Knowledge（Yuizono） I216E Computational Complexity and Discrete Mathematics（Uehara･To be announced） I225 Statistical Signal Processing（Unoki） I235E Game Informatics（Iida） M211 Quantum Mechanics（Iwasaki） M282E New Materials Design and Synthesis（M.Yamaguchii･Jiang）	K228E Introduction to Knowledge Science（Dam･Hashimoto･Huynh） K421 Essence of Systems Methodologies（T.Yoshida） I211 Mathematical Logic（Ogawa･Yokoyama） I212E Analysis for Information Science（Kotani） I448 Distance Learning System（Hasegawa） M262 Biomaterial Sensing（Yuzuru Takamura） M420 Solid State Physics II（Akabori）	Office Hours（13:30－15:10）
Tue.	K611E Next-Generation Management of Technology（Kohda） L212 History and Philosophy of Science（Mizumoto） I217E Functional Programming（Hirokawa） I218 Computer Architecture（K.Tanaka） I469 Advanced Algorithms for Computational Geometry（Uehara） M225 Instrumental Analytical Chemistry（Shinohara） M245 Mathematics for Condensed Matter Science and Technology（Mizuta） M614E Advanced Device Physics（Ohdaira）	K464EJ Cognitive Science（Fujinami） I214E System Optimization（M.Kaneko･Hiraishi） I223 Natural Language Processing I（Shirai） I481 Software Development Laboratory for Highly Dependable Embedded Systems（M.Suzuki） M212 Statistical Mechanics（Shimoda） M231 Bioorganic Chemistry（Fujimoto･Hohsaka）	
Wed.	K417EJ Data Analytics（Ho･Dam） K433 Practice of Management of Technology Innovations（Kondo） I233E Operating Systems（Beuran） I234 Foundation of Software Environment（Terauchi） I427 System Control Theory（Asano） M111BE Introduction to Physics B（Mizutani･Khuat） M424 Polymer Chemistry II（M.Yamaguchi･Matsumura）	K111E Introduction to Management（Zelaya） K411 Theory of Knowledge Management（Hirata･T.Hayashi） K418 Representation of Knowledge（Yuizono） I216E Computational Complexity and Discrete Mathematics（Uehara･To be announced） I225 Statistical Signal Processing（Unoki） I235E Game Informatics（Iida） M211 Quantum Mechanics（Iwasaki） M282E New Materials Design and Synthesis（M.Yamaguchii･Jiang）	
Thu.	K228E Introduction to Knowledge Science（Dam･Hashimoto･Huynh） K421 Essence of Systems Methodologies（T.Yoshida） I211 Mathematical Logic（Ogawa･Yokoyama） I212E Analysis for Information Science（Kotani） I448 Distance Learning System（Hasegawa） M262 Biomaterial Sensing（Yuzuru Takamura） M420 Solid State Physics II（Akabori）	K611E Next-Generation Management of Technology（Kohda） L212 History and Philosophy of Science（Mizumoto） I217E Functional Programming（Hirokawa） I218 Computer Architecture（K.Tanaka） I469 Advanced Algorithms for Computational Geometry（Uehara） M225 Instrumental Analytical Chemistry（Shinohara） M245 Mathematics for Condensed Matter Science and Technology（Mizuta） M614E Advanced Device Physics（Ohdaira）	
Fri.	K464EJ Cognitive Science（Fujinami） I214E System Optimization（M.Kaneko･Hiraishi） I223 Natural Language Processing I（Shirai） I481 Software Development Laboratory for Highly Dependable Embedded Systems（M.Suzuki） M212 Statistical Mechanics（Shimoda） M231 Bioorganic Chemistry（Fujimoto･Hohsaka）	K417EJ Data Analytics（Ho･Dam） K433 Practice of Management of Technology Innovations（Kondo） I233E Operating Systems（Beuran） I234 Foundation of Software Environment（Terauchi） I427 System Control Theory（Asano） M111BE Introduction to Physics B（Mizutani･Khuat） M424 Polymer Chemistry II（M.Yamaguchi･Matsumura）	

Irregular class schedule:

I466 Introduction to International Standardization（Tan,etc.）
5th period of every Friday in Terms 2-1 and 2-2

I465S Literacy in Information Security Management（To be announced）
1:00 p.m.- 4:10 p.m. of April 8, 15, 22, July 15, October 14, 28, November 11, 25

I466S Advanced Information Security Theory and Application（Miyaji,etc.）
4:20 p.m.- 5:50 p.m. of every Wednesday in October 4 - January 24 (except December 27 and January 3)

M616E Advanced Biomaterials（Hiratsuka･H.Tsutsui･Hamada･K.Nagai）
Dates to be announced

NOTE:

The class schedule of the courses with the assigned lecture rooms will be posted on the notice board next to the automatic certificate issuing machine before each term begins. It can also be viewed on the JAIST website (Education → Taking Courses → Class Schedule).

Class schedule for 2017-2018 (Ishikawa Campus)

Term 2-1 (October 11 – November 30) 4st - 5rd periods

NOTE:
Wednesday, November 29 will follow the Friday schedule.

	4 15:20－17:00	5 17:10－18:50
Mon.	N001 Fabrication of Nano-Devices with Training Course（T.Suzuki・Akabori） E011A Interaction Seminar 1（Chassen） E112A Basic Technical Communication 2（Holden） E213A Scientific Discussions 1（Terrillon） J001 KANJI Special Training Seminar（Honda） J111 Basic Technical Japanese 1（Michiyo Yamaguchi） G212 Writing and Presentation Skills（Tsuji）	N001 Fabrication of Nano-Devices with Training Course（T.Suzuki・Akabori） E011B Interaction Seminar 1（Chassen） E112B Basic Technical Communication 2（Holden） E213B Scientific Discussions 1（Terrillon） G213E Japan Studies（Kawanishi）
Tue.	N002 Study on Nanobiotechnology with Training Course（Hohsaka・Watanabe・Yuzuru Takamura・Phan） E021A Interaction Seminar 2（Chassen） E113A Basic Technical Communication 3（Holden） E411A Advanced Technical Communication 1（Terrillon） J011A Introductory Technical Japanese 1（M.Tsutsui） J211 Intermediate Technical Japanese 1（Horiguchi） J411 Advanced Technical Japanese 1（Honda）	N002 Study on Nanobiotechnology with Training Course（Hohsaka・Watanabe・Yuzuru Takamura・Phan） E021B Interaction Seminar 2（Chassen） E113B Basic Technical Communication 3（Holden） E411B Advanced Technical Communication 1（Terrillon） J011B Introductory Technical Japanese 1（M.Tsutsui）
Wed.	N003 Analysis of Nano-Materials with Training Course（Ohki・Osaka） E011A Interaction Seminar 1（Chassen） E112A Basic Technical Communication 2（Holden） E213A Scientific Discussions 1（Terrillon） J001 KANJI Special Training Seminar（Honda） J111 Basic Technical Japanese 1（Michiyo Yamaguchi） G212 Writing and Presentation Skills（Tsuji）	N003 Analysis of Nano-Materials with Training Course（Ohki・Osaka） E011B Interaction Seminar 1（Chassen） E112B Basic Technical Communication 2（Holden） E213B Scientific Discussions 1（Terrillon） G213E Japan Studies（Kawanishi）
Thu.	N004 Structural Analysis of Solids on Nano-Scale with Training Course（Maenosono・Mott・Tomitori） E021A Interaction Seminar 2（Chassen） E113A Basic Technical Communication 3（Holden） E411A Advanced Technical Communication 1（Terrillon） J011A Introductory Technical Japanese 1（M.Tsutsui） J211 Intermediate Technical Japanese 1（Horiguchi） J411 Advanced Technical Japanese 1（Honda）	N004 Structural Analysis of Solids on Nano-Scale with Training Course（Maenosono・Mott・Tomitori） E021B Interaction Seminar 2（Chassen） E113B Basic Technical Communication 3（Holden） E411B Advanced Technical Communication 1（Terrillon） J011B Introductory Technical Japanese 1（M.Tsutsui）
Fri.	N005 Material Analysis with Training Course（M.Yamaguchi・T.Kaneko・Shinohara・Okeyoshi） S101 Innovation Theory and Methodology for Social Competencies（Kohda,etc.） S102 Innovation Theory and Methodology for Creativity（Kohda,etc.） * S102 will follow when S101 ends after 7 class meetings. S503 Innovation Theory and Methodology for Total Capability Development（Kohda,etc.）	N005 Material Analysis with Training Course（M.Yamaguchi・T.Kaneko・Shinohara・Okeyoshi） S101 Innovation Theory and Methodology for Social Competencies（Kohda,etc.） S102 Innovation Theory and Methodology for Creativity（Kohda,etc.） * S102 will follow when S101 ends after 7 class meetings. S503 Innovation Theory and Methodology for Total Capability Development（Kohda,etc.） I466 Introduction to International Standardization（Tan, etc.）

Class schedule for 2017-2018 (Ishikawa Campus)

Term 2-2 (December 5 – February 5) 1st - 3rd periods

	1 9:00－10:40	2 10:50－12:30	3
Mon.	K114E Introduction to Social Research Methods（Masuda） K479 Service Management（Shirahada） I226E Computer Networks（Lim） I435 Software Architecture（M.Suzuki） M283E Biofunction and Organization（Takagi･Tsukahara･Yuzuru Takamura･Ohki）	K213E Methodology for Systems Science（Huynh） I232 Information Theory（Matsumoto） I440 Enhanced Operating Systems（K.Tanaka） I613E Algebraic Formal Methods（Ogata）	Office Hours (13:30 — 15:10)
Tue.	K214E Methodology for Knowledge Media（Kanai） I219E Software Design Methodology（Ogata） I419 Image Information Science（Yoshitaka）	K229E Innovation Design（Nagai･Yuizono･Miyata･Zelaya） K420 Research & Development Management（Kosaka） I236E Logical Inference and Knowledge Representation（Nguyen） I482 Software Process Design for Highly Dependable Embedded Systems（M.Suzuki･Aoki） M281E Solid State Physics and its Application to Electronics I（Mizuta･Muraka･An）	
Wed.	K411E Theory of Knowledge Management（Kim･Zelaya） K414 Complex Systems Analysis（Hashimoto･Kobayashi） I213E Discrete Signal Processing（Chong） I413 Theoretical Computer Science（Ishihara） I450 Network Design Laboratory（Tan･Chinen）	K114E Introduction to Social Research Methods（Masuda） K479 Service Management（Shirahada） I226E Computer Networks（Lim） I435 Software Architecture（M.Suzuki） M283E Biofunction and Organization（Takagi･Tsukahara･Yuzuru Takamura･Ohki）	
Thu.	K213E Methodology for Systems Science（Huynh） I232 Information Theory（Matsumoto） I440 Enhanced Operating Systems（K.Tanaka） I613E Algebraic Formal Methods（Ogata）	K214E Methodology for Knowledge Media（Kanai） I219E Software Design Methodology（Ogata） I419 Image Information Science（Yoshitaka）	
Fri.	K229E Innovation Design（Nagai･Yuizono･Miyata･Zelaya） K420 Research & Development Management（Kosaka） I236E Logical Inference and Knowledge Representation（Nguyen） I482 Software Process Design for Highly Dependable Embedded Systems（M.Suzuki･Aoki） M281E Solid State Physics and its Application to Electronics I（Mizuta･Muraka･An）	K411E Theory of Knowledge Management（Kim･Zelaya） K414 Complex Systems Analysis（Hashimoto･Kobayashi） I213E Discrete Signal Processing（Chong） I413 Theoretical Computer Science（Ishihara） I450 Network Design Laboratory（Tan･Chinen）	

Irregular class schedule:

I466 Introduction to International Standardization（Tan,etc.）
5th period of every Friday in Terms 2-1 and 2-2

I466S Advanced Information Security Theory and Application（Miyaji,etc.）
4:20 p.m.- 5:50 p.m. of every Wednesday in October 4 - January 24 (except December 27 and January 3)

M414 Device Physics（Tokumitsu） Dates to be announced

M618E Materials Design（Ebitani･Matsumura･Jiang） Dates to be announced

NOTE:

The class schedule of the courses with the assigned lecture rooms will be posted on the notice board next to the automatic certificate issuing machine before each term begins. It can also be viewed on the JAIST website (Education → Taking Courses → Class Schedule).

Class schedule for 2017-2018 (Ishikawa Campus)

Term 2-2 (December 5 – February 5) 4th - 5th periods

	4 15:20－17:00	5 17:10－18:50
Mon.	E011A Interaction Seminar 1（Chassen） E211A Intermediate Technical Communication 1（Holden） E413A Scientific Discussions 2（Terrillon） J112 Basic Technical Japanese 2（Michiyo Yamaguchi）	E011B Interaction Seminar 1（Chassen） E211B Intermediate Technical Communication 1（Holden） E413B Scientific Discussions 2（Terrillon） G211E Global Communication for Collaboration Building（Kawanishi）
Tue.	E021A Interaction Seminar 2（Chassen） E212A Intermediate Technical Communication 2（Holden） E411A Advanced Technical Communication 1（Terrillon） J012A Introductory Technical Japanese 2（M.Tsutsui） J212 Intermediate Technical Japanese 2（Horiguchi） J412 Advanced Technical Japanese 2（Honda）	E021B Interaction Seminar 2（Chassen） E212B Intermediate Technical Communication 2（Holden） E411B Advanced Technical Communication 1（Terrillon） J012B Introductory Technical Japanese 2（M.Tsutsui）
Wed.	E011A Interaction Seminar 1（Chassen） E211A Intermediate Technical Communication 1（Holden） E413A Scientific Discussions 2（Terrillon） J112 Basic Technical Japanese 2（Michiyo Yamaguchi）	E011B Interaction Seminar 1（Chassen） E211B Intermediate Technical Communication 1（Holden） E413B Scientific Discussions 2（Terrillon） G211E Global Communication for Collaboration Building（Kawanishi）
Thu.	E021A Interaction Seminar 2（Chassen） E212A Intermediate Technical Communication 2（Holden） E411A Advanced Technical Communication 1（Terrillon） J012A Introductory Technical Japanese 2（M.Tsutsui） J212 Intermediate Technical Japanese 2（Horiguchi） J412 Advanced Technical Japanese 2（Honda）	E021B Interaction Seminar 2（Chassen） E212B Intermediate Technical Communication 2（Holden） E411B Advanced Technical Communication 1（Terrillon） J012B Introductory Technical Japanese 2（M.Tsutsui）
Fri.		I466 Introduction to International Standardization（Tan, etc.）

Study Programs

Japanese language proficiency is required for all the study programs except for the Program for Leaders in Data Analytics. See the chapter entitled “学修プログラム (Study Programs)” in the Japanese language edition for details of the programs.

Study Programs

1 Overview

JAIST offers several study programs listed below of which you can choose one according to your study interests. A certificate of completion will be granted to those who complete the required program work.

	Course	Study Program
Ishikawa	Master's Program	◇ Education Program for Leaders in Data Analytics ◇ Highly-Dependable IoT Systems Program* ◇ Information Security Program* ◇ Nano Material Technology Program*
	Doctoral Program	◇ Education Program for Leaders in Data Analytics ◇ Nano Material Technology Program*
Tokyo	Master's Program	◇ Management of Technology (MOT) Program* ◇ Management of Service (MOS) Program* ◇ Medical Service Science (MSS) Program* ◇ Advanced Information Science Program*
	Doctoral Program	◇ Advanced Knowledge Science Program* ◇ Advanced Information Technologies Program*

*Japanese language proficiency is required to apply.

1.1 Program details

For Ishikawa students: Study Programs are optional.
For Tokyo students: One of the study programs must be selected (required).

1.2 Application procedures

Students who wish to take one of the programs must submit an application to Kyoumu by mid-April for those enrolled in April and by mid-October for those in October. Application must be approved at a faculty meeting. Decision will be made after screening the application. Applicants may be asked to take a written or an oral examination depending on a program, if necessary. Details are explained at the orientation and/or before screening.
Students can select only one study program during each of the master's and doctoral program except for the Nano Materials Technology Program which can be chosen with another program. You cannot change programs once it's decided. If students at Ishikawa campus wish to leave the program, Kyoumu must be notified.
The Specialized Technical courses for the programs might be offered differently and separately from the regular courses and there might be prerequisites. You must check the syllabi, class schedule etc. for details.

1.3 Program Completion Certificate

A certificate of completion of the program will be granted at the degree conferment to those who have completed the required program work. If you satisfy all the degree completion requirements without completion of the study program requirements, you will be able to complete the master's/doctoral program.

2 Study Programs (Ishikawa campus)

◇ Education Program for Leaders in Data Analytics

Data-driven approach is playing more important role in most sciences and in solving social problems, and educating leaders with more knowledge and skill of data processing is necessary. In order to meet such social needs, we supply an education program specialized in data analytics based on knowledge science.

This program aims at producing excellent industry-ready talents in various organizations, such as business enterprises, think-tanks, public agencies, NPOs, NGOs, and research institutes, through cultivating abilities to comprehend social and business needs, to solve various social problems with making full use of data in collaboration with specialists, and to coordinate such collaborative works.

● Program completion requirements

Students must satisfy the following requirements.

(1) Master's students must complete 3 courses (6 credits) or more from the Table below.
(2) Doctoral students must complete the following 3 courses, K236, K417 and K619.

Appendix Table

Course Number	Course Title	Credit
I119	Statistics for Data Analytics	2
K236	Basis of Data Analytics	2
K417	Data Analytics	2
K619	Advanced Data Analytics	2

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Issue Date: April 1, 2017