

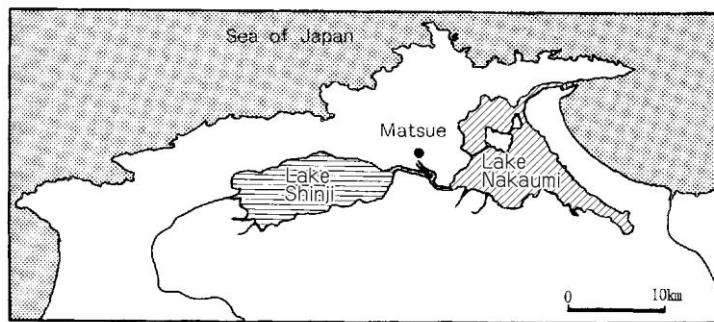
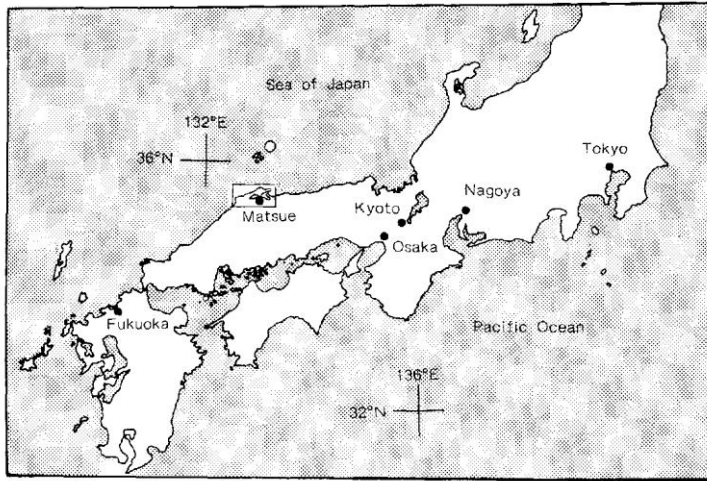
SPECIAL PROGRAM  
FOR PRIVATELY-FINANCED INTERNATIONAL STUDENTS  
– GRADUATE SCHOOL OF NATURAL SCIENCE AND TECHNOLOGY –

APPLICATION GUIDEBOOK  
FOR THE 2018 ACADEMIC YEAR

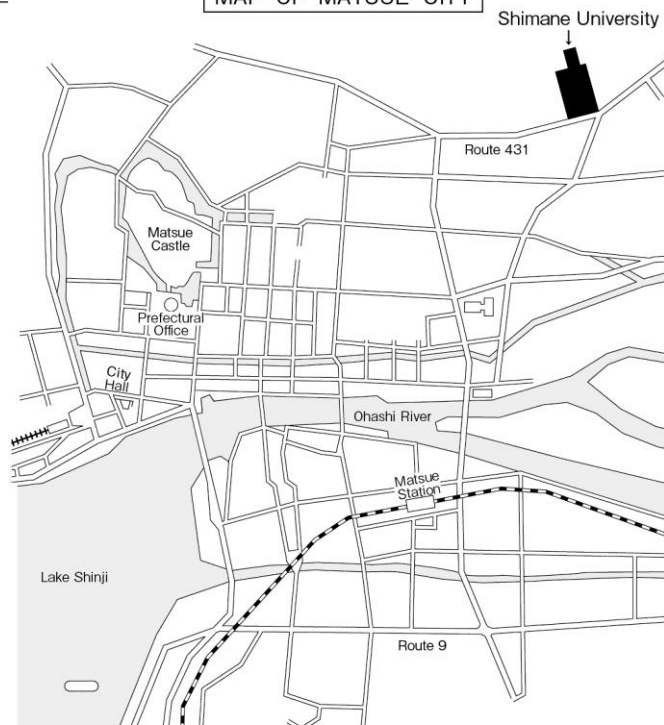
SHIMANE UNIVERSITY

MATSUE, JAPAN

2018



MAP OF MATSUE CITY



# **SPECIAL PROGRAM**

## **FOR PRIVATELY-FINANCED INTERNATIONAL STUDENTS**

### **- GRADUATE SCHOOL OF NATURAL SCIENCE AND TECHNOLOGY-**

### **SHIMANE UNIVERSITY, FOR THE 2018 ACADEMIC YEAR**

**英語による留学生プログラム**  
**島根大学大学院自然科学研究科博士前期課程**  
**私費外国人留学生・学生募集要項 2018年度**

The Graduate School of Natural Science and Technology, Shimane University recruits prominent international students for the SPECIAL PROGRAM of the two-year Master Course Program. This is for the students funded privately.

#### **1. PURPOSE OF THE SPECIAL PROGRAM (設置目的)**

The SPECIAL PROGRAM (SP) is designed to learn advanced education such as: Mathematics, Information Systems Design and Data Science, Physics and Materials Science, Mechanical Electrical and Electronic Engineering, Earth Science, Environmental and Sustainability Sciences, Chemistry, Architectural Design, Life Sciences and Agricultural and Forest Sciences. The courses are provided for students to learn the basic and applied sciences and enable them to conduct appropriate measures to deal with Science and Engineering, Science of Environmental Systems and Agricultural and Life Sciences. Further, the students are expected to be the leaders of their special field

#### **2. CURRICULUM PROCEDURE (教育方法)**

The SPECIAL PROGRAM (SP) is a two-year Master's course. The students in the SP has to earn more than 30 hour credits and are required to write Master's thesis to obtain their degree of Master of Science, Engineering or Life and Environmental Science. They also must pass the final exam to get the Degree. All lectures and research activities are given by our faculty members in English. Some necessary advice is given by them as well.

#### **3. FIELDS OF STUDY (専攻分野)**

The applicants should select their field of study from the lists offered by the Graduate School of Natural Science and Technology. The courses are:

##### **Major in Science and Engineering (理工学専攻)**

Mathematics (数理学)

Information Systems Design and Data Science (知能情報デザイン学)

Physics and Materials Science (物理・マテリアル工学)

Mechanical, Electrical and Electronic Engineering (機械・電気電子工学)

**Major in Science of Environmental Systems (環境システム科学専攻)**

Earth Science (地球科学)

Environmental and Sustainability Sciences (環境共生科学)

Chemistry (物質化学)

Architectural Design (建築デザイン学)

**Major in Agricultural and Life Sciences (農生命科学専攻)**

Life Sciences (生命科学)

Agricultural and Forest Sciences (農林生産学)

**4. NUMBER OF STUDENTS TO BE ADMITTED (募集人数)**

The number of students to be admitted: Several

**5. QUALIFICATIONS FOR APPLICATION (出願資格及び条件)**

International student applicants from within or outside Japan should possess the following qualifications:

**5-(1) Nationality (国籍):**

Applicants should be of nationalities approved by the Japanese Government or have already lived in Japan.

**5-(2) Age (年齢):**

No limitation of age if the condition such as academic background, or necessary qualifications are satisfied.

**5-(3) Academic Background (学歴):**

Applicants should satisfy one of the following items:

(3)-① Those who have completed a 16-year formal school education in foreign countries or who are expected to have graduated from such.

(3)-② Those who were recognized to be equivalent or superior to university graduates in scholastic performance through the deliberation individually given by the Graduate School of Natural Science and Technology, Shimane University and fulfill the qualification of 22 years in age by September 30, 2018.

※ Those who fall under article (3)-② above have to consult with Admissions Division, Shimane University, for prior certification and confirmation of their qualification by Monday, May 14, 2018.

**5-(4) Health Condition (健康):**

Applicants should be in good mental and physical health condition.

**5-(5) Language Proficiency (語学能力):**

A good working level in English is required.

#### **5-(6) Arrival in Japan (渡日時期)**

The admitted students must arrive in Japan:

Between October 1 to October 3, 2018.

### **6. APPLICATION PROCEDURE (出願手続き)**

#### **6-(1) Documents for Application (出願書類)**

Applicants should submit the following documents.

##### **6-(1)-① Application Forms for Privately-financed International Students (私費外国人留学生入学申請書)**

- ①-a Use the form prescribed by Shimane University only.
- ①-b Applicants must fill in the prospective supervisor's name in the form.
- ①-c Please note that if applied without supervisor's name, the application might not be accepted.
- ①-d Applicants should make a close contact with their prospective supervisors, including the main instructor and sub-instructors beforehand. After the completion of the procedure, make concrete research plans to fill in the form.

##### **6-(1)-② A Certificate of Health (健康診断書)**

Fill in the prescribed form completed by the public medical doctor within six months of application date.

##### **6-(1)-③ An Official Graduation Certificate (卒業証明書等)**

- ③-a An official certificate of graduation from college (and graduate school), or
- ③-b A statement of completion of the under-graduate program by the end of September 2018, or
- ③-c A copy of the Degree of the Bachelor (and Master's Degree) of Science.

##### **6-(1)-④ A Transcript of Academic Records (成績証明書)**

A transcript of academic records of college (and graduate school) with English translation issued by the school which the applicant attended.

##### **6-(1)-⑤ TOEFL or TOEIC, etc. (英語能力証明書)**

A copy of the record of TOEFL or TOEIC, etc.

##### **6- (1)-⑥ Thesis of Bachelor (Master) of Science, etc. (学士論文等)**

- ⑥-a A copy of the thesis and the summary of Bachelor of Science if the applicant has completed college, or the equivalent materials if the thesis is not available.
- ⑥-b A report of research if the applicant is still in college.
- ⑥-c A copy of the thesis and the summary of Master of Science if the applicant has

completed graduate school, or the equivalent materials if the thesis is not available.

⑥-d A report of research if the applicant is still in graduate school.

**6-(1)-⑦ Published Papers, etc. (既発表論文等)**

A reprint of their published papers or a copy of the manuscripts submitted for journals, etc.

**6-(1)-⑧ Family Register, etc. (戸籍謄本等)**

A certificate of the family register, the citizenship issued by the applicant's municipal authority or a copy of passport.

**6-(1)-⑨ A Recommendation Letter (推薦書)**

A Recommendation Letter from the professor who has taught the applicant, or the advisors who know well about applicant's research.

**6-(1)-⑩ Photographs (写真)**

- ⑩-a Passport sized 2 photographs (4.5cm x 3.5cm) showing a front face, up-from-bust, uncover headed. They should be taken within 6 months of the application date. Applicant's name and nationality should be written on the reverse side.
- ⑩-b One photo should be pasted on the application form (attached form).
- ⑩-c One photo should be enclosed in the envelope together with the application documents.

**6-(1)-⑪ Entrance Examination Fee Certificate of Payment (入学検定料金振込証明書)**

**⑪-a In case of transferring entrance examination fee from Japan**

When applicants transfer the "Entrance Examination Fee" through the bank by downloading the forms such as bank transfer form for "Entrance Examination Fee" in the year 2018 from Shimane University's website, applicants are requested to fill out the form before going to the bank. Applicants can pay through financial institutions such as City Banks (TOSHI GINKO), Regional Banks (CHIHOH GINKO), Credit Union Banks (SHINYO KINKO), Japan Agriculture Cooperative Banks (JA) or YUCHO-GINKO BANK. (Be sure to take banknote (TSUCHOH in Japanese) and personal seal (INKAN in Japanese) with you).

Applicants cannot send cash.

Applicants must transfer **"Entrance Examination Fee" amounting 30,000 yen** by filling out the "Bank Transfer Form" (above mentioned).

Handling time and period is as follows:

By 3:00p.m. (Bank is open until 3:00p.m.),

Monday, May 28 through Friday, June 15.

Do not use ATM (Automatic Teller Machine).

Applicants must enclose the "Certificate of Bank Transfer" (Bank Form -III) issued by the bank with application documents. The certificate is to be submitted to Shimane University.

**※Before transferring money, applicants must make inquiry to the address below by filling in the subject as [Concerning the payment of entrance examination fee for**

Privately-Financed International Students]. We will inform the applicant of the reference number (SEIRI BANGO in Japanese)

**Contact Place:**

Admission Division, Shimane University

E-mail : ns-nyushi@office.shimane-u.ac.jp

(Note)

If the applicant wishes to ask a proxy, "who is living in Japan," to transfer the "Entrance Examination Fee", the applicant's own full name should be written on the documents for bank transfer form etc.

**⑪-b In case of transferring "Entrance Examination Fee" from abroad**

In case you wish to transfer "Entrance Examination Fee" from abroad, please contact the below mentioned contact place by filling in the subject: "Concerning the payment of entrance examination fee for SPECIAL PROGRAM for Privately-Financed International Students". We will instruct you how to transfer money. Please specify your full name and the reason for not being able to transfer money from Japan.

Contact Place:

Admission Division, Shimane University

E-mail : ns-nyushi@office.shimane-u.ac.jp

After transferring "Entrance Examination Fee" amounting 30,000yen, scan "Application Form for Remittance (overseas)" (Photograph will be accepted) and send it to the e-mail address of the contact place. Also, applicants are requested to enclose a copy of "Application Form for Remittance" which certifies that "Entrance Examination Fee" has been paid. Make sure to keep the original of the Form with care.

(Note)

In case the transferred "Entrance Examination Fee" is short of the required amount, or the fee is not transferred by 5:00 p.m. (Japan time) of the deadline date, the transferred "Entrance Examination Fee" to the account cannot be accepted. The application itself will not be accepted either.

It requires more time to remit money than the applicants might expect. Applicants are advised to confirm the due date to the bank beforehand. The early action of remittance is recommended.

In case the "Entrance Examination Fee" has come to an over-payment, the overpaid fee will be refunded, however, the commission must be paid by the applicants. Please note that if the commission itself comes to be more than the "overpaid amount", it will not be paid back.

**⑪-c Refund Policy**

Once "The Entrance Examination Fee" has been paid, the fee cannot be refunded for any reason except for the following cases:

- (1) If application forms cannot be accepted due to deficiency. In that case, the applicants are contacted and required to take necessary process.
- (2) If application is cancelled, after payment of the entrance examination fee.
- (3) If the entrance examination fee is paid twice by mistake.

If the applicant's payment falls under the category ② or ③ above, the paid "Entrance Examination Fee" can be refunded according to the declaration by the

applicant. Applicants are requested to contact the address below by filling in the subject "Concerning the refund of entrance examination fee for SPECIAL PROGRAM for Privately-Financed International Students" by Friday, June 22, 2018. Please specify the reference number (SEIRI BANGO in Japanese), applicant's full name, and paid date (or transferred date), then contact the below:

Contact Place:

Bursar's Office (Financial and Accounting Division), Shimane University

E-mail : apd-suito@office.shimane-u.ac.jp

(Note)

During the refund process, Bank Form-II "Receipt for Transferred Money" (applicants keep) and Bank Form-III, which certifies the "Entrance Examination Fee Remittance" (to be submitted to Shimane University), are needed. When the applicants transfer money from abroad, "Application Form for Remittance" is needed. So keep these documents with caution.

If we cannot confirm these documents, the refund may not be done.

Also please note that the commission should be paid by the applicant. Further, if the commission comes more than the refund amount, the refund will not be done.

**6-(2) Application Period (出願期間)**

The office hours of Admission Division (below) are:

**From 9:00 a.m. to 5:00 p.m., from Monday through Friday.**

Application should be made:

**From Monday, June 4, 2018 to Friday, June 15, 2018.**

When submitted by postal mail, the application documents must arrive:

**No later than 5:00 p.m. Friday, June 15, 2018.**

**6-(3) Submission of Application (出願書類提出先)**

All application materials should be submitted to:

**Admissions Division, Shimane University**

**1060 Nishikawatsu-cho, Matsue, Shimane Prefecture**

**690-8504, Japan**

**7. Selection Process (入試方法)**

**7-(1) Interview, etc.(面接)**

The applicant must get either (A) or (B) interview below:

**(A) Interview venue:** The interview will be held at **Shimane University.**

**Interview date:** **Wednesday, July 11, 2018.**

**※ Applicants residing in Japan only**

**(B) Internet Interview:** Some prospective supervisors will carry out the interview. Supervisor will give once or more interviews.

**Interview date:** **Wednesday, June 27, 2018 through Wednesday, July 11, 2018.**

**※ Applicants residing abroad only**



## 7-(2) Selection (選考)

The selection is to be made based on the submitted application documents and the above interview.

## 8. An Announcement of Admission (入学許可通知)

### 8-(1) An Announcement of Admission (通知方法)

After the above selection is done, the applicants should be examined by the Faculty members and be approved by the President. After these procedures, “The Announcement of Admission” will be sent to the applicants at the middle of July, 2018.

### 8-(2) Tuition, etc. (学費等)

Admission Fee (入学料): ¥282,000. –

Tuition (授業料・年額): ¥535,800. –/year

(2)-① Please note that if the amount of tuition changes while attending the University, the new tuition will be applied.

(2)-② Please also note that there is a tuition exemption system by which the total amount or half amount of tuition would be exempted from the tuition. The system would be applied to the applicant after the proper screening.

## 9. The Entrance Time of Year (入学の時期)

October, 2018

## 10. Remarks (注意事項)

10-(1) All the application documents should be sent by registered mail.

10-(2) With the enrollment, the new international students are advised as follows:

Although all the lectures or research activities will be given in English, the students should check about Japan before they come, especially Japanese climate, custom, weather and about Shimane University how it is like. Further, the students are advised to use Japanese language in their daily life.

## 11. Inquiries (問合せ先)

All inquiries should be to:

**Admissions Division, Shimane University**

**FAX: +81-852-32-6059**

**E-mail : ns-nyushi@office.shimane-u.ac.jp**

## OUTLINES OF PROGRAM

### Major in Science and Engineering

#### Mathematics

Mathematics course is divided into two parts; pure mathematics and applied mathematics. In the pure mathematics part, we present opportunities where students study algebra, geometry, topology, ordinary differential equations, function differential equations, difference equations and complex analysis. Also in the applied mathematics part, we present opportunities where students study partial differential equations, optimization theory, mathematical statics, ergodic theory, dynamical systems, mathematical modeling, mathematical biology and functional equations.

#### Information Systems Design and Data Science

The Information Systems Design and Data Science Course aims to foster people who want to learn theoretical backgrounds of computer software and hardware, to practice production of such systems, and to engage in research of novel technologies and methods in this area.

The course covers various topics in theoretical foundations and applications of information systems and data engineering.

The topics of data engineering include intelligent information processing, probability theory and statistics, machine learning, information retrieval. The topics about information systems include network, cryptography, human-centered design, well-being information technology, programming education, digital design and design methodology, program analysis, DNA computing, term rewriting system, automated theorem proving, and algorithm and complexity theory.

#### Physics and Materials Science

This course covers following academic fields.

- Fundamental Physics, covering theoretical studies of quantum field theory and elementary particle physics, theoretical and experimental studies of magnetic, superconducting and other properties at low temperatures for strongly correlated materials, non-equilibrium statistical mechanics, and computational physics.
- Materials Science and Engineering, covering characterization of crystal structures, defects and microstructures in order to elucidate their physical properties of materials.
- Electronic Device Engineering, covering semiconductor superlattices and quantum structures, compound semiconductor photonic devices, crystal growth of compound semiconductors, large area electronics, transparent conducting films, organic semiconductor devices, superconductors, and advanced electronic materials design.

#### Mechanical, Electrical and Electronic Engineering

- Mechanical Engineering

Mechanics and design of advanced materials and flexible structures, Active vibration control/transfer control/nonlinear control for mechanical systems, Sound and vibration measurement, Design and performance analysis of gear devices used as robot joints, Damping and transfer control for wheeled mobile robots and carts, Fluid dynamic design of vehicles and engines, Analysis of resonance phenomenon and reduction of vibration.

- Electrical and Electronic Engineering

Remote sensing using electromagnetic waves, Development of optical metrology systems, Development of optical fiber sensing systems, Optical and photonic systems, Image systems engineering and applied vision, Development of assisting system for developmental disorder, Development of communication aids, Biomedical signal processing

## Major in Science of Environmental Systems

### Earth Science

The Course promotes an in-depth understanding of Earth Science and provides advanced studies on frontier topics in Geoscience based on Geology. Students can specialize in one out of three research fields:

- 1) Geoscience: Research on constituents of the earth's interior such as rocks, minerals and earth resources and the circulations of material, including ore and resource formation processes.
- 2) Geoenvironmental Science: Research on formation processes of strata and geological structures in sedimentary basins, environmental geology of estuaries and deltas as well as historical geology and paleontology.
- 3) Geo-disaster Science: Research on mechanical properties of soil, rocks, and rock mass, geotechnical properties of alluvial deposits and their environmental evaluation, groundwater simulation, and natural hazards.

### Environmental and Sustainability Sciences

The Environmental and Sustainability Sciences (ESS) course aims at contributing to the realization of a prosperous society for which nature and humankind truly coexist. The ESS course provides students with capabilities necessary to understand, evaluate, manage and preserve environmental resources ranging from matter to life. Students learn various approaches to cope with environmental issues with a solid sense of responsibility and ethics. Our graduates have many career opportunities ahead of them as researchers, teachers, engineers, and administrative officials who can lead community activities in an environmentally friendly manner.

### Chemistry

The Chemistry Course offers comprehensive programs encompassing diverse fields of fundamental chemistry and applied chemistry including environmental chemistry, green and sustainable chemistry, and functional materials chemistry, in order to educate future engineers and researchers.

## Architectural Design

In Architectural Design Course, researches on various issues related to urban planning, architectural planning, building structure, building environment and so on are conducted. This master's degree program aims to nurture human resources who have creativity and judgment capability based on comprehensive perspective by providing students with scientific and technological knowledge and evaluation methodology of architectural fields through experiments and lectures.

By completing certain subjects of this course, students will be recognized to have a maximum of two years practical building-related experience which is required to be eligible for taking examinations of a first-class architect qualification.

We welcome all students who are interested in urban planning, architectural planning, building structure and building environment.

## Major in Agricultural and Life Sciences

### Life Sciences

The Life Science Course trains students to become experts or researchers who can contribute to our society with a basic knowledge of biological phenomena and high-level technical skills to utilize life- and bio-resources. In this course, the special classes deepen students' understandings to life-science fields by teaching basic mechanisms of life with diverse taxa including bacteria, plants and animals, as well as technology for analyzing gene expression and chemical components of organisms. In a series of seminars, students learn research backgrounds by reading scientific articles currently published in international journals. A special research program aims to foster students to have good abilities in conducting research and presenting the results, under the support of their mentors.

### Agricultural and Forest Sciences

The Agricultural and Forest Sciences (AFS) course aims at contributing to sustainable human life, appropriate systems of bio-production, and activation of agriculture and forestry through improving the technology. The AFS course consists of four fields: crop and livestock production, horticulture and plant science, agricultural economics, and forestry. Our students acquire profound knowledge in specialized technologies in agriculture, animal science, plant science, social science, and forestry. We train students to specialists with entrepreneurial spirits to create the future of agriculture and forestry.

List of Curriculums and Instructors

| Curriculum  | Instructor  |
|---|---|
| <b><i>Common Subject</i></b>                          |   |
| Fundamentals of Natural Science and Technology        | Assoc. Prof. J. Jaerisch,<br>Prof. K. Hamaguchi,<br>Assis. Prof. H. Mizuno,<br>Assis. Prof. H. A. Pham,<br>Prof. M. Nawate,<br>Prof. A. Kamei,<br>Prof. Y. Sampei,<br>Prof. M. Handa,<br>Prof. Y. Nishigaichi,<br>Assis. Prof. N. T. Lan,<br>Prof. K. Ito, Prof. I. Takeda,<br>Prof. M. Kawamukai,<br>Prof. S. -J. Lin,<br>Prof. T. Ichinohe and<br>Prof. T. Asao |
| <b><i>Mathematics Course</i></b>                      |   |
| Functional Analysis                                   | Prof. T. Wada   |
| Advanced Algebra                                      | Prof. A. Ueda   |
| Algebraic Topology                                    | Assoc. Prof. T. Watanabe  |
| Riemannian Geometry                                   | Assoc. Prof. T. Yamada  |
| Theory of Statistical Science                         | Prof. K. Naito  |
| Differential Topology                                 | Assoc. Prof. T. Watanabe  |
| Infinite dimensional topology                         | Assoc. Prof. E. Matsushashi   |
| Lie Algebra   | Assoc. Prof. T. Yamada  |
| Homological Algebra                                   | Prof. A. Ueda   |
| Numerical Approximation Methods                       | Prof. D. Nakanishi  |
| Finite Difference Methods for Differential Equations  | Assoc. Prof. M. Iwamoto   |
| Qualitative Theory of Ordinary Differential Equations | Prof. J. Sugie.   |
| Stability Theory of Ordinary Differential Equations   | Prof. J. Sugie.   |
| Delay Differential Equations with Applications        | Assoc. Prof. Y. Nakata  |
| Dynamical Systems and Ergodic Theory                  | Assoc. Prof. J. Jaerisch  |
| Convex and Nonlinear Functional Analysis              | Prof. D. Nakanishi  |
| Elliptic Partial Differential Equations               | Prof. T. Nakanishi  |
| Hyperbolic Partial Differential Equations             | Prof. T. Wada   |
| Parabolic Partial Differential Equations              | Prof. T. Wada   |
| Complex Analysis                                      | Prof. T. Nakanishi  |

|  |   |
|--|---|
| Galois Cohomology  | Assoc. Prof. M. Aoki                                  |
| Numerical Calculation for Signal Processing                      | Assoc. Prof. M. Iwamoto                               |
| Mathematical Finance   | Assis. Prof. S. Suzuki                                |
| Mathematical Biology   | Assoc. Prof. Y. Saito                                 |
| Seminar I  | Academic Advisor                                      |
| Seminar II   | Academic Advisor                                      |
| Seminar III  | Academic Advisor                                      |
| Seminar IV   | Academic Advisor                                      |
| Thesis Research I  | Academic Advisor                                      |
| Thesis Research II   | Academic Advisor                                      |
| Thesis Research III  | Academic Advisor                                      |
| Thesis Research IV   | Academic Advisor                                      |
| <b><i>Information Systems Design and Data Science Course</i></b> |   |
| Designing Interactions   | Prof. M. Hirakawa                                     |
| Mobile Network   | Assoc. Prof. A. Kanzaki                               |
| ICT Helping Individuals with Special Needs                       | Assoc. Prof. T. Hiroto                                |
| System-level Design Methodology                                  | Prof. K. Hamaguchi                                    |
| Program Analysis Methods   | Prof. T. Kamiya                                       |
| DNA Computing  | Prof. K. Aizawa                                       |
| Advanced Topics on Cryptography                                  | Assis. Prof. K. Hakuta                                |
| Advanced Topics on Language Processors                           | Assoc. Prof. M. Suzuki                                |
| Advanced Topics on Knowledge Acquisition                         | Assis. Prof. M. Shirai                                |
| Thesis Seminar I   | Academic Advisor                                      |
| Thesis Seminar II  | Academic Advisor                                      |
| Thesis Seminar III   | Academic Advisor                                      |
| Thesis Seminar IV  | Academic Advisor                                      |
| Thesis Research I  | Academic Advisor                                      |
| Thesis Research II   | Academic Advisor                                      |
| Thesis Research III  | Academic Advisor                                      |
| Thesis Research IV   | Academic Advisor                                      |
| <b><i>Physics and Materials Science Course</i></b>               |   |
| Metallic Materials   | Assoc. Prof. K. Arakawa and<br>Assoc. Prof. S. Morito |
| Electronic Materials   | Prof. I. Hiromitsu and<br>Assoc. Prof. H. Kitagawa    |
| Topics for Mechanical Machining                                  |   |
| Topics for Precision Engineering                                 |   |
| Advanced Plasma Surface Interaction                              | Assoc. Prof. M. Miyamoto                              |
| Processing for Electronic Materials                              | Prof. Y. Yamada and<br>Assoc. Prof. H. Kitagawa       |

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|--|---|
| Low Temperature Physics  | Prof. K. Fujiwara and<br>Assoc. Prof. G. Motoyama |
| Physics on Magnetic Materials  | Prof. K. Miyoshi and<br>Assoc. Prof. S. Nishigori |
| Magnetism in Metals  | Prof. K. Miyoshi and<br>Assoc. Prof. S. Nishigori |
| Properties of Superconducting Materials                                | Prof. Y. Yamada and<br>Assis. Prof. S. Funaki     |
| Advanced Lectures on Electronic States in Solid State Physics          | Assoc. Prof. T. Mutou                             |
| Non-Equilibrium Physics  | Assoc. Prof. M. Otsuki                            |
| Theory of Electrons in Solids  | Prof. H. Tanaka                                   |
| Statistical Field Theory   | Assoc. Prof. S. Mochizuki                         |
| Elementary Particle Physics I  | Prof. N. Haba                                     |
| Elementary Particle Physics II   | Prof. N. Haba                                     |
| Semiconductor Quantum Physics  | Prof. Y. Kajikawa                                 |
| Advanced Electronic Materials Design                                   | Prof. H. Kageshima                                |
| Semiconductor Photonics Engineering                                    | Prof. Y. Fujita                                   |
| Thin-film Materials and Devices  | Assoc. Prof. W. Yeh                               |
| Vibrational Spectroscopy   | Assoc. Prof. S. Tsukada                           |
| Thesis Seminar I   | Academic Advisor                                  |
| Thesis Seminar II  | Academic Advisor                                  |
| Thesis Seminar III   | Academic Advisor                                  |
| Thesis Seminar IV  | Academic Advisor                                  |
| Thesis Research I  | Academic Advisor                                  |
| Thesis Research II   | Academic Advisor                                  |
| Thesis Research III  | Academic Advisor                                  |
| Thesis Research IV   | Academic Advisor                                  |
| <b><i>Mechanical, Electrical and Electronic Engineering Course</i></b> |   |
| Advanced Mechanics of Materials  | Prof. F. Ashida                                   |
| Control Engineering  | Prof. K. Yoshida                                  |
| Practical Mechanical Design  | Assoc. Prof. S. Li                                |
| Robotics   | Assoc. Prof. M. Hamaguchi                         |
| Solid Mechanics  | Assoc. Prof. T. Morimoto                          |
| Advanced Dynamics of Machinery   | Assoc. Prof. S. Tamura                            |
| Special Lecture on Human Interface                                     | Prof. M. Nawate                                   |
| Acoustical Engineering   | Assoc. Prof. Z. Hai                               |
| Atmospheric Remote Sensing   | Assoc. Prof. T. Shimomai                          |
| Optical Metrology  | Prof. M. Yokota                                   |
| Image System Engineering   | Prof. S. Yano                                     |
| Fundamentals of Photonics  | Prof. H. Masuda                                   |

|   |  |
|---|--|
| Coherent Optical Engineering                            | Prof. F. Ito   |
| Statistical Signal Processing                           | Assoc. Prof. W. Nakamura   |
| Applied Thermo-fluid Dynamics                           | Assoc. Prof. J. Shinjo   |
| Advanced electronic measurements                        | Assoc. Prof. H. Arakawa  |
| Seminar I - 4   | Academic Advisor   |
| Seminar II - 4  | Academic Advisor   |
| Seminar III - 4   | Academic Advisor   |
| Seminar IV - 4  | Academic Advisor   |
| Thesis Research I - 4                                   | Academic Advisor   |
| Thesis Research II - 4                                  | Academic Advisor   |
| Thesis Research III - 4                                 | Academic Advisor   |
| Thesis Research IV - 4                                  | Academic Advisor   |
| <b><i>Earth Science Course</i></b>                      |  |
| Earth and Earth Resource Science                        | Prof. Y. Sampei,<br>Prof. A. Kamei,<br>Assoc. Prof. H. Ohira,<br>Assoc. Prof. K. Masumoto,<br>Assis. Prof. H. Mukoyoshi,<br>Assoc. Prof. A. Auer,<br>Assoc. Prof. S. Endo,<br>Assoc. Prof. M. Tasaka,<br>Prof. H. Yoshihara,<br>Assoc. Prof. M. Yoshinobu and<br>Assoc. Prof. S. Katoh           |
| Earth and Geoenvironmental Science                      | Prof. H. Ishiga,<br>Prof. T. Irizuki,<br>Prof. T. Sakai,<br>Assoc. Prof. H. Hayashi,<br>Prof. F. Wang,<br>Assis. Prof. T. Shibi,<br>Assis. Prof. T. Kogure,<br>Assoc. Prof. A. Tsujimoto,<br>Assoc. Prof. K. Seto,<br>Assoc. Prof. T. Shimomai,<br>Prof. Y. Saito and<br>Assoc. Prof. K. Katsuki |
| Metamorphic Petrology                                   | Assoc. Prof. S. Endo   |
| Mineral Science of Transition Elements-bearing Minerals | Assoc. Prof. M. Tasaka   |
| Advanced Structural Geology                             | Assis. Prof. H. Mukoyoshi  |
| Advanced Petrochemistry                                 | Prof. A. Kamei   |



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| Environmental Paleontology                                     | Prof. T. Irizuki                                   |
| Sedimentary Geology  | Prof. T. Sakai                                     |
| Biostratigraphy  | Assoc. Prof. H. Hayashi                            |
| Earth Environmental Science                                    | Prof. H. Ishiga                                    |
| Theory of Global Environmental Change                          | Assoc. Prof. K. Seto                               |
| Engineering Geology  | Assis. Prof. T. Kogure                             |
| Disaster prevention Engineering                                | Prof. F. Wang                                      |
| Groundwater Hydraulics   | Assoc. Prof. K. Masumoto                           |
| Geotechnical Analysis  | Assis. Prof. T. Shibi                              |
| Science of Fossil Fuel   | Prof. Y. Sampei                                    |
| Resource Geology   | Assoc. Prof. H. Ohira                              |
| Advanced Volcanology   | Assoc. Prof. A. Auer                               |
| Marine Environmental Science                                   | Assoc. Prof. A. Tsujimoto                          |
| Coastal Geoenvironmental Science                               | Prof. Y. Saito                                     |
| Quaternary Environmental Science                               | Assoc. Prof. K. Katsuki                            |
| Special Lecture in Earth and Geoenvironmental Science I        |  |
| Special Lecture in Earth and Geoenvironmental Science II       |  |
| Excursions in Earth and Geoenvironmental Science               | Academic Advisor                                   |
| Seminars on Current Topics and Methods I                       | Assoc. Prof. A. Auer                               |
| Seminars on Current Topics and Methods II                      | Assoc. Prof. A. Auer                               |
| Special Practice I   | Academic Advisor                                   |
| Special Practice II  | Academic Advisor                                   |
| Thesis Seminar I   | Academic Advisor                                   |
| Thesis Seminar II  | Academic Advisor                                   |
| Thesis Seminar III   | Academic Advisor                                   |
| Thesis Seminar IV  | Academic Advisor                                   |
| Thesis Research I  | Academic Advisor                                   |
| Thesis Research II   | Academic Advisor                                   |
| Thesis Research III  | Academic Advisor                                   |
| Thesis Research IV   | Academic Advisor                                   |
| <b><i>Environmental and Sustainability Sciences Course</i></b> |  |
| Advanced Water Resources Use System Engineering                | Prof. I. Kita                                      |
| Advanced Nonpoint Sources and Hydrology                        | Prof. I. Takeda                                    |
| Modeling Approaches for Advanced Watershed Management          | Prof. H. Yajima                                    |
| Fluid Dynamics on Land Surface and in Soil                     | Assis. Prof. H. Sato and<br>Assis. Prof. K. Fukada |
| Advanced Structural Analysis and Design                        | Assoc. Prof. M. Ishii                              |
| Electricity and Magnetism in Biological Systems                | Prof. A. Yano                                      |
| Soil Microbiology  | Prof. K. Itoh                                      |

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| Advanced Forest Ecology                                | Assoc. Prof. H. Kawaguchi,<br>Assoc. Prof. M. Kubo and<br>Assis. Prof. R. Fujimaki |
| Advanced Plant Pathology                               | Prof. M. Ueno  |
| Environmental Microbiology                             | Assis. Prof. S. Hayashi  |
| Insect Ecology   | Prof. R. Miyanaaga and<br>Assoc. Prof. Y. Izumi                                    |
| Advanced Environmental Technology and Engineering      | Prof. T. Sato  |
| Fish Ecology   | Assoc. Prof. M. Horinouchi   |
| Marine Ecology   | Assoc. Prof. K. Kurata   |
| Soil Science   | Prof. T. Masunaga and<br>Assis. Prof. K. Sato                                      |
| Aquatic Ecological Engineering                         | Prof. T. Masunaga  |
| Advanced Environmental Eco-Engineering                 | Assoc. Prof. T. Kuwabara   |
| Analytical Atomic Spectrometry                         | Assoc. Prof. Y. Suzuki   |
| Thesis Seminar I                                       | Academic Advisor   |
| Thesis Seminar II                                      | Academic Advisor   |
| Thesis Seminar III                                     | Academic Advisor   |
| Thesis Seminar IV                                      | Academic Advisor   |
| Thesis Research I                                      | Academic Advisor   |
| Thesis Research II                                     | Academic Advisor   |
| Thesis Research III                                    | Academic Advisor   |
| Thesis Research IV                                     | Academic Advisor   |
| <b><i>Chemistry Course</i></b>                         |  |
| Advanced Inorganic Chemistry I                         | Prof. M. Handa   |
| Advanced Inorganic Chemistry II                        | Assoc. Prof. T. Ikeue  |
| Advanced Organic Chemistry I                           | Prof. Y. Nishigaichi   |
| Advanced Organic Chemistry II                          | Assoc. Prof. K. Nakata   |
| Advanced Organic Chemistry III                         | Assoc. Prof. M. Suzuki   |
| Advanced Catalyst Design                               | Prof. K. Omata   |
| Advanced Catalyst Science                              | Assoc. Prof. T. Kubota   |
| Advanced Functional Polymers I                         | Assoc. Prof. H. Iida   |
| Advanced Functional Polymers II                        | Prof. I. Yamaguchi   |
| Advanced Ceramic Materials                             | Prof. H. Miyazaki  |
| Advanced Physical Chemistry                            | Assoc. Prof. T. Tsuji  |
| Advanced Environmental Material Chemistry              | Assoc. Prof. S. Sugahara   |
| Advanced Inorganic Material Science and Engineering I  | Prof. H. Tanaka  |
| Advanced Inorganic Material Science and Engineering II | Assoc. Prof. D. Atarashi   |
| Advanced Fiber Materials                               | Prof. T. Takahashi   |
| Advanced Surface and Interface Chemistry               | Assoc. Prof. R. Sasai  |

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| Advanced Biomaterial Physics  | Prof. H. Yoshihara   |
| Advanced Recycling Technology of Polymeric Materials                    | Assoc. Prof. M. Yoshinobu  |
| Advanced Molecular Biology  | Assoc. Prof. S. Katoh  |
| Thesis Seminar I  | Academic Advisor   |
| Thesis Seminar II   | Academic Advisor   |
| Thesis Seminar III  | Academic Advisor   |
| Thesis Seminar IV   | Academic Advisor   |
| Thesis Research I   | Academic Advisor   |
| Thesis Research II  | Academic Advisor   |
| Thesis Research III   | Academic Advisor   |
| Thesis Research IV  | Academic Advisor   |
| <b><i>Architectural Design Course</i></b>                               |  |
| Atelier Practice of Architectural Design I                              | Prof. S. Nakano,<br>Assoc. Prof. H. Kobayashi,<br>Assis. Prof. R. Shimokura and<br>Assis. Prof. R. Inoue |
| Atelier Practice of Architectural Design II                             | Prof. S. Nakano,<br>Assoc. Prof. H. Kobayashi,<br>Assis. Prof. R. Shimokura and<br>Assis. Prof. R. Inoue |
| Atelier Practice of Architectural Design III                            | Prof. S. Nakano and<br>Assis. Prof. R. Inoue   |
| Advanced Course of Building Structures I                                | Prof. K. Sawada  |
| Advanced Course of Building Structures II                               | Prof. K. Sawada  |
| Advanced Course of Building Structures and Living Environment           | Assis. Prof. R. Shimokura  |
| Advanced Course of Environmental Engineering                            | Assis. Prof. R. Shimokura  |
| Seminar of Practice in Building Structure and Environmental Engineering | Prof. K. Sawada,<br>Assoc. Prof. S. Okamoto,<br>Assis. Prof. R. Shimokura and<br>Assis. Prof. N. T. Lan  |
| Advanced Course of Architectural Planning and Design                    | Prof. K. Sawada and<br>Assoc. Prof. S. Okamoto   |
| Advanced Course of Architectural History and Design                     | Prof. S. Nakano and<br>Assoc. Prof. H. Kobayashi   |
| Advanced Course of Urban Design   | Assis. Prof. R. Inoue  |
| Advanced Course of Wooden Construction                                  | Assoc. Prof. H. Kobayashi  |
| Atelier Practice of Architectural Design                                | Assoc. Prof. H. Kobayashi  |

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| Thesis Seminar I                               | Prof. S. Nakano,<br>Prof. K. Sawada,<br>Assoc. Prof. H. Kobayashi and<br>Assoc. Prof. S. Okamoto |
| Thesis Seminar II                              | Prof. S. Nakano,<br>Prof. K. Sawada,<br>Assoc. Prof. H. Kobayashi and<br>Assoc. Prof. S. Okamoto |
| Thesis Seminar III                             | Prof. S. Nakano,<br>Prof. K. Sawada,<br>Assoc. Prof. H. Kobayashi and<br>Assoc. Prof. S. Okamoto |
| Thesis Seminar IV                              | Prof. S. Nakano,<br>Prof. K. Sawada,<br>Assoc. Prof. H. Kobayashi and<br>Assoc. Prof. S. Okamoto |
| Thesis Research I                              | Prof. S. Nakano,<br>Prof. K. Sawada,<br>Assoc. Prof. H. Kobayashi and<br>Assoc. Prof. S. Okamoto |
| Thesis Research II                             | Prof. S. Nakano,<br>Prof. K. Sawada,<br>Assoc. Prof. H. Kobayashi and<br>Assoc. Prof. S. Okamoto |
| Thesis Research III                            | Prof. S. Nakano,<br>Prof. K. Sawada,<br>Assoc. Prof. H. Kobayashi and<br>Assoc. Prof. S. Okamoto |
| Thesis Research IV                             | Prof. S. Nakano,<br>Prof. K. Sawada,<br>Assoc. Prof. H. Kobayashi and<br>Assoc. Prof. S. Okamoto |
| <b><i>Life Sciences Course</i></b>             |  |
| Biology of Skin                                | Prof. T. Matsuzaki   |
| Theoretical Ecology                            | Assoc. Prof. A. Mougi  |
| Biodiversity of Plants                         | Prof. S. -J. Lin   |
| Methodology of Plant Transformation            | Prof. K. Akama   |
| Hepatic Phylogenesis - Diversity and Evolution | Assoc. Prof. H. Akiyoshi   |
| Developmental Biology                          | Prof. A. Nishikawa   |
| Biology of Endosymbiosis                       | Assoc. Prof. Y. Kodama   |

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| Behavioral Ecology  | Assis. Prof. T. Takahara  |
| Biology of Reproduction   | Prof. N. Hirohashi  |
| Genetic Engineering   | Prof. M. Kawamukai  |
| Advanced Molecular Biology  | Assoc. Prof. T. Kaino   |
| Advanced Plant Molecular Genetics                                   | Prof. T. Nakagawa   |
| Advanced Biophysical Chemistry                                      | Prof. T. Yamamoto   |
| Molecular Cell Biology and Biochemistry for Food and Health Science | Prof. K. Yokota and<br>Assoc. Prof. M. Jisaka                                       |
| Pathophysiology   | Assoc. Prof. H. Shimizu   |
| Plant Molecular Physiology  | Prof. T. Ishikawa   |
| Plant Stress Biology  | Assoc. Prof. T. Maruta  |
| Molecular Recognition   | Assoc. Prof. K. Yoshikiyo   |
| Advance Organic Synthesis   | Assis. Prof. K. Furuta  |
| Methodological Principle of Molecular Biology                       | Assis. Prof. T. Akihiro,<br>Assis. Prof. Y. Matsuo and<br>Assoc. Prof. K. Nishimura |
| Marine Ecogenetics  | Prof. F. Aranishi   |
| Thesis Seminar I -9   | Academic Advisor  |
| Thesis Seminar II -9  | Academic Advisor  |
| Thesis Seminar III-9  | Academic Advisor  |
| Thesis Seminar IV-9   | Academic Advisor  |
| Thesis Research I -9  | Academic Advisor  |
| Thesis Research II -9   | Academic Advisor  |
| Thesis Research III-9   | Academic Advisor  |
| Thesis Research IV-9  | Academic Advisor  |
| <b><i>Agricultural and Forest Sciences Course</i></b>               |   |
| Production of Vegetables Grown in Hydroponics                       | Prof. T. Asao   |
| Functional Morphology in Rice                                       | Assoc. Prof. K. Kobayasi  |
| Advanced Plant Breeding   | Prof. N. Kobayashi  |
| Conservation and Management of Plant Genetic Resources              | Prof. T. Matsumoto  |
| Biochemistry of Soil Fertility                                      | Prof. S. Matsumoto  |
| Plant Molecular Breeding  | Assoc. Prof. A. Nakatsuka   |
| Advanced Livestock Production                                       | Prof. T. Ichinohe and<br>Assis. Prof. S-H. Song                                     |
| Horticultural Crop Physiology                                       | Assoc. Prof. T. Esumi   |
| Advanced Technology for Protected Horticulture                      | Assoc. Prof. H. Tanaka  |
| Plant Production Physiology   | Assoc. Prof. M. Kadowaki and<br>Assis. Prof. S. Shiro                               |
| Advanced Forest Policy and Utilization                              | Prof. K. Ito and<br>Assoc. Prof. E. Takahashi                                       |

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|-------------------------------------|---|
| Agricultural and Regional Economics | Prof. N. Inoue and<br>Assoc. Prof. N. Yasunaga      |
| Advanced Rural Planning             | Assoc. Prof. K. Akazawa and<br>Assoc. Prof. Y. Mori |
| Advanced Development Economics      | Assis. Prof. S. Takada                              |
| Thesis Seminar I -10                | Academic Advisor                                    |
| Thesis Seminar II -10               | Academic Advisor                                    |
| Thesis Seminar III -10              | Academic Advisor                                    |
| Thesis Seminar IV -10               | Academic Advisor                                    |
| Thesis Research I -10               | Academic Advisor                                    |
| Thesis Research II -10              | Academic Advisor                                    |
| Thesis Research III -10             | Academic Advisor                                    |
| Thesis Research IV -10              | Academic Advisor                                    |

## List of Advisors

### Mathematics Course

|                     |                             |  |
|---------------------|-----------------------------|--|
| Pure Mathematics    | Prof. J. Sugie.             | Ordinary differential equations, function differential equations, difference equations and their applications to science |
|                     | Prof. T. Nakanishi          | Complex analysis   |
|                     | Prof. A. Ueda               | Ring Theory  |
|                     | Assoc. Prof. M. Aoki        | Number theory  |
|                     | Assoc. Prof. T. Yamada      | Differential geometry  |
|                     | Assoc. Prof. E. Matsushashi | General topology and geometric topology  |
|                     | Assoc. Prof. T. Watanabe    | Differential topology  |
| Applied Mathematics | Prof. D. Nakanishi          | Optimization theory  |
|                     | Prof. T. Wada               | Partial differential equations   |
|                     | Prof. K. Naito              | Mathematical statistics  |
|                     | Assoc. Prof. Y. Saito       | Functional equations and mathematical biology  |
|                     | Assoc. Prof. J. Jaerisch    | Ergodic theory and dynamical systems   |
|                     | Assoc. Prof. Y. Nakata      | Functional equations and mathematical biology  |
|                     | Assoc. Prof. M. Iwamoto     | Mathematical modeling and applications   |

### Information Systems Design and Data Science Course

|                            |                          |   |
|----------------------------|--------------------------|---|
| Data Science               | Prof. Y. Kato            | Intelligent information processing, Probability theory and statistics |
|                            | Prof. K. Aizawa          | DNA computing, Model of computation                                   |
|                            | Prof. H. Sakano          | Data science, Pattern recognition and machine Learning                |
|                            | Assoc. Prof. M. Suzuki   | Programming language, Programming education                           |
|                            | Assoc. Prof. T. Hiroto   | Well-being information technology                                     |
|                            | Assoc. Prof. A. Kanzaki  | Sensor network  |
|                            | Assis. Prof. Y. Yamada   | Information Retrieval   |
|                            | Assis. Prof. M. Shirai   | Data Science  |
| Information- System Design | Prof. M. Hirakawa        | Multimodal system design and development                              |
|                            | Prof. K. Hamaguchi       | Digital design and design methodology                                 |
|                            | Prof. T. Kamiya          | Software engineering, Program analysis                                |
|                            | Assoc. Prof. M. Iwami    | Term rewriting system, Automated theorem proving                      |
|                            | Assoc. Prof. J. Rokui    | Intelligent information processing                                    |
|                            | Assis. Prof. H. Morizumi | Algorithm and complexity theory                                       |
|                            | Assis. Prof. K. Hakuta   | Cryptography  |

### Physics and Materials Science Course

|                     |                           |   |
|---------------------|---------------------------|---|
| Fundamental Physics | Prof. K. Fujiwara         | NMR study of physical properties in strongly correlated electron systems and search of exotic materials   |
|                     | Prof. H. Tanaka           | Condensed matter theory on the basis of first principles calculation, development of a new method for computational physics, and mathematical physics                           |
|                     | Prof. N. Haba             | Researches of the standard model of high energy physics and beyond the standard model (Supersymmetry, Grand Unified Theory, Extra-Dimension theory etc.)                        |
|                     | Prof. K. Miyoshi          | Magnetic, transport and superconducting properties of strongly correlated materials and their high pressure effect  |
|                     | Assoc. Prof. S. Tsukada   | Phase transitions and functions of ferroelectric materials probed by spectroscopic techniques, and development of new ferroelectric materials                                   |
|                     | Assoc. Prof. S. Nishigori | Research on physical properties of strongly correlated electron systems etc., Development and application of techniques for thermal properties measurement under high pressures |

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|-----------------------------------|---------------------------|---|
|                                   | Assoc. Prof. S. Mochizuki | Nonperturbative methods in quantum field theory, including lattice gauge theory, Random matrix theory and its application to quantum physics, especially level statistics and quantum chaos |
|                                   | Assoc. Prof. T. Mutou     | Numerical study of exotic quantum states in strongly-correlated electron systems and quantum spin systems, and theoretical study of many-body problems based on statistical physics         |
|                                   | Assoc. Prof. G. Motoyama  | Material research on strongly correlated electron systems and study of magnetic and transport properties under ultra low temperature  |
|                                   | Assoc. Prof. M. Otsuki    | Research on non-equilibrium phenomena related with the fluctuation-dissipation theorem and the singular perturbation theory   |
| Materials Science and Engineering | Prof. T. Ohba             | Crystallographic studies by X-ray, neutron, etc. on metals and other materials, especially phase transformation associated  |
|                                   | Prof. T. Kitamura         | Research on R&D management and innovation creation, especially promotion and effect of industry-university cooperation  |
|                                   | Prof. K. Mizuno           | X-ray topographic study on lattice defects and diffusion in metals and semiconductors   |
|                                   | Assoc. Prof. K. Arakawa   | Studies on lattice defects in extreme environmental materials, using transmission electron microscopy   |
|                                   | Assoc. Prof. S. Morito    | Research on morphology and crystallography of materials with electron microscopies and electron diffraction analyses  |
|                                   | Assoc. Prof. H. Kitagawa  | Research on preparation and physical properties of intermetallic compounds and ceramics materials for thermoelectric applications   |
|                                   | Assoc. Prof. M. Miyamoto  | Research on surface modification of plasma facing materials in fusion reactor   |
|                                   | Assis. Prof. H. A. Pham   | Characterization of materials microstructure by using electron microscopy and diffraction technique, Evolution of materials microstructure during various manufacturing processes           |
| Electronic Device Engineering     | Prof. I. Hiromitsu        | Optoelectronic devices based on organic semiconductors, especially organic solar cells  |
|                                   | Prof. Y. Yamada           | Crystal growth of bulk and thin film superconductors and transparent conductors and improvement of their properties   |
|                                   | Prof. Y. Kajikawa         | Research on new semiconductor materials for optical devices, Development of semiconductor opto-electronic devices utilizing superlattices and quantum well structures                       |
|                                   | Prof. Y. Fujita           | Preparation of ZnO thin films and nano-particles, and their applications to the optical devices and nano-medicine   |
|                                   | Prof. H. Kageshima        | Advanced electronic materials research on mechanisms to manifest physical properties and on theories to control functions   |
|                                   | Assoc. Prof. W. Yeh       | Development of Large Area Group 4 Semiconductor Devices for Thin-Film Transistors and solar cells   |
|                                   | Assis. Prof. T. Yoshida   | Carrier conduction mechanisms and transistor applications of oxide semiconductor particle layers  |
|                                   | Assis. Prof. S. Funaki    | Research on development of novel fabrication methods in superconductor and transparent conductors for applications  |
|                                   | Assis. Prof. H. Mizuno    | Optical functional devices using organic semiconductors (organic lasers, organic thin film photovoltaic cells)  |

#### Mechanical, Electrical and Electronic Engineering Course

|                        |                  |   |
|------------------------|------------------|---|
| Mechanical Engineering | Prof. F. Ashida  | Study on stress analyses of functional materials and structures   |
|                        | Prof. K. Yoshida | Research on nonlinear control for systems with input and state constraints, such as active vibration control for structural systems and load transfer control for crane systems |



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|---------------------------------------|---------------------------|---|
|                                       | Assoc. Prof. Z. Hai       | Research on non-destructive inspection and noise control for mechanical structures  |
|                                       | Assoc. Prof. S. Li        | Static and dynamic behavior (strength & life, vibration & noise, lubrication and efficiency) of various kinds of gears used in space-exploring machines, robots and aircrafts |
|                                       | Assoc. Prof. M. Hamaguchi | Research on damping transfer control using mobile robot and manipulator, damping actuator and welfare and nursing robot   |
|                                       | Assoc. Prof. J. Shinjo    | Thermo-fluid dynamics of engines and aerodynamics of transportation vehicles  |
|                                       | Assoc. Prof. T. Morimoto  | Mechanics and design of soft materials and flexible structures  |
|                                       | Assoc. Prof. S. Tamura    | Characteristics of nonlinear dynamics and theory of vibration suppression for mechanical structures   |
|                                       | Assis. Prof. T. Tsuzuki   | Global asymptotic stabilization problem for nonlinear control systems with non-Euclidean state spaces   |
| Electrical and Electronic Engineering | Prof. M. Nawate           | Human information processing, instrumentation of human-computer interaction, and their application to well-being technology   |
|                                       | Prof. H. Masuda           | Future high-capacity optical communication and ubiquitous networks utilizing opto-electronics technologies  |
|                                       | Prof. F. Ito              | Optical sensing technologies by using lasers and optical fibers, and advanced optical measurement for evaluating optical devices  |
|                                       | Prof. M. Yokota           | Optical Metrology focusing on interferometry including digital holography and image processing  |
|                                       | Assoc. Prof. H. Arakawa   | Study on the inverse problem analysis technique with a small number measurement and their application to the physical, medical and environmental fields                       |
|                                       | Assoc. Prof. T. Shimomai  | Remote sensing of Earth environments using electromagnetic waves  |
|                                       | Assoc. Prof. W. Nakamura  | Analysis of non-invasively measured functional brain data and development of related signal processing methods  |
|                                       | Assis. Prof. F. Ito       | Communication aids and software for severely disabled people  |
|                                       | Assis. Prof. K. Kitamura  | Future high-capacity optical communication and ubiquitous networks utilizing opto-electronics technologies  |

### Earth Science Course

|                          |                           |  |
|--------------------------|---------------------------|--|
| Geoscience               | Prof. Y. Sampei           | Petroleum Geology, Organic Geochemistry  |
|                          | Prof. A. Kamei            | Igneous Petrology, Geodynamics, Geochemistry   |
|                          | Assoc. Prof. S. Endo      | Metamorphic Petrology, Structural Geology  |
|                          | Assoc. Prof. H. Ohira     | Resource Geology, Geochronology  |
|                          | Assoc. Prof. A. Auer      | Volcanology, Petrology, Natural Hazards  |
|                          | Assoc. Prof. M. Tasaka    | Solid Earth Science, Experimental Petrology, Mineral Physics   |
| Geoenvironmental Science | Prof. H. Ishiga           | Environmental Geology, Geochemistry, Environmental Science   |
|                          | Prof. T. Irizuki          | Paleontology, Stratigraphy   |
|                          | Prof. Y. Saito            | Sedimentary processes and environmental changes in the coastal zone  |
|                          | Prof. T. Sakai            | Sedimentology, Stratigraphy  |
|                          | Assoc. Prof. K. Seto      | Geological, sedimentological and paleontological studies on environmental change of estuary areas                                      |
|                          | Assoc. Prof. H. Hayashi   | Paleontology, Biostratigraphy  |
|                          | Assoc. Prof. K. Katsuki   | Environmental and ecological system reconstruction based on distribution and characteristics of phytoplankton fossils in lake sediment |
|                          | Assoc. Prof. A. Tsujimoto | Environmental assessment and paleoenvironmental analysis based on Meiobenthos (foraminifera)   |
| Geo-disaster Science     | Assis. Prof. H. Mukoyoshi | Structural Geology, Tectonics  |
|                          | Prof. F. Wang             | Engineering Geology, Landslide   |
|                          | Assoc. Prof. K. Masumoto  | Hydrogeology, Engineering Geology  |

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|  | Assis. Prof. T. Shibi  | Geotechnical Engineering, Continuum Mechanics |
|  | Assis. Prof. T. Kogure | Geomorphology, Engineering Geology            |

### Environmental and Sustainability Sciences Course

|  |                            |  |
|--|----------------------------|--|
|  | Prof. K. Itoh              | Genetic ecological study on pesticide-degrading microorganisms, Evaluation of pesticide side effects on microbial ecosystem, Ecology of endophytes   |
|  | Prof. M. Ueno              | Studies on the expression of resistance in plant-microbe interaction   |
|  | Prof. I. Kita              | Analysis of water use systems with mathematical programming and effective utilization of rainwater as water resource   |
|  | Prof. J. Kihara            | Photomorphogenesis in phytopathogenic fungi  |
|  | Prof. T. Sato              | Development of new technology and functional materials for water purification, waste water treatment and control of environmental water quality  |
|  | Prof. I. Takeda            | Water quality and hydrology in catchment area  |
|  | Prof. T. Masunaga          | Enhancement and Control of soil ecosystem functions of plant production and environmental purification, Nutritional ecology in soil-water-plant ecosystems   |
|  | Prof. R. Miyanaga          | Bee biology  |
|  | Prof. A. Yano              | Plant environment photonics  |
|  | Prof. K. Yamaguchi         | Aquatic environment analysis with benthic organisms and its application to renovating water environment  |
|  | Prof. H. Yajima            | Ecological modelling and its application for the water quality improvement in lakes and reservoirs   |
|  | Assoc. Prof. M. Ishii      | Performance based design and performance evaluation of irrigation facilities in multifunctional aspects  |
|  | Assoc. Prof. Y. Izumi      | Physiological and biochemical study on seasonal adaptation of insect   |
|  | Assoc. Prof. H. Kawaguchi  | Forest productivity, Forest regeneration   |
|  | Assoc. Prof. M. Kubo       | Dynamics of riparian forest, Management of semi-natural grassland  |
|  | Assoc. Prof. K. Kurata     | Biodiversity in coastal lagoon environments, Near shore ecology changes in Lake Shinji and Lake Nakaumi, Carbon and nitrogen transportation through food webs in shore of Lake Shinji and Lake Nakaumi |
|  | Assoc. Prof. T. Kuwabara   | Development of the purification materials for the eco-engineering, and removal and recovery of the harmful matters   |
|  | Assoc. Prof. Y. Suzuki     | Circulation/metabolism of trace elements in environment/bio-organism   |
|  | Assoc. Prof. K. Suyama     | Evaluation of pesticide side effects on microbial ecosystem, Development of teaching materials about pesticide   |
|  | Assoc. Prof. M. Dohi       | In preparation   |
|  | Assoc. Prof. T. Naganawa   | Spatial variation and diversity in soil ecology  |
|  | Assoc. Prof. T. Hashimoto  | Estimation and evaluation of water source forest effects on water supply using simple hydrological models  |
|  | Assoc. Prof. M. Horinouchi | Ecology of fishes in nearshore habitats including seagrass beds, reed belts and mangrove areas   |
|  | Assoc. Prof. T. Yamashita  | Nutrient dynamics in forest soils, Soil environment below tropical rain forest of Southeast Asia   |
|  | Assis. Prof. K. Ueno       | Study on maintenance methods and disaster prevention and mitigation methods for irrigation and drainage facilities   |
|  | Assis. Prof. K. Sato       | Development of technology for environmental restoration and resource recycling by soil ecological engineering  |
|  | Assis. Prof. H. Sato       | New conceptual flood control system to the excess flood of a river basin regarded as a management unit   |

|  |                             |   |
|--|-----------------------------|---|
|  | Assis. Prof. M. Sato        | Maintenance of the overaged earth structures  |
|  | Assis. Prof. K. Shimizu     | Ecology of arthropod community in tropical rain forest of South East Asia, Interactions among ants, the other arthropods and plants |
|  | Assis. Prof. S. Hayashi     | Study on microbe-microbe and microbe-plant interactions, Genetic study on pesticide-degrading ability in bacteria                   |
|  | Assis. Prof. R. Fujimaki    | Biomass production and nutrient cycling in forest ecosystems  |
|  | Assis. Prof. K. Fukada      | Studies on dynamics of air in soil by acoustic measurement method   |
|  | Assis. Prof. H. Yoshioka    | Collective motion of animals, Mathematical modelling of environmental and ecological dynamics                                       |
|  | Assis. Prof. A. Hashiguchi. | Microbiological control using UV-LED, Development of new wastewater treatment system  |

### Chemistry Course

|                                |                           |   |
|--------------------------------|---------------------------|---|
| Basic Chemistry                | Prof. Y. Nishigaichi      | Organic Chemistry   |
|                                | Assoc. Prof. T. Kubota    | Catalyst Surface Chemistry  |
|                                | Assoc. Prof. T. Ikeue     | Bioinorganic Chemistry  |
|                                | Assoc. Prof. K. Nakata    | Organic Reaction Chemistry  |
|                                | Assoc. Prof. M. Suzuki    | Structural Organic Chemistry  |
|                                | Assis. Prof. H. Shiratori | Physical Chemistry  |
| Environmental Chemistry        | Prof. M. Handa            | Coordination Chemistry  |
|                                | Prof. H. Miyazaki         | Ceramics  |
|                                | Assoc. Prof. S. Sugahara  | Environmental Analytical Chemistry  |
|                                | Assis. Prof. Y. Kataoka   | Coordination Chemistry  |
|                                | Assis. Prof. Y. Makinose  | Ceramics  |
| Functional Materials Chemistry | Prof. K. Omata            | Catalyst Design   |
|                                | Prof. H. Yoshihara        | Analysis of fracture mechanics, vibration, strength, and deformation properties of wood and wood-based materials  |
|                                | Prof. I. Yamaguchi        | Polymer Chemistry   |
|                                | Prof. H. Tanaka           | Powder Technology   |
|                                | Prof. T. Takahashi        | Development of High-functional Textile Related Products   |
|                                | Assoc. Prof. M. Yoshinobu | Studies on recycling of woody biomass wastes, on functional utilization of ligno-cellulosics by chemical modification, and on evaluation of properties and sheet formation of Washi(traditional Japanese paper) |
|                                | Assoc. Prof. T. Tsuji     | Photo Physical Chemistry  |
|                                | Assoc. Prof. S. Katoh     | Functional utilization of untapped wood materials for the next generation sustainable agriculture   |
|                                | Assoc. Prof. R. Sasai     | Preparation of Functional Materials Using 2-Dimensional Nanospace in Layered Inorganic Compounds and Its Application for Environment, Energy, and Resource Fields   |
|                                | Assoc. Prof. H. Iida      | Organic and Polymer Chemistry   |
|                                | Assoc. Prof. D. Atarashi  | Socio-Physical Inorganic Environmental Materials  |
|                                | Assis. Prof. T. Fujimura  | Synthesis of molecular assembly utilizing two-dimensional nanospace and development of photofunctional materials  |
|                                | Assis. Prof. A. Wang      | Polymer Material  |

## Architectural Design Course

|  |                           |  |
|--|---------------------------|--|
| Building structure/Environmental engineering | Prof. K. Sawada           | Seismic design, Corrosion, Structural optimization               |
|  | Assoc. Prof. S. Okamoto   | Timber structure   |
|  | Assis. Prof. R. Shimokura | Sound Environment, Acoustic Measurement, Acoustic Analysis       |
|  | Assis. Prof. N. T. Lan    | Noise control, Environmental policy                              |
| Architectural planning and design            | Prof. T. Hosoda           | Architectural planning, Architectural design                     |
|  | Prof. S. Nakano           | Urban planning, Architectural and urban design                   |
|  | Assoc. Prof. H. Kobayashi | Timber Construction, renovation of old house                     |
|  | Assis. Prof. R. Inoue     | Landscape, Urban planning, Architectural and urban design, color |
|  | Assis. Prof. S. Mishima   | Architectural Planning   |

## Life Sciences Course

|                       |                           |  |
|-----------------------|---------------------------|--|
| Biological Science    | Prof. K. Akama            | Studies on regulatory mechanism of tRNA gene expression and physiological function of $\gamma$ -aminobutyric acid (GABA) in plants   |
|                       | Prof. F. Aranishi         | Molecular evolutionary, ecological and conservative genetics of aquatic organisms  |
|                       | Prof. K. Ozaki            | Maintenance mechanism of visual function in invertebrates  |
|                       | Prof. A. Nishikawa        | Mechanism of myogenesis and interdigital cell death in amphibian   |
|                       | Prof. N. Hirohashi        | Reproductive physiology of marine invertebrates  |
|                       | Prof. T. Matsuzaki        | Control mechanisms of hair formation and hair cycle  |
|                       | Prof. S. -J. Lin          | Plant reproduction and evolutionary diversity  |
|                       | Assoc. Prof. H. Akiyoshi  | Hepatic phylogenesis (Diversity and Evolution)   |
|                       | Assoc. Prof. H. Ishida    | Cell motility mechanisms of protists   |
|                       | Assoc. Prof. A. Oshima    | Physiology of extremophiles  |
|                       | Assoc. Prof. Y. Kodama    | Elucidation of the mechanism that establishes endosymbiosis between the ciliate <i>Paramecium bursaria</i> and <i>Chlorella</i> spp. |
|                       | Assoc. Prof. M. Hatsumi   | Speciation of drosophilid species  |
|                       | Assoc. Prof. A. Mougi     | Theoretical study on maintenance mechanism of biodiversity   |
|                       | Assoc. Prof. M. Yoshida   | Evolutionary genomics targeting non-model organisms in oceans  |
|                       | Assoc. Prof. N. Sato      | Behavioral and evolutionary ecology of cephalopods   |
|                       | Assis. Prof. T. Akihiro   | Isolation and characterization of the novel membrane transport protein from the plant  |
|                       | Assis. Prof. T. Takahara  | Behavioral ecology and bio-monitoring using environmental DNA in aquatic animals   |
|                       | Assis. Prof. K. Sugai     | Ecological genetics of woody plants on islands   |
|                       | Assis. Prof. Y. Yamaguchi | Comparative physiology and endocrinology of body fluid regulation in vertebrates   |
|                       | Biotechnology             | Prof. T. Ishikawa  |
| Prof. M. Kawamukai    |                           | Molecular genetics and application of yeast  |
| Prof. T. Shiotsuki    |                           | Chemical biology and molecular mechanisms in regulation of insect development and their application                                  |
| Prof. T. Nakagawa     |                           | Functional analysis of genes responsible for growth and development of plants  |
| Prof. T. Yamamoto     |                           | Biomedical applications of Raman spectroscopy  |
| Prof. K. Yokota       |                           | Biochemistry and molecular cell biology on health benefit of food-derived factors and biopharmaceuticals                             |
| Prof. K. Murota       |                           | Elucidation of the bioavailability of lipophilic functional food factors   |
| Assoc. Prof. I. Ikeda |                           | Design and synthesis of bioactive molecules  |
| Assoc. Prof. T. Ogawa |                           | Metabolism and regulatory mechanism of cofactors in plants   |
| Assoc. Prof. T. Kaino |                           | Elucidation of biosynthesis, regulatory mechanism and function of coenzyme Q (ubiquinone)  |

|  |                           |   |
|--|---------------------------|---|
|  | Assoc. Prof. M. Jisaka    | Structure and function of enzymes involved in lipid peroxidation and following reactions  |
|  | Assoc. Prof. H. Shimizu   | Study on the relationship between food-derived intestinal bacterial metabolites or cyanobacteria-derived toxins, and pathogenesis of diseases |
|  | Assoc. Prof. T. Maruta    | Redox control and stress response in plants   |
|  | Assoc. Prof. K. Nishimura | Membrane trafficking machinery of proteins in plant cells   |
|  | Assoc. Prof. K. Yoshikiyo | Molecular recognition engineering using cyclodextrins   |
|  | Assis. Prof. K. Furuta    | Synthesis and analysis of the mode of action of juvenile hormone antagonists  |
|  | Assis. Prof. Y. Matsuo    | Cell signaling in fission yeast   |

### Agricultural and Forest Sciences Course

|                                |  |   |
|--------------------------------|--|---|
| Crop and Livestock Production  | Prof. T. Ichinohe                      | Feeding regimen of ruminant animal  |
|                                | Prof. S. Matsumoto                     | Analysis of available nutrients and toxic heavy metals in soil  |
|                                | Assoc. Prof. M. Kadowaki               | Photosynthesis, Dry matter production   |
|                                | Assoc. Prof. K. Kobayasi               | Functional morphology and abiotic stress in crop science  |
|                                | Assoc. Prof. K. Ujiie                  | Crop physiology, Development of cultivation techniques  |
|                                | Assis. Prof. F. Adachi                 | Relationship between growing condition and crop production  |
|                                | Assis. Prof. S. Shiro                  | Utilization of useful microbes in crop production   |
|                                | Assis. Prof. S-H. Song                 | Physiological control of tissue development in animal body  |
| Horticulture and Plant Science | Prof. T. Asao                          | Hydroponics, Autotoxicity   |
|                                | Prof. K. Ohta                          | Morphogenesis and its control in horticultural plants   |
|                                | Prof. N. Kobayashi                     | Evaluation of plant genetic resources and its application   |
|                                | Prof. T. Matsumoto                     | Fruit cultivation, Postharvest  |
|                                | Assoc. Prof. H. Ikeura                 | Analysis of the scent of vegetables, fruits and flowers   |
|                                | Assoc. Prof. T. Esumi                  | Reproductive physiology in fruit and ornamental trees   |
|                                | Assoc. Prof. H. Tanaka                 | Effective propagation in horticultural plants   |
|                                | Assoc. Prof. Y. Tsurunaga              | Functional food   |
|                                | Assoc. Prof. A. Nakatsuka              | Analysis of useful character gene in horticultural plants   |
| Assis. Prof. T. Shibuya        | Light response of horticultural plants |   |
| Agricultural Economics         | Prof. Y. Ito                           | History of agriculture and fisheries in modern Japan  |
|                                | Prof. N. Inoue                         | Farming practices and resource management on farm businesses  |
|                                | Assoc. Prof. K. Akazawa                | Regional resource management  |
|                                | Assoc. Prof. Y. Mori                   | Financial activity of agriculture management entities and agricultural financing in the rural economy |
|                                | Assoc. Prof. N. Yasunaga               | Economic analysis of hilly and mountainous areas  |
|                                | Assis. Prof. S. Takada                 | The construction of social development model in Asia  |
|                                | Assis. Prof. Y. Nakama                 | Historical analysis of agricultural policies  |
| Forestry                       | Prof. K. Ito                           | Forestry economics  |
|                                | Prof. T. Yoshimura                     | Forest engineering  |
|                                | Assoc. Prof. Y. Yone                   | Forest remote sensing   |
|                                | Assoc. Prof. E. Takahashi              | Forest resources management   |

## A Profile of Shimane University

Shimane University was founded in 1949 as a national university with two faculties: the Faculty of Literature and Science which was made up of Matsue Higher School (originally founded in 1920), and the Faculty of Education which was made up of Shimane General School (originally founded in 1875), Shimane General School for Youth (originally founded in 1933).

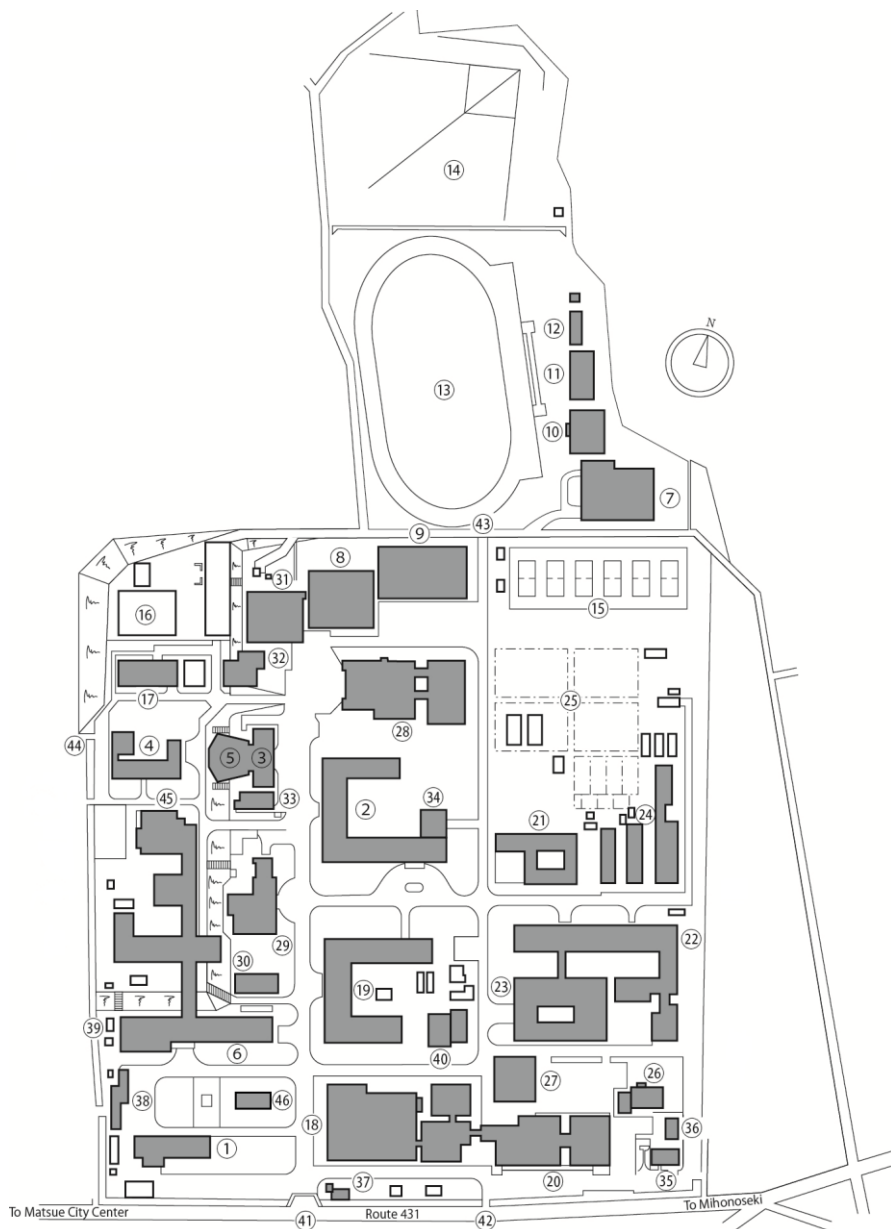
Shimane and Shimane Medical Universities amalgamated on October 1st, 2003. The new Shimane University has two main campuses, and consists of six faculties. Law and Literature, Education, Human Sciences, Life and Environmental Sciences, and the Interdisciplinary Faculty of Science and Engineering are housed at the Matsue campus, and the Faculty of Medicine is based at the Izumo campus. The combined Shimane University now has 2084 staff and 6107 students, including 195 international students as of May 1st, 2017.

Shimane University now has five graduate schools (Humanities and Social Science, Education, Medicine, Science and Engineering, Life and Environmental Science, and Natural Science and Technology), and three doctorate graduate schools (Medicine, the Interdisciplinary Faculty of Science and Engineering, and the United Graduate School of Agricultural Science). In addition, the university also operates several other research centers, facilities and hospitals.

In addition to undergraduate, graduate, and postgraduate students, there are several other categories of students comprising auditors, special auditors, and research students.

Since its establishment, Shimane University has endeavoured to cultivate persons of ability who will contribute to the development of society. With this in mind and its historical background, the university aspires to be an international university open to the South - East Asia and Pacific Rim regions. Shimane University has Academic Exchange Agreements with 69 universities in 25 countries as of February 1st, 2018.

SHIMANE UNIVERSITY  
MATSUE CAMPUS



- 1 Administration Building
- 2 Laboratories of the Faculty of Law and Literature
- 3 General Education Building, I
- 4 General Education Building, II
- 5 University Hall
- 6 Laboratories of the Faculty of Education
- 7 Gymnasium, I
- 8 University Union
- 9 Gymnasium, II
- 10 Training Center
- 11 Judo and Kendo Gymnasium
- 12 Sports Instrument Store House
- 13 Athletic Field
- 14 Ball Park
- 15 Tennis Court
- 16 Swimming Pool & Dressing Rooms
- 17 Extracurricular Activity Center
- 18 Interdisciplinary Faculty of Science and Engineering Building, I
- 19 Interdisciplinary Faculty of Science and Engineering Building, II
- 20 Interdisciplinary Faculty of Science and Engineering Building, III
- 21 Faculty of Life and Environmental Sciences Building, I
- 22 Faculty of Life and Environmental Sciences Building, II
- 23 Faculty of Life and Environmental Sciences Building, III
- 24 Labs and Facilities (Faculty of Life and Environmental Sciences)
- 25 Farm
- 26 General Information Processing Center
- 27 Research Institute of Molecular Genetics
- 28 Main Library
- 29 Student Center
- 30 Student Support Center
- 31 Cafeteria, I
- 32 Cafeteria, II
- 33 Health Service Center
- 34 Estuary Research Center
- 35 Waste Fluid Treatment Building
- 36 Organic Waste Fluid Burning Treatment Building
- 37 Gatehouse
- 38 Garage
- 39 Handicraft and Engineering Work Center
- 40 Boiler Room
- 41 Main Gate
- 42 East Gate
- 43 North Gate
- 44 West Gate
- 45 Laboratories of the Faculty of Human Sciences
- 46 Community Exchange Meeting House

## BRIEF INTRODUCTION TO MATSUE CITY

Matsue City, with a population of about 200,000, lies some 800 kilometers to the west of Tokyo, from where it can be reached in one and a half hours by plane, or six and a half hours by train. Located in the eastern part of Shimane Prefecture, the city is the seat of the prefectural government, and is the political, economic and cultural center of the region.

It is a beautiful city, well-known from ancient times as the “town of water”, with the large lakes of “Nakaumi” and “Shinjiko” on the eastern and the western borders of the city respectively. This region, which is traditionally called the “Province of Izumo,” was one of the most prosperous cultural centers in ancient Japan, with local government established in Matsue as far back as the sixth century. A considerable number of the old town's relics are still found in and around the city. Since Matsue Castle was built in 1611, Matsue has enjoyed prosperity as a castle town and developed as the political, economic and cultural center of the province. Even today, original structures, such as Matsue Castle, the Samurai House, and the waterways running through the city, are still in original condition.

Lafcadio Hearn (1850-1904), an Irish journalist and writer, was sent to Matsue by Harper's in 1890. He was so enchanted by this old castle town during his 15 month stay that he married into an old samurai family. In 1896 he was naturalized as a Japanese citizen and took the Japanese name “Koizumi Yakumo”. Famous among his writings are *Glimpses of Unfamiliar Japan*, *Kwaidan*, and *Japan: An Attempt at Interpretation*. Matsue City keeps his old residence as it used to be, and next to it stands the Lafcadio Hearn Memorial Museum which was rebuilt in 1984 in Japanese style. Even today citizens of Matsue still have a strong attachment to Lafcadio Hearn.

In 1951, Matsue was designated an “International Cultural and Sightseeing City”, one of three such cities in Japan, together with Kyoto and Nara. Matsue, known as an international town which has maintained its time-honored traditions, attracts a great many tourists from abroad as well as from various parts of Japan. In recent years the city has seen rapid urbanization, and the streets, still rich in the atmosphere characteristic of a castle town, are changing their appearance. Urbanization represents a new start for the central city of the San-in district and promises a bright future.

The climate of the Matsue area is rather mild throughout the year, with an average yearly temperature around 14°C. In the summer the temperature averages around 26°C, with some very hot days over 30°C in the middle or latter part of the season. In the winter the temperature, on the average, is somewhere around 4°C. During the winter the weather tends to be rainy with strong north-westerly winds, but only light snowfalls.



英語による留学生プログラム  
島根大学大学院自然科学研究科博士前期課程  
私費外国人留学生学生募集要項（2018年度）

島根大学大学院自然科学研究科博士前期課程においては、自然科学に関する研究を行う私費外国人留学生を下記により募集する。

### 1. 設置目的

本プログラムは、「数理科学，知能情報デザイン学，物理・マテリアル工学，機械・電気電子工学，地球科学，環境共生科学，物質化学，建築デザイン学，生命科学，農林生産学」を基軸にした自然科学に関する基礎的並びに応用的な教育と研究を行うことによって，理工学，環境システム科学及び農生命科学に関する諸問題に取り組むことができる高度で専門的な知識を有し，しかも指導的役割を担うことのできる人材の養成を図る。

### 2. 教育方法

本プログラムは，2年間の博士前期課程で，英語による留学生プログラムに定める教育課程において30単位以上修得し，学位論文を提出し，その審査及び最終試験に合格すれば，修士（理学，工学又は生物資源科学）の何れかの学位を授与する。

本プログラムにおいては開設する授業科目及び研究指導をすべて英語で行う。

### 3. 専攻分野

専攻分野の決定に当たっては，下記の理工学，環境システム科学及び農生命科学の各コースを念頭において選択すること。

#### 理工学専攻

- 数理科学コース
- 知能情報デザイン学コース
- 物理・マテリアル工学コース
- 機械・電気電子工学コース

#### 環境システム科学専攻

- 地球科学コース
- 環境共生科学コース
- 物質化学コース
- 建築デザイン学コース

#### 農生命科学専攻

- 生命科学コース
- 農林生産学コース

### 4. 募集人員

若干名

## 5. 出願資格及び条件

### (1) 国籍

日本政府が承認している国で、新たに留学する者及び日本国内に在住している者

### (2) 年齢

学歴等の資格及び条件を満たせば、制限はしない。

### (3) 学歴

①外国において学校教育における16年の課程を修了した者及び修了見込みの者

②本研究科において、個別の入学資格審査により、大学を卒業した者と同等以上の学力があると認められた者で、22歳に達したもの及び平成30年9月30日までに達するもの

(注) 出願資格の(3)-②により出願を希望する者については、平成30年5月14日(月)までに自然科学系第一課・第二課 自然科学研究科担当に照会してください。

### (4) 健康

心身ともに健康で大学における学業に支障がない者

### (5) 語学能力

十分な英語力を有する者

### (6) 渡日時期

2018年10月1日から10月3日までの間に必ず渡日可能な者

## 6. 出願手続

### (1) 出願書類

志願者は、次の出願書類等を提出すること。

|                 |   |
|-----------------|---|
| ① 私費外国人留学生入学申請書 | <ul style="list-style-type: none"> <li>・ 本学所定の用紙を使用すること。</li> <li>・ 志願者は、入学申請書に希望する指導教員名を記入しなければならない。なお、指導教員名の記入のない場合は、審査することができないので特に注意すること。</li> <li>・ 志願者は、本研究科の指導教員予定者（主指導教員と副指導教員を含む）と密接な連絡をとって、入学申請書に記載する研究計画を作成しなければならない。</li> </ul> |
| ② 健康診断書         | 公立病院で最近6ヵ月以内に受診したもので所定の様式による。   |
| ③ 卒業証明書等        | 最終出身大学（学部及び大学院）の卒業証明書又は学位記（写）、卒業見込証明書等  |
| ④ 成績証明書         | 最終出身大学（学部及び大学院）の成績証明書（出身大学で発行したもの、英語以外のものは英文訳を添付すること。）  |
| ⑤ 英語能力証明書       | TOEFL, TOEIC 等の成績表  |
| ⑥ 学士論文等         | <ul style="list-style-type: none"> <li>i 卒業者は学士（卒業）論文の写し及び要旨、ただし論文がない場合はこれに替わるもの</li> <li>ii 卒業見込みの者は、研究経過報告書</li> <li>iii 大学院修了者は、修士論文の写し及び要旨、ただし論文がない場合はこれに替わるもの</li> <li>iv 大学院修了見込みの者は、研究経過報告書</li> </ul>                               |
| ⑦ 既発表論文等        | 既発表論文の別刷、投稿中論文の写し及び口頭発表要旨の写し  |

|               |   |
|---------------|---|
| ⑧ 戸籍謄本等       | 本国の戸籍謄本，市民籍等の証明書又はパスポートの写し  |
| ⑨ 推薦書         | 申請者と個人的交流があり，さらに申請者の教育研究に対して保証できる指導教授又はそれに準ずる責任ある教員からの推薦書とする。   |
| ⑩ 写真          | <p>最近 6 ヶ月以内に撮影した上半身，正面，脱帽，サイズ 4.5×3.5 cm のもの 2 枚（裏面に国籍及び氏名を記入したもの）</p> <ul style="list-style-type: none"> <li>・ 1 枚は入学申請書の所定の場所に貼付すること。</li> <li>・ 1 枚は出願書類に同封すること。</li> </ul>   |
| ⑪ 入学検定料振込金証明書 | <p><b>①【日本国内で振り込む場合】</b>平成 30 年度島根大学「入学検定料」振込依頼書等用紙を島根大学ホームページからダウンロードし，所定欄に必要事項を記入し，銀行・信用金庫・農協等の金融機関（ゆうちょ銀行・郵便局を利用される場合は，「通帳及び印鑑」が必要です。現金による振込はできません。）で，取扱期間中（平成 30 年 5 月 28 日（月）～平成 30 年 6 月 15 日（金））の窓口取扱時間内（15 時 00 分まで）に同用紙により<b>入学検定料 30,000 円</b>を振り込んでください。〔ATM（現金自動預払機）は使用しないでください。〕振込手続後，窓口で返却された「Ⅲ票 振込金証明書（島根大学提出用）」を同封してください。</p> <p><b><u>※振込手続前には，必ず件名を「英語による留学生プログラム入学検定料の納入について」とし，下記「問い合わせ先」にご連絡ください。整理番号をお知らせします。</u></b></p> <p><b>問合せ先：島根大学自然科学系第一課・第二課 自然科学研究科担当</b><br/>E-mail : ns-nyushi@office.shimane-u.ac.jp</p> <p>（注意） 代理人（日本国内に在住する者）が入学検定料振込手続を行う場合，「入学検定料」振込依頼書等用紙に記載する氏名は，必ず志願者本人としてください。</p> <hr/> <p><b>②【日本国外から送金する場合】</b></p> <p>振込方法を通知しますので，件名を「英語による留学生プログラム入学検定料の納入について」とし，氏名及び日本国内から入学検定料の振込ができない旨を明記して，下記「問合せ先」にご連絡ください。</p> <p><b>問合せ先：島根大学自然科学系第一課・第二課 自然科学研究科担当</b><br/>E-mail : ns-nyushi@office.shimane-u.ac.jp</p> <p><b>入学検定料 30,000 円</b>を振込後，「外国送金依頼書」をスキャン（写真でも可）して「問合せ先」のメールアドレスへ送信してください。また，「外国送金依頼書」の写しを入学検定料振込金証明書として同封してください。なお，原本は大切に保管してください。</p> <p>（注意）<b>入学検定料が不足する場合や出願期間最終日の午後 5 時（日本時間）までに指定口座に到着しない場合は，指定口座への入金を</b></p> |

**認めず、出願を受理しません。**送金には時間がかかりますので、予め送金に要する日数等を利用銀行に確認のうえ、早めに手続を行ってください。

また、入学検定料が過入金となった場合は、過入金部分については返還しますが、返還に要する手数料は志願者負担となります。返還に要する手数料が返還額を上回る場合は返還しません。

#### 【入学検定料の返還について】

次の場合を除き、納入された入学検定料は、いかなる理由があっても返還することができません。

①出願書類等を提出したが、受理されなかった場合

該当者に連絡しますので、所定の期日までに手続を行ってください。

②入学検定料を振り込み後、島根大学に出願しなかった場合

③入学検定料を誤って二重に振り込んだ場合

上記②及び③については、本人の申し出により納入された入学検定料を返還することができますので、6月22日（金）（土曜日、日曜日及び祝日を除く午前9時から午後5時までの間）までに、件名を「英語による留学生プログラム入学検定料の返還について」とし、整理番号、氏名、入金日を明記のうえ、下記「問合せ先」へ連絡してください。

**問合せ先：島根大学財務部経理・調達課出納担当**

**E-mail：apd-suito@office.shimane-u.ac.jp**

（注意）

返還の手続を行う際に「Ⅱ票 振込金受取書（志願者保管）」及び「Ⅲ票 振込金証明書（島根大学提出用）」（日本国外から送金する場合は「外国送金依頼書」）が必要となりますので、大切に保管しておいてください。これらの書類がないと振込事実の確認ができず、返還ができないことがあります。

また、返還に要する手数料は志願者負担となります。なお、返還に要する手数料が、返還額を上回る場合は返還しません。

（注1）これらの出願書類は、日本語又は英語のいずれかにより英文タイプ又はワープロを用いてA4サイズに統一して作成すること。（その他の言語により作成する場合は、日本語による訳文を添付すること。）

（注2）上記の入学願書が、すべて完全かつ正確に記載されていない場合、又は付属書類が不備であったり、提出期日（大学必着）が過ぎたものについては受理しない。

（注3）提出された書類は返却しない。

#### (2) 出願期間

2018年6月4日（月）から6月15日（金）までの平日午前9時から午後5時までとする。なお、郵送の場合も、6月15日（金）午後5時までに必着とする。

(3) 出願書類提出先

〒690-8504 島根県松江市西川津町 1060

島根大学自然科学系第一課・第二課 自然科学研究科担当（学生センター）

E-mail : ns-nyushi@office.shimane-u.ac.jp

## 7. 入試方法

(1) 面接等

志願者は、次の①又は②のいずれかの面接等を受けなければならない。

| 実施方法   | 実施期日                            |
|--|---------------------------------|
| ① 面接<br>(本学を会場として実施するもの)<br>※日本国内在留者に限る                                  | 2018年7月11日(水)                   |
| ② インターネット・インタビュー<br>(志望専攻又はコースに所属する数名の教員が1回以上のインタビューを行う。)<br>※日本国外在留者に限る | 2018年6月27日(水)～<br>2018年7月11日(水) |

(2) 選考

面接等と提出された書類に基づき選考する。

## 8. 入学許可通知

(1) 本研究科では合格候補者を選考し、研究科委員会の議を経て、学長の許可を得た後、本研究科から、7月下旬に入学許可を志願者に通知する。

(2) 学費：入学料 282,000 円，授業料（年額） 535,800 円

在学中に授業料の改定が行われた場合には、新授業料を適用する。

選考のうえ、授業料の全額又は半額を免除する制度がある。

## 9. 入学の時期

2018年10月

## 10. 注意事項

出願書類は、書留郵便にて送付すること。

留学生への講義、研究指導は英語で行われるが、渡日に先立ち、日本の風土、習慣、気候、大学の状況等についてあらかじめ知識を得ておくこと。

また、研究以外の日常生活は日本語での生活となることについて十分理解しておくこと。

## 11. 問合せ先

島根大学自然科学系第一課・第二課 自然科学研究科担当（学生センター）

FAX : +81-852-32-6059

E-mail : ns-nyushi@office.shimane-u.ac.jp