

**BULLETIN AND HANDBOOK  
of STUDENT INFORMATION**

2019

Hiroshima University

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# 1. University Policy

## 1 Founding Principle

A Single Unified University, Free and Pursuing Peace

## 2 The Five Guiding Principles

- Pursuit of Peace
- Creation of New Forms of Knowledge
- Nurturing of Well-Rounded Human Beings
- Collaboration with the Local, Regional, and International Community
- Continuous Self-Development

## 3 University Crest

The university crest is a stylized representation of a new life and a phoenix leaf. The phoenix is a sacred bird in Egyptian mythology that, after living for 500 years, set itself on fire within its nest and rose renewed from the ashes. The immortal bird is a symbol of Hiroshima University, which was reborn out of the ashes of Hiroshima City after it was laid to ruin by the atomic bomb.



## 4 Communication Mark

Hiroshima University created a new communication mark, which symbolizes “a university where people have a will to try, to grow, to act.” This mark is a motif incorporating the first letters of Hiroshima University, HU and “human.” It expresses a special quality that is active and common to all humanity. This design is intended to express the active and lively richness of human resources. This image represents an ideal of humanity which has both the will to try and the ability to take action, and also a person who is lively, cheerful, rich in energy, corresponding to the motto of “a free and peaceful university.”



## 2. Academic Calendar and School Hours

### 1 Academic Calendar

|                 |                              |                           |
|-----------------|------------------------------|---------------------------|
| First Semester  | Spring Holiday               | April 1 to April 8        |
|                 | Classes                      | April 9 to July 31        |
|                 | Summer Holiday               | August 1 to September 30  |
| Second Semester | Classes                      | October 1 to December 23  |
|                 | University Foundation Day    | November 5 (has classes)  |
|                 | Winter Holiday               | December 24 to January 11 |
|                 | Classes                      | January 8 to February 7   |
|                 | End-of-Academic-Year Holiday | February 12 to March 31   |

[Note]

- Make-up lessons may be given on other dates during the corresponding semester.

### 2 Periods of Class Time in the Daytime

| Class  | 1    |       | 2     |       | 3     |       | 4     |       | 5     |       |
|--------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Period | 1    | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    |
| Time   | 8:45 | 9:30  | 10:30 | 11:15 | 12:50 | 13:35 | 14:35 | 15:20 | 16:20 | 17:05 |
|        | ▽    | ▽     | ▽     | ▽     | ▽     | ▽     | ▽     | ▽     | ▽     | ▽     |
|        | 9:30 | 10:15 | 11:15 | 12:00 | 13:35 | 14:20 | 14:20 | 16:05 | 17:05 | 17:50 |

### 3 Periods of Class Time at Night on Higashi-Senda Campus

| Class  | 1     |       | 2     |       |
|--------|-------|-------|-------|-------|
| Period | 1     | 2     | 3     | 4     |
| Time   | 18:00 | 18:45 | 19:40 | 20:25 |
|        | ▽     | ▽     | ▽     | ▽     |
|        | 18:45 | 19:30 | 20:25 | 21:10 |

## 3. Student ID and Password

### 1 Student ID Card and Password

Please always carry the student identification card (student ID card) because it proves that you are a student of Hiroshima University. The student ID card is a hybrid card having both an exact IC chip and a magnetic strip. It has electronic functions, and it is necessary when using the following services. In addition, in the use of services at the university, it is necessary to input the password, at the time of ID (student number) and student identification card distribution.

Student ID card will be required in the situation as follows:

- When receiving the student registration certificate, identification for Student Discount and certificate of health examination from an automatic certificate issuing machine
- When receiving scholarship documents and transcripts (Graduate Course)
- When using the library
- When using the facilities (entrance and exit, terminal, printer) of the Information Media Center and Computer Rooms of Departments (Graduate Course)
- When taking examinations
- In addition, when taking a lecture class

In case of any changes in the matters stated in student ID, or in case that you lose your student ID card, or is stolen or damaged, you have to submit an *application for reissue of Student ID card* to the Student Support Office of your graduate school in order to re-grant your student ID card. If you want to change the photo of your student ID card, bring a substitute photo (in size 3×4 cm) with the application. Note that the reissue cost shall generally be charged.

When you find that you lose your student ID card or you get your student ID card stolen, please change the password as soon as possible. Besides, please inform the HU Consumers' Cooperative Society in order to prevent abuse of electronic money in it.

### 2 Password of Hiroshima University

Please manage the password secretly by not telling another person, so that it cannot be stolen. You should change your password regularly. As you can change it at the homepage of the Information Media Center, please change your password after receiving your student identification card. If you forget the password, please take your student ID card to the desk of your graduate course for the procedure to change the password.

#### <Method of changing the password>

You can change your password on the Web. Access the Homepage of the Information Media Center and choose *password* from the icon group of the page right-side, please change it according to the subsequent instructions.

<http://www.media.hiroshima-u.ac.jp>

## 4. *MOMIJI*

### 1 What is *MOMIJI*?

*MOMIJI* is a useful web-based portal site which offers various kinds of information for students. It consists of two parts: *MOMIJI Top* and *MY MOMIJI*.

#### (1) *MOMIJI Top*

*MOMIJI Top* provides general information regarding events, club activities, other procedures, etc. Emergent information for students also be provided. *MOMIJI Top* is open to the public and therefore it is available for anyone.

*MOMIJI Top*:

<https://momiji.hiroshima-u.ac.jp/momiji-top/en/index.shtml>

#### (2) *MY MOMIJI*

It is a personal portal site which offers various kinds of information including personal information and important notices from the university; student profile, registration, credits, academic achievement, teaching licensure portfolio, syllabus, examination information, class cancellation, etc. *MY MOMIJI* is restricted to the students of Hiroshima University and therefore it requires Student ID and password to login.

### 2 Main Functions of *MY MOMIJI*

- Portal site: Top page offers information about class cancellations, make-up classes, links to other pages (download sites, WebCT)
- Referring and changing student ID and personal information
- Registration and academic achievement record
- Questionnaires: Student evaluation of courses and questionnaires from the university
- Bulletin Board: Class cancellation, make-up lessons, classroom change, examination information. (Mail delivery service is also available.)
- Career guidance: Job hunting information and graduate school information

[Notes]

- Manuals are available from the Link page.
- There is a VPN service which can virtualize intra-net access. For more information contact our Information Media Center.
- For information on required credits, contact the Student Services Office of each graduate school.

[Inquiry]

- Phone and mail are available for any problems about *MOMIJI*  
Tel: 082-424-5609  
Mail: systemhelp@hiroshima-u.ac.jp

# 5. Procedures for Course Registration

## 1 Procedures

Course registration can be done on the student information network *MOMIJI* system. You can access *MOMIJI* on and off campus and then login to *MY MOMIJI* to conduct the registration procedures. Note that credit for courses shall not be given if course registration is not completed. Please take the utmost caution to avoid registration errors.

## 2 Registration Period

Course registration can be conducted in the week before and after the starting day of classes in each semester. The second week after the starting day will be the period for modifications. The specific date for the registration period will be announced on *MY MOMIJI*, etc. in each semester. As a general rule, it is not possible to register, change or cancel the courses after the registration period is over.

The registration for intensive courses will be conducted separately, in some cases, from the regular registration period shown above. In that case, detailed information regarding the timetable and registration period for intensive courses will be announced on *MY MOMIJI*, etc.

## 3 Process

### (1) Preparations prior to Registration

- Decide the courses you want to take with reference to the handbook for students, time table, courses syllabus, etc. Time tables will be distributed during the registration period in the first semester.
- Take notes about course name, day and hour, name of teacher, course code, etc.

### (2) During Registration

- Access *MY MOMIJI* using a computer and select *Introduction to Registering/Checking Courses in Course Information*.
- Register for the courses you want to take while referring to your notes.
- When you finish registering for all courses you want to take, please confirm that your registrations have been properly made.

[Notes]

- Compulsory courses will be automatically registered. You cannot change or cancel the course.
- Error checking will be conducted by itself. You cannot register for any courses if an error occurs.
- You can change or cancel registration of courses any number of times during the registration period.



## 6. Information and Notices

### 1 Notices on *MY MOMIJI*

Hiroshima University provides important information on studying and living through *My MOMIJI*. Since most of the important messages from the university to students are posted on *MY MOMIJI*, please check *MY MOMIJI* at least once a day on your own responsibility.

Additional information on MOMIJI

[Notes]

- For security reasons all information is password-protected. Students need to be careful in managing passwords.
- Some information can be accessed through the mobile version of *MY MOMIJI*.  
(<http://www.hiroshima-u.ac.jp/m/>)

### 2 Notice Board

Each Graduate School provides important information on their own notice board. Some information differs depending on the school policy. All students are required to check the board on a daily basis.

The following information will be provided on a notice board:

- Period for class registration
- Information for new students
- Notification in the case of failure of *MY MOMIJI* web system
- Other information about class and student life

### 3 Homepage

Please be sure to check your graduate school website on a regular basis.

<http://www.hiroshima-u.ac.jp/en/top/daigakuin/>

### 4 Others

Important information will be notified by e-mail. When you are going to take classes in different graduate schools, you may have to refer to the appropriate graduate school notice board.

## **7. Application and Procedures**

### **1 Leave of Absence**

A student unable to pursue learning for at least 3 consecutive months due to illness or other compelling reasons may take a leave of absence with the permission of the Dean of relevant Faculty. If you intend to take leave of absence, first consult with your Academic Advisor. If you take leave of absence, submit an *application of leave absence from school* and certificates (Health Certificates, etc.) which prove the reason to the Student Support Office of your graduate school.

### **2 Re-enrollment**

When the reason for leave of absence ceases to exist, even during the leave of absence, a student may re-enroll with the permission of the Dean of relevant Faculty. If you intend to re-enroll to the university, first consult with your Academic Advisor. When you return to the university, submit an *application of returning to school* to the Student Support Office of your graduate school.

### **3 Study Abroad**

A student who intends to study at a university or junior college in a foreign country may study abroad with the permission of the President of the university. If you intend to study abroad, first consult with your Academic Advisor. If you want to use a program for studying abroad, in principle formed in cooperation with Hiroshima University (including each Graduate Course, Center), submit an application to the Student Support Office of your graduate school.

### **4 Withdrawal from University**

A student who intends to withdraw have to submit a petition to the President of the university and receive the permission. If you intend to withdraw from school, first consult with your Academic Advisor.

When you leave school, submit an application form and necessary documents (Health Certificates, etc.) which prove the reason to the Student Support Office of your graduate school.

### **5 Long Term Completion/ Changing the Period of Long Term Completion**

When a student expresses the intent to systematically complete the curricula and complete a course over a certain period of time that exceeds the standard term of study due to circumstances such as having an occupation, that systematic completion (hereafter, Long-term Completion of Curricula) may be approved provided it does not present a hindrance to the graduate school. If you are thinking of changing long-term completion or changing the period of long term completion, first consult with your Academic Advisor.

When you ask for long term completion or changing the period of long term completion, submit an *application for long term completion* or an *application for changing long term completion* to the Student Support Office of your graduate school. Those who have a job (a regular occupation) need to submit a certificate of employment.

As the regulations are different for each graduate course, inquire at the Student Support Office of your graduate school.

## **6 Change of Address**

When your addresses (including residence, phone number) have changed, submit an *application of address* to the Student Support Office of your graduate course. If you don't submit it, you can't get emergency contact. We don't take responsibility for any disadvantages. You also need to submit the application when address of your family has changed. Students who don't submit the applications might not get Student Discount or any certificates.

## **7 Change of Name**

When you need to change your name while you are a Hiroshima University student (including the case of using previous name before enrolling the university or changing your name mentioned in the application form before entering the university), you have to report by stated pattern. If you hope to use your previous name, you can use it.

[Inquiry]

- The Student Support Office of your graduate school
- Education office, Education Promotion Group (Students Plaza, 3F)

Tel: 082-424-6156

## 8. Certificates and Procedures

### 1 Issuing of Certificates

#### (1) Issuing by Automatic Certificate Issuing Machine

The following certificates can be issued by an automatic certificate issuing machine:

- School Certificates [Japanese/English]
- Certificates of Expected Graduation/Completion [Japanese/English] \*1
- Academic Transcripts [Japanese]
- JR Student Discount Certificates [Japanese]
- Health Certificates [Japanese] \*2

\*1: Certificates of Expected Graduation/Completion will be issued only to the second-year students. (Filling in a questionnaire about your career on *MY MOMIJI* is required.)

\*2: Health Certificates will be issued only in the case that no medical problems are found by the periodical health examination of the year.

| Places of Automatic Certificate Issuing Machine   | Open Hours                                    |
|---|---|
| ● Higashi-Hiroshima Campus<br>- Near the Student Support Office of your graduate school                                   | Mon.-Fri.<br>8:30-17:15                       |
| ● Kasumi Campus<br>- Faculty of Medicine: Basement/Social Medicine Building, 1F<br>- Faculty of Dentistry: Building C, 2F | Mon.-Fri.<br>8:30-21:30<br>Sat.<br>8:30-17:00 |
| ● Higashi-Senda Campus<br>- Faculty of Law/Economics (Evening Course):<br>Higashi-Senda General School Building, 1F       | Mon.-Fri.<br>8:30-21:30<br>Sat.<br>9:45-18:30 |

#### [Usage Notes]

- The machine will not operate on Sundays, holidays, and during the end-of-year holiday: Dec. 29 to Jan. 3.
- Student ID card and password are required for use.
- Please operate the machine following the instructions on the screen.
- If you get your student ID card reissued, the previous card will be expired.

## **(2) Issuing at the Student Support Office**

Other certificates listed below cannot be issued by an automatic certificate issuing machine. Please apply to the Student Support Office of your graduate school:

- Commuter Certificate \*3
- Certificates for the Social Volunteering Program \*4

\*3: Commuter Certificate is required when you purchase season tickets (train, bus, ship, etc.)

\*4: Evidence of activities is required.

## **2 Commuter Ticket/Student Discount/Group Tour Discount**

### **(1) Commuter Ticket**

Commuter Ticket is issued only if it is used for commuting between your resident place and the nearest station to the university. You can purchase the ticket at issuing windows in each company. Purchasing of the ticket will require Commuter Certificate and student ID card. In order to get the certificate, please submit an *application for Issuing Commuter Certificate* to the Student Support Office.

### **(2) Student Discount**

Student Discount is issued for the purpose of lessening the economic burden of students and to contribute to the promotion of academic training. It is not intended to be used freely for all travel by individual students.

When you use Student Discount, please pay attention to the following regulations:

- As a general rule, Student Discount can only be used for the purposes listed below:
  - Travelling between home and place of study
  - Traveling for the purpose of academic research, practical training or other curricular educational activities
  - Traveling for the purpose of extra-curricular educational activities permitted by the university
  - Taking exams for finding employment or going on to higher education
  - Taking part in events or inspection tours which are regarded as necessary by the university
  - Medical treatment required to continue studying
  - Accompanying parents
- Student Discount can be used for JR normal railway tickets when one-way distance is 101km and over.
- Student Discount is valid for 3 months from the issue date.
- Student Discount is limited to 20 times per year (up to 4 tickets per day).
- Student Discount is valid for the student himself/herself only. For proof of identity, carry your student ID card with you.

### <In case of abuse>

Abuse of the Student Discount is a crime and unacceptable under any circumstances. In case of the abuse, not only will you be charged quite a heavy fine, but also the university itself will be punished by a suspension of authorization to issue certificates, so you mustn't abuse the Student Discount.

The cases regarded as the abuse of Student Discount are listed below:

- When you buy Student Discount with other person's name, or with the certificate already expired
- When you transfer or sell Student Discount
- When you use Student Discount without possessing your student ID card
- When you use Student Discount in other improper ways

### (3) Group Tour Discount

Fares shall be discounted in case that more than seven students take a trip with a teacher (as a conductor) in the same schedule. In such case, please submit an *application for Group Tour Discount* to the Student Support Office. Note that if the group is registered in the university as an extracurricular activity; please apply for the discount to the General Student Support Center (Student Plaza, 3F).

#### <Discount rate>

- Train or Ship: students 50%, teachers 30%
- Bus: students and teachers 20%

Note that if more than seven students take a trip without any teachers, fares shall be discounted as a normal group.

#### <Discount rate>

- Train or Ship: 10~15%
- Bus: 10%

## 9. Tuition Fee Waiver Program

### 1 Tuition Payment

The tuition payment deadline is April 30th for the first semester (April through September), and October 31st for the second semester (October through next year March). With the payment slip delivered to financial sponsors from Hiroshima University, the payment procedure needs to be done at bank counters. If this procedure is not completed, a demand notice will be sent to the student and the financial sponsors. Please note that, if the payment procedure is not completed, the President may remove that student from the register according to the Hiroshima University General Provisions, Article 43.

The Tuition Fee Waiver Program was established so that applicants who are unable to pay tuition fees or who experience hardship in doing so due to economic or other reasons can receive a waiver for either half or the whole amount of the fees after submitting an application. Applicants are ranked according to the need based on the household income, and waivers are granted accordingly within the budget so that, depending on necessity, the applicants may receive a waiver for all or half the tuition fees or no waiver at all.

### 2 Those Who May Apply for a Waiver

Those who meet one of the following criteria may apply for a tuition fee waiver:

- Those who meet a certain academic standard and are unable to pay their tuition fees due to economic reasons
- Those who are unable to pay their tuition fees due to one of the following circumstances arising within six months (or one year in the case of new students or for the first semester of the year of enrollment) of the due date for payment of the fees for a particular semester (specifically, this means on or after October 1st for the first semester, or on or after April 1st for the second semester)
  - The person providing the student's school expenses passes away
  - The student or the person providing the student's school expenses is the victim of a natural disaster
  - The person providing the student's school expenses loses his or her job and is unemployed at the time of application \*1
  - The person providing the student's school expenses is, at the time of application, undergoing long-term medical treatment \*2

\*1: This applies only to those whose employers have gone out of business or those who have been made redundant compulsorily. It does not apply to those who retire due to reaching retirement age, taking advantage of early retirement programs, or personal reasons.

\*2: "Long-term medical treatment" refers to treatment that is expected to take six months or more to complete, during which time the person may not work.

### 3 Application Documents; Distribution, Application, Notification Period

Persons wishing to receive a waiver need to apply for each semester: both first and second terms. Read the *Tuition Fee Waiver Application Guide* carefully, obtain the necessary forms, and submit the required documents by the designated deadline. We will not accept any documents submitted later than the designated deadline. Documents sent to other places than the designated location will also not be accepted. Applications sent by mail or by proxy will not be accepted.

| Period   | First semester               | Second semester           | Application Consideration  |
|--|------------------------------|---------------------------|--|
| <b>Distribution period of<br/>The Tuition Fee<br/>Waiver Application<br/>Guide</b> | From the end of<br>January   | The end of June           | Distribution date will be<br>notified on <i>MOMIJI Top</i>                                 |
| <b>Application Period</b>  | The beginning of<br>February | The middle of July        | Check the acceptance period<br>through the <i>Tuition Fee<br/>Waiver Application Guide</i> |
| <b>Notification Period</b>   | The beginning of<br>July     | The middle of<br>December | Applicants will be notified<br>individually using <i>MOMIJI</i>                            |

[Note]

- The *Tuition Fee Waiver Application Guide* is available at the Student Services Group (located in Student Plaza, 3F) in the Education and International Office or the Student Support Office of your graduate school, etc.

[Inquiry]

- Student Services Group (Tuition Exemption)
  - Address: 3rd floor of the Student Plaza  
Education and International Office, Hiroshima University  
1-7-1 Kagamiyama, Higashi-Hiroshima City, 739-8514
  - Tel : 082-424-6163/ 082-424-6138
  - Mail: [gkeizai-group@office.hiroshima-u.ac.jp](mailto:gkeizai-group@office.hiroshima-u.ac.jp)

### 4 Tuition Payment on a Monthly Basis

As for students who wish to pay the tuition fee on a monthly basis, please contact the Student Services Group (Tuition Exemption) by the tuition payment deadline.



# 10. Scholarships for International Students

## 1 How to Apply

There are six application periods in each academic year for international students. The application periods are as follows:

| Application period | Academic year of scholarship | Applying month    |
|--------------------|------------------------------|-------------------|
| First Period       | for next academic year       | August to October |
| Second Period      | for next academic year       | February          |
| Third Period       | for next academic year       | March             |
| Fourth Period      | for current academic year    | April             |
| Fifth Period       | for current academic year    | July              |
| Sixth Period       | for current academic year    | October           |

## 2 Qualification

- Applicant must be an international student of Hiroshima University (including those who are accepted from the university.)
- Student cannot apply for more than one scholarship in each period (after receiving the result of a scholarship which applied for).
- Student to whom any of the following conditions apply will be at the lower end of the list.
  - One of his/her family members is Japanese-government-sponsored international student.
  - One of his/her family members is sponsored by his/her home country's government.
  - One of his/her family members works in Japan and receives an income.
  - One of his/her family members has a scholarship for an amount more than that of the Japanese government-sponsored scholarship.

## 3 Scholarship System

The following are the main type of scholarships that international students can receive. Students wanting more details are advised to inquire at the Student Support Office or Graduate School concerned.

### (1) Japanese Government (*MEXT*) Scholarships

There are two different categories for Japanese Government Scholarship: recommendation by Japanese Embassy; or recommendation by Hiroshima University.

- Recommendation by Japanese Embassy
  - On behalf of the Ministry of Education, Culture, Sports, Science and Technology (*MEXT*), Japanese Embassies abroad make announcements regarding applications for *MEXT* scholarships. They also conduct the preliminary screening of applicants based on documents received, written tests, and interviews. On the basis of recommendations by Japanese embassies, *MEXT* makes the final selection of scholarship recipients. For details, please check with the nearest Japanese Embassy.
- Recommendation by Hiroshima University
  - Students Wishing to Enter the University from Abroad
    - The University recommends to *MEXT* a certain number of exceptional graduate students from universities abroad with which the University has an official student exchange agreement. *MEXT* makes the final selection.
  - Self-supported Students already Enrolled in the University
    - The University recommends international students already enrolled in Master's or Doctoral programs at its graduate school or in the last year of their undergraduate studies with exceptional records to *MEXT* for its scholarships; *MEXT* makes the final selection.

## **(2) Scholarships from Foundations**

Apart from *MEXT* Scholarships, scholarships from several private foundations are also available. Of the 817 self-funded students, 214 receive scholarships (as of November 1, 2011). These scholarships are available only for students who are enrolled in Hiroshima University and are not applicable for students who are abroad or have not yet been admitted to Hiroshima University. The numbers of scholarships available are limited; we urge you to plan your finances well in advance.

The Japan Student Services Organization (*JASSO*) provides scholarship information, including scholarships you can apply for before coming to Japan. Please visit the following website for more details.

*JASSO*:

[http://www.jasso.go.jp/study\\_j/scholarships\\_e.html](http://www.jasso.go.jp/study_j/scholarships_e.html)

# 11. Hiroshima University Library

Hiroshima University has five libraries in total. These are altogether one of the largest libraries in Japan. Hiroshima University houses about 3,390,000 books and about 50,000 journals in libraries on campuses and faculty libraries, and the 60% of them are in the possession of the *Central Library* on Higashi-Hiroshima campus. All of the information materials are under integrated control so that students of Hiroshima University can have access to them as academic and informative resources.

There are three libraries on Higashi-Hiroshima campus: *Central Library*, *East Library*, and *West Library*; one each on Kasumi campus; *Kasumi Library*, and on Higashi-Senda campus; *Higashi-Senda Library*.

In order to make use of services at any of the libraries, student ID card is required.

## 1 Opening Hours

|           |             | Higashi-Hiroshima Campus |             |             | Hiroshima Campus                               |  |
|-----------|-------------|--------------------------|-------------|-------------|--|--|
|           |             | Central                  | East        | West        | Kasumi   | Higashi-Senda  |
| Semesters | Mon. - Fri. | 8:30-22:00               | 8:30-21:00  | 8:30-21:00  | 8:30-22:00                                     | 8:30-22:00   |
|           | Sat.        | 10:00-20:00              | 10:00-17:00 | 10:00-17:00 | 9:45-20:00                                     | 12:00-22:00  |
|           | Sun.        | 10:00-20:00              | closed      | closed      | 9:45-20:00                                     | closed   |
| Vacations | Mon. - Fri. | 8:30-22:00<br>(*1)       | 8:30-17:00  | 8:30-17:00  | 8:30-22:00                                     | 8:30-21:00   |
|           | Sat. & Sun. | 10:00-20:00<br>(*2)      | closed      | closed      | 9:45-20:00<br>(closed in<br>August &<br>March) | 13:00-19:00<br>(open only on<br>Saturdays in<br>August &<br>September) |

\*1: Open 8:30-17:00 from August 1st to September 15th, December 24th to 26th, January 5th to 7th, and March 1st to 31th.

\*2: Closed from August 1st to September 15th, December 24th to 26th, January 5th to 7th, and March 1st to 31th.

[Notes]

- On the first and the third Mondays, opening hours for *Kasumi Library* is 12:00-22:00.
- Opening hours may be changed during vacations.

## 2 Closed Days

The library is closed on National Holidays prescribed by law, from December 28th to January 4th, and monthly cleaning days. The Chief Librarian may decide to close libraries.

### 3 Procedure for Using Materials: Open Shelves and Stacks Materials

#### (1) Borrowing

- Books in open shelves
  - Bring books to the Service Counter with your student ID card.
- Books in stacks
  - You need to fill out a *toshō riyō-hyō* form and submit it to the Service Counter in the library along with the books.

[Note]

- Some books in open shelves and stacks can be borrowed by utilizing the automated borrowing machines (this is not applicable for Higashi-Senda). Follow instructions on the screen or lamp.

<Borrowing Policy>

#### *Central Library, East Library, West Library and Higashi-Senda Library*

| Books   |                | Back Issues of Periodicals |                |
|---------|----------------|----------------------------|----------------|
| Volumes | Lending Period | Volumes                    | Lending Period |
| 15      | 30 days        | 10                         | 1 day          |

#### *Kasumi Library*

| Books   |                | Back Issues of Periodicals |                |
|---------|----------------|----------------------------|----------------|
| Volumes | Lending Period | Volumes                    | Lending Period |
| 15      | 4 weeks        | 5                          | 1 day          |

#### (2) Extended Borrowing

This service is available during summer, winter, and spring vacation and will be announced on the notice board in advance. Students who are about to graduate cannot use the extended borrowing service just before graduating.

#### (3) How to Find Material

Hiroshima University Library has two systems for searching materials: *OPAC* and card catalogue.

- *OPAC* (Online Public Access Catalogue)
  - You can search for materials by using the *OPAC* terminals. Please see the “Usage of *OPAC* References System of Hiroshima University Library” for further details.
- Reference by Card Catalogues
  - *Central Library* has a general catalogue (catalogues of books acquired before 1983), and each library has its own card catalogue beside the general catalogue

Feel free to ask at the Service Counter if you have any questions such as *OPAC* search or finding a catalogue reference.

#### **(4) Reservations**

You can reserve to borrow any material which another user has checked out. Please make a request at the Service Counter with your student ID card. You can also make reservations using *OPAC* on the university library's homepage. Reservations cannot be made if you have overdue books.

#### **(5) Renewals**

If you wish to extend the loan period, please take books to the Service Counter. You may renew only once, except books on long-term borrowing. This policy is not applicable to overdue books and reserved books.

#### **(6) Returns**

Please return books to the Service Counter or put them in the return box beside the main entrance of each library. In the case of late returns, you will be penalized by not being allowed to check out any books for as many days as you have delayed.

### **4 Other Services**

Please check the user guide or homepage for reference services, copying, interlibrary loan service, searching for literature, use of electronic journals, guidance in the use of library materials, use of information outlet, etc.

### **5 Use of Facilities**

The facilities below are available. Please apply at the Service Counter with your student ID Card. Reservations are also available.

- Study Carrels (*Central Library, East Library and West Library*)
- Group Study Rooms (*Central Library and West Library*)
  - For classes, research, or study sessions under a professor's supervision
- Seminar Rooms (*Kasumi Library*)
  - For the purpose of research or study sessions, available for lectures, projects, or seminars. Please submit a form for using seminar rooms in advance.
  - If the rooms are not taken, they can be used as group study rooms. Please check the booking schedule at the gate of seminar rooms and bulletin board.
- Rare Books Reading Room (*Central Library*)/Special Collections Reading Room (*West Library*)
  - Special materials and rare materials are available here. Reservation is necessary.
- Audio-Visual Room (*Central, West, Kasumi, East Library*)
  - This room is available for the use of library A.V. materials only.
- Library Hall (*Central Library*)
  - This can be used for lectures, research meetings and seminars for up to 100 people. Please submit the *toshokan shisetsu riyo yoyakusho* form in advance.

## **12. Mental and Physical Health Consultations**

### **1 Health Service Center**

Health Service Center is a facility across the university, whose aim is to support the mental and physical health of the students and staff, and to contribute to prevention of disease and promotion of good health. The Center consists of three sections: Physical, Mental Health, and Counseling Sections. You do not have to pay for the services provided by the Center, and health insurance cards are also not needed.

### **2 Medical Section (Health Service Center, 1F)**

#### **(1) Periodical Health Examination**

The periodical health examination is held to all the students in every February. Be sure to undergo the health examination as a part of healthcare. Detailed information of time and date, place, etc. will be given on a bulletin board, the home-page of the Center, etc.

#### **(2) Issuing Health Certificates**

Health Service Center issues certificates of the health examination of the year and other relevant documents. Automatic certificate issuing machine is also available only in the case that no medical problems are found by the examination. Note that the certificates and documents shall not be issued if you do not undergo the periodical health examination of the year. Also, the certificate shall not be issued to those who do not undergo a re-examination. Be sure to undergo a re-examination if you are required.

#### **(3) Medical Care and Consultation (Internal Medicine)**

A physician provides a basic medical care for health problems such as a cold or a stomach pain. Medicine may be given to you when it is needed. External medical institutions may also be introduced. Note that medicine will only be available after a medical examination by a physician.

#### **(4) Health Consultation (Physical and Mental)**

A physician or a nurse is available for all aspects of physical and mental health problems you are concerned about. External medical institutions may also be introduced.

#### **(5) First Aid**

First aid will be given for injuries at any time during office hours. Referrals to a specialist may also be given in some cases. You may take a rest and relief at the medical care room if you are suddenly in physical distress.

#### **(6) Gynecologic Consultation [appointment required]**

A female gynecologist provides consultations for problems special to women (gynecological diseases, menstrual abnormalities, sex, etc.) External medical institutions may also be introduced.

**(7) Urologic Consultation [appointment required]**

An urologist provides consultations for overall urological problems.

**(8) Dental Consultation [appointment required]**

A dentist provides consultations for various dental problems such as temporomandibular joint disorder, cavities, bad breath problems, etc. Dental checkups are also available at the Hiroshima University Dental Clinic. Checkups are done with no charge (you will not need your insurance card for checkup). Treatments will be done with charge (you will need your insurance card).

**(9) Nutritional Guidance**

A nutritionist provides guidance for concerns about your diet. Cooking classes are also held.

**(10) Others**

Health Service Center may also provide measurements of blood pressure, visual acuity, body-fat, etc., guidance to quit smoking, patch test for alcohol, etc.

**3 Mental Health Section (Student Plaza, 4F)**

● **Psychiatric Consultation for Mental Health [appointment required]**

A psychiatrist is available for mental health problems such as lowering of motivation, feeling weak, loss of sleep, feeling of dread, nervousness, etc.

**4 Counseling Section (Student Plaza, 4F)**

● **Counseling and Consultation for Students [appointment required]**

A clinical psychotherapist is available for any problems about disorders, personal relations, personality, career options, etc. Counseling and consultation in English are also available for international students.

## 5 Guideline for Utilizing Health Service Center

| Campus   | Higashi-Hiroshima                       |                                      |                    | Kasumi   | Higashi-Senda                              |
|--|---|--------------------------------------|--------------------|--|--|
| Facilities   | Health Service Center, 1F               | Student Plaza, 4F                    |                    | Kasumi Branch  | Health Service Room                        |
|  | Medical Section                         | Mental Health Section                | Counseling Section |  |  |
| Office Hours   | Mon.-Fri.<br>8:30-17:15                 | Mon.-Fri.<br>9:00-12:00, 13:00-17:00 |                    | Mon.-Fri.<br>8:30-17:15  | Mon.-Fri.<br>12:30-21:15                   |
| Medical Care/<br>Consultation  | Mon.-Fri.<br>9:00-10:45,<br>12:15-15:00 |                                      |                    | Mon.<br>9:00-10:45,<br>12:15-15:00<br>Thu.<br>9:00-10:45,<br>14:00-15:00 | Mon.<br>18:00-19:30<br>Wed.<br>18:30-20:30 |
| Counseling/<br>Consultation<br>for Students                            |   |                                      | ★                  | ★<br>(only available on<br>Wednesdays and Fridays)                       |  |
| Counseling for<br>Mental Health<br>(psychiatric<br>consultation)       |   | ★                                    |                    | ★  | ★  |
| Gynecologic<br>Consultation  | ★                                       |                                      |                    | ★  |  |
| Urologic<br>Consultation   | ★                                       |                                      |                    |  |  |
| Dental<br>Consultation   | ★                                       |                                      |                    |  |  |
| Nutritional<br>Consultation  | 9:00-16:00                              |                                      |                    | ★  | ★  |
| Issuing Health<br>Certificates   | 8:30-17:15                              |                                      |                    | 8:30-17:15   | 12:30-21:15                                |
| First Aid  |   |                                      |                    |  |  |
| Measurements of<br>Blood Pressure,<br>Visual Acuity,<br>Body-fat, etc. |   |                                      |                    |  |  |
| Consultation<br>for Quitting<br>Smoking                                | ★<br>(082-<br>424-6192)                 |                                      |                    | ★<br>(082-<br>257-5096)  | ★<br>(082-<br>542-6970)                    |

(The icon “★” means that an appointment is required.)



[Notes]

- You can make an appointment at any time by phone, e-mail, or visiting the faculty directly. The home-page of Health Service Center is also available.  
<http://home.hiroshima-u.ac.jp/health/>
- Office hours may be different during long holidays, especially on Higashi-Senda Campus. Contact the Health Service Center for exact times.
- Counseling/consultation for international students in Hiroshima Region will be done only at International Student Room on Kasumi Campus.

**[Reservations &Inquiries]**

| Faculties  | Tel          | Mail   |
|--|--------------|--|
| Medical Section<br>(the Health Service Center, 1F) | 082-424-6192 | <a href="mailto:health@hiroshima-u.ac.jp">health@hiroshima-u.ac.jp</a>   |
| Mental Health Section<br>(Student Plaza, 4F)       | 082-424-6186 | <a href="mailto:mental@hiroshima-u.ac.jp">mental@hiroshima-u.ac.jp</a>   |
| Counseling Section<br>(Student Plaza, 4F)          | 082-424-6187 | <a href="mailto:shinri@hiroshima-u.ac.jp">shinri@hiroshima-u.ac.jp</a><br>or<br><a href="mailto:rcounsel@hiroshima-u.ac.jp">rcounsel@hiroshima-u.ac.jp</a><br>(for international students) |
| Kasumi Branch Health Center                        | 082-257-5096 | <a href="mailto:health@hiroshima-u.ac.jp">health@hiroshima-u.ac.jp</a><br><a href="mailto:mental@hiroshima-u.ac.jp">mental@hiroshima-u.ac.jp</a>   |
| Higashi-Senda Health Service Room                  | 082-424-6192 | <a href="mailto:shinri@hiroshima-u.ac.jp">shinri@hiroshima-u.ac.jp</a>   |

[Note]

- Mail is only available for making an appointment. Counseling will not be done via e-mail.

## 6 Harassment Consultation Office

Hiroshima University provides consultations for various kinds of harassment problems. If you hope some consultations, you are recommended to get an appointment by phone or e-mail.

**[Appointments & Inquiries]**

- **Higashi-Hiroshima Region**

Harassment Consultation Office (Central Library, B1)

Tel/Fax: 082-424-7204/082-424-4352 (direct line)

E-mail: [harasses@hiroshima-u.ac.jp](mailto:harasses@hiroshima-u.ac.jp) (only for appointment)

- **Hiroshima Region**

Counseling Office in Kasumi Campus (Building for Hospital Stay, 5F)

Tel/Fax: 082-257-1519 (direct line)

E-mail: [harasses@hiroshima-u.ac.jp](mailto:harasses@hiroshima-u.ac.jp) (only for appointment)

# 13. Student Education and Research Disaster Insurance

## 1 Personal Accident Insurance for Students Pursuing Education and Research (*Gakkensai*)

This insurance covers unexpected physical injuries that may occur during lectures, school events, extra-curricular activities, travel to and from the university, and on the university premises, depending on the hospitalized days/hospital visits.

This insurance is compulsory for all students as a rule, and the university incurs the insurance fee since 2010. This requires no action on students' part to be a member.

### <Procedures to be followed in the Event of an Accident>

In the event of an accident, please immediately report it to the General Student Support Center of Hiroshima University (Student Plaza, 3F) (The Student Support Office of the Graduate School of Biomedical Science for students at Kasumi Campus, The Higashi-Senda Student Support Office for students at Higashi-Senda Campus) and check whether the accident is covered under the insurance, then notify the Chugoku Injury Service Department, Tokyo Marine and Nichido Fire Insurance Co., Ltd. (Tel: 082-247-2033) of the accident by sending a designated postcard.

Please note that failure to send the above notice within 30 days of the accident may result in non-payment of the claim.

[Note]

- Please check the details for insurance coverage and how to process the insurance claim in Policy Leaflet of *Gakkensai*.

## 2 Third Party Liability Insurance Incident to Disaster and Accident Insurance for Student Education and Research (*Gakkenbai*), Liability Insurance for Medical Students Pursuing Education and Research (*Igakubai*)

The *Gakkenbai* insurance system is designed to indemnify students against personal liability provided for by law for injury caused to a third party or property damaged in Japan during regular curricular activities, school events, internships, nursing experience activities, practical educational training, practical child-care training, volunteer club activities, and while commuting to and from such activities.

[Notes]

- Although this insurance is not compulsory, all students are highly recommended to join *Gakkenbai*. Joining *Gakkenbai* requires an action on students' part.
- Please refer to *MOMIJI* for *Hokabai* and more details.

# 14. Traffic Accident and Emergency Response Procedure

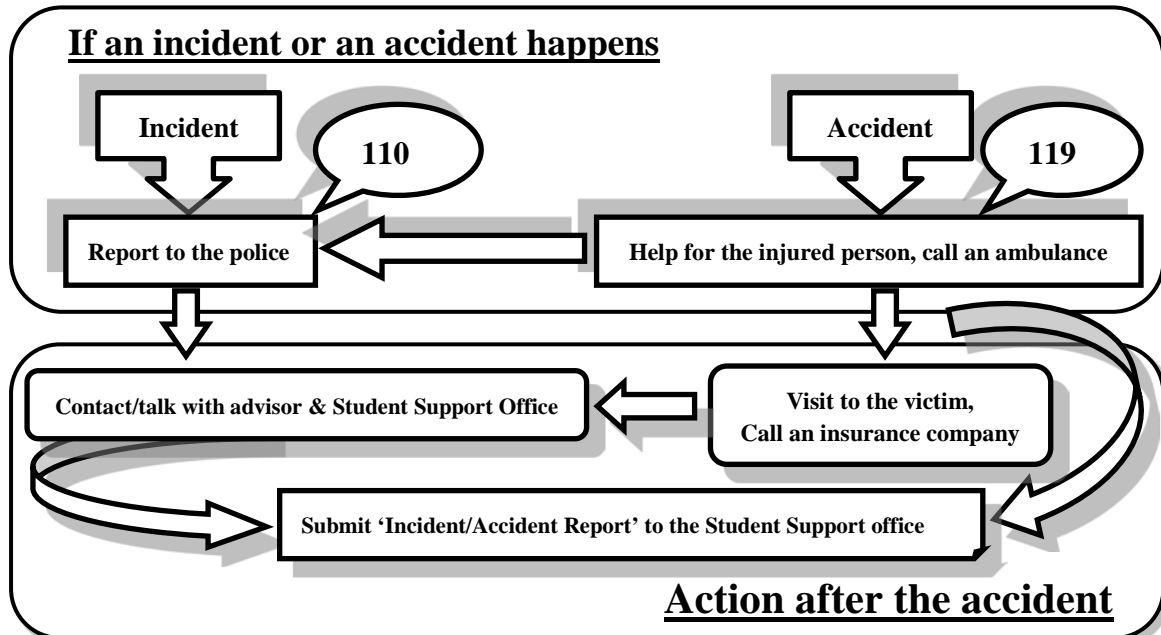
## 1 Bicycle

- A bicycle is a light vehicle in the Road Traffic Act; please follow the traffic regulations when using bicycles and motorcycles.
- For example, disregarding traffic signals, not using lights at night, driving on the right side of the road and doing other things while you're riding (using an umbrella, using a cell-phone, earphones, etc.) are violations of the Road Traffic Act.
- On the footpath pedestrians must be given priority.
- In the case of an accident resulting in injury or death, substantial compensation can be demanded according to penal regulations.

## 2 Car & Motorcycle

- Please keep careful driving in mind.
- Please join voluntary insurance; interpersonal compensation is unlimited.
- The penal regulations concerning traffic accidents are strict. Drunken driving is a serious crime.

<Action to be taken in Case of Problem>



When you meet with an incident or an accident, contact not only the nearest police but also the university.

[Inquiry]

- Student Services Group (Student Plaza, 3F)  
Tel: 082-424-6145    Mail: [gakusei-sen@hiroshima-u.ac.jp](mailto:gakusei-sen@hiroshima-u.ac.jp)

# Graduate School of Engineering

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\*Hiroshima University Degree Regulations(Graduate School of Engineering Regulations)

\*You can check Hiroshima University Regulations in the following URL.

URL : <https://momiji.hiroshima-u.ac.jp/momiji-top/international/regulations.html>

\*The official text of each regulation is the Japanese version. As the English translation is provided only for reference, if there are any discrepancies between Japanese and English versions, the Japanese takes precedence.

In the event of any change in the regulations, the documents will be updated on a semi-annual basis.

## Objectives of Engineering and the Graduate School of Engineering's Founding Principles, Educational Purposes and Goals

### ■ The Five Guiding Principles of Hiroshima University

- ① The Pursuit of Peace
- ② The Creation of New Forms of Knowledge
- ③ The Nurturing of Well-Rounded Human Beings
- ④ Collaboration with the Local, Regional, and International CommunityContinuous
- ⑤ Self-Development

### ■ Hiroshima University's Goals

- ① Being an educational and research institution of the highest standards that actively pursues outstanding education and research and that is ranked high on an international scale in terms of both education and research
- ② Carrying out priority projects for raising the levels of academic research, developing an environment for realizing research of the world's highest standards, and nurturing the "seeds" of research, leading next-generation scholarship and contributing to the creation of a new intellectual culture
- ③ In post-graduate education and research, serving as a major center active in domestic and international networks of universities and research institutions, where excellent research and directly research-linked education are assured to produce quality doctorates and globally operational researchers, as well as socially and globally operational high-level professionals through excellent practical education
- ④ In undergraduate education, producing individuals equipped with both basic and applied abilities and abundant mental flexibility through educational programs firmly oriented toward the achievement of goals
- ⑤ Fulfilling the University's mission of contribution to society, which is as important as education and research, by meeting a variety of societal needs through close partnerships with local communities
- ⑥ Promoting the faculty's and students' global activities and establishing and improving systems of international exchange, collaboration, and cooperation while strengthening the University's global competitiveness
- ⑦ Implementing on a university-wide basis plans and programs of university administration that are drawn up from a broad, university-wide perspective that involves centralized management of human resources, facilities, and funds
- ⑧ Creating an environment that enables faculty members to fully demonstrate their potential under a system of fair competency and performance evaluation
- ⑨ Completing a system of information media-related education and research and its support mechanism by realizing an information and communication environment that supports education, research, social contribution, and efficient organizational administration; conducting active PR activities by promoting information sharing between the faculty and the students and information disclosure to the general public

■ Objectives of Engineering

The objectives of engineering can be summed up as “inquiry into embodiment” through which engineers try to contribute to the peace, development, and continuation of humankind; in other words, searching into and realizing, based on scientific knowledge, concrete steps to meeting society’s needs and finding solutions to its problems while seeking harmony with Nature.

■ Concept for the establishment of the Graduate School of Engineering

- (1) To promote advanced and interdisciplinary studies and provide a forum for creation, accumulation and utilization of knowledge.
- (2) In order to accomplish the "Purpose of Engineering," to develop researchers who will creatively cope with the development of new basic technologies and highly advanced professional engineers who have the abilities to set out and provide solutions to problems.
- (3) To contribute to building an affluent society and to further peace, development and continuation of human existence through advanced research activities and returning the results of research to society.

■ Purposes of Education and Research at the Graduate School of Engineering

- (1) Promoting advanced cutting-edge research and interdisciplinary research so as to contribute to society through research results in building an affluent society and assuring peace, development, and continuation of humankind
- (2) Leading the students to understand the objectives of engineering, develop a keen sense of social responsibility, and become fully autonomous as engineers
- (3) Leading the students to acquire basic knowledge required in engineering
- (4) Training the students as highly specialized engineers with the ability to set research themes for themselves and effectively work them out
- (5) Developing the students’ ability to conduct advanced research and interdisciplinary research
- (6) Developing the students’ other abilities related to engineering so that they may lead in the future success and development of engineering

■ Goal for education and research at the Graduate School of Engineering

- (1) Carrying out advanced and systematic education and research activities in each special field and interdisciplinary fields.
- (2) Development of human resources who have knowledge and abilities required for being engaged in research and development.
- (3) Development of a broad outlook, flexible adaptability and creativity and arousing desire for self-enlightenment and study.
- (4) Research activities aiming at positive solutions for environmental problems, taking into consideration the finite nature of the earth.
- (5) Contribution to international community through promotion of international joint research.
- (6) Active reduction activities of research results to society.

Class Subjects and Requirement for Completion  
Mechanical Systems Engineering(Master's program)

| Segment       | Class Subject   | Grade | Credit | Remarks |
|---------------|---|-------|--------|---------|
| Core Subjects | 流体工学特論<br>Applied Fluid Dynamics                      | 1or2  | 2      | (※)     |
|               | 固体力学特論<br>Advanced Solid Mechanics                    | 1or2  | 2      | (※)     |
|               | 制御工学特論<br>Control System Design                       | 1or2  | 2      |         |
|               | 機械力学特論<br>advanced Machinery Dynamics                 | 1or2  | 2      | (※)     |
|               | 反応気体力学特論<br>Advanced Reactive Gas Dynamics            | 1or2  | 2      | (※)     |
|               | 設計学特論<br>Mechanical Engineering Design                | 1or2  | 2      |         |
|               | 自律システム工学特論<br>Advanced Autonomous Systems Engineering | 1or2  | 2      |         |

| Segment                   | Class Subject  | Grade | Credit     |                         |          | Remarks                           |
|---------------------------|--|-------|------------|-------------------------|----------|-----------------------------------|
|                           |  |       | Compulsory | Compulsory but optional | Optional |                                   |
| 専門科目 Specialized Subjects | 機械システム工学講究 I A<br>Mechanical Systems Engineering Research I A        | 1     | 1          |                         |          | (※)                               |
|                           | 機械システム工学講究 I B<br>Mechanical Systems Engineering Research I B        | 1     | 1          |                         |          | (※)                               |
|                           | 機械システム工学講究 II A<br>Mechanical Systems Engineering Research II A      | 2     | 1          |                         |          | (※)                               |
|                           | 機械システム工学講究 II B<br>Mechanical Systems Engineering Research II B      | 2     | 1          |                         |          | (※)                               |
|                           | 機械システム工学セミナー I A<br>Mechanical Systems Engineering Seminar I A       | 1     | 1          |                         |          | (※)                               |
|                           | 機械システム工学セミナー I B<br>Mechanical Systems Engineering Seminar I B       | 1     | 1          |                         |          | (※)                               |
|                           | 機械システム工学セミナー II A<br>Mechanical Systems Engineering Seminar II A     | 2     | 1          |                         |          | (※)                               |
|                           | 機械システム工学セミナー II B<br>Mechanical Systems Engineering Seminar II B     | 2     | 1          |                         |          | (※)                               |
|                           | 熱工学特論<br>Advanced Thermal Engineering                                | 1or2  |            | 2                       |          | (※)                               |
|                           | Advanced in Composite Science and Engineering                        | 1or2  |            | 2                       |          |                                   |
|                           | Advanced Energy Plant  | 1or2  |            | 2                       |          |                                   |
|                           | 振動工学特論<br>Advanced Engineering Vibrations                            | 1or2  |            | 2                       |          | (※)                               |
|                           | Nonlinear Control Theory   | 1or2  |            | 2                       |          |                                   |
|                           | Advanced Manufacturing Management Systems                            | 1or2  |            | 2                       |          |                                   |
|                           | Advanced Microstructure of Materials                                 | 1or2  |            | 2                       |          |                                   |
|                           | 材料強度学特論<br>Mechanical Behavior and Strength of Engineering Materials | 1or2  |            | 2                       |          |                                   |
|                           | Advanced Precision Machining   | 1or2  |            | 2                       |          |                                   |
|                           | Advanced Quantum Materials Engineering                               | 1or2  |            | 2                       |          |                                   |
|                           | Special Lecture on Mechanical Engineering I                          | 1or2  |            |                         | 2        |                                   |
|                           | Special Lecture on Mechanical Engineering II                         | 1or2  |            |                         | 2        |                                   |
|                           | Special Lecture on Mechanical Engineering III                        | 1or2  |            |                         | 2        |                                   |
|                           | Special Lecture on Mechanical Engineering IV                         | 1or2  |            |                         | 2        |                                   |
|                           | Special Lecture on Mechanical Engineering V                          | 1or2  |            |                         | 2        |                                   |
|                           | Special Lecture on Mechanical Engineering VI                         | 1or2  |            |                         | 2        |                                   |
|                           | 数理学 I<br>Mathematics I   | 1or2  |            |                         | 2        | (※) Subject of System Cybernetics |
|                           | Mathematics IV   | 1or2  |            |                         | 2        | Subject of System Cybernetics     |

※ The subject marked(※) in Remarks column offers the class in English in addition to the same class in Japanese. The overlapped subject is not recognized as credit.

**【Requirement for Completion】**

- (1) Core Subjects: More than 8 credits.
- (2) Compulsory Specialized Subjects: 8 credits [Research 4 subjects, Seminar 4 subjects].
- (3) Common Subjects: More than 2 credits of subject of 'MOT'.
- (4) More than 8 credits are required from Compulsory but optional subjects of Specialized Subjects and Core Subjects [except the credits in (1)].
- (5) Optional Subjects and Subjects offered in the other departments(Special Lecture is excluded).

**Total: 30 credits are required.**

\*Interdisciplinary Program Student should get the program's Subjects more than 8 credits.

These Subjects are able to be included in the credits for (4).

\*If the credits earned at International Partner Universities are acknowledged as the credits of Core Subjects or Specialized Subjects of Mechanical Science and Engineering, Common Subjects or Subjects offered in the other departments(Special Lecture is excluded), they can be included in the above (1) to (5) subjects for Double Degree Program Students.

## Mechanical Science and Engineering(Master's program)

| Segment       | Class Subject  | Grade | Credit | Remarks |
|---------------|--|-------|--------|---------|
| Core Subjects | 熱工学特論<br>Advanced Thermal Engineering                                | 1or2  | 2      | (※)     |
|               | プラズマ工学特論<br>Advanced Plasma Engineering                              | 1or2  | 2      | (※)     |
|               | 弾塑性学特論<br>Optimization of Structural and Process Design              | 1or2  | 2      |         |
|               | Applied Materials Physics  | 1or2  | 2      |         |
|               | 材料強度学特論<br>Mechanical Behavior and Strength of Engineering Materials | 1or2  | 2      |         |
|               | 燃焼工学特論<br>Combustion   | 1or2  | 2      |         |
|               | Advanced Microstructure of Materials                                 | 1or2  | 2      |         |

| Segment              | Class Subject                                     | Grade | Credit     |                         |          | Remarks                       |
|----------------------|---|-------|------------|-------------------------|----------|-------------------------------|
|                      |   |       | Compulsory | Compulsory but optional | Optional |                               |
| Specialized Subjects | 機械物理学講究 I A<br>Mechanical Science Research I A    | 1     | 1          |                         |          | (※)                           |
|                      | 機械物理学講究 I B<br>Mechanical Science Research I B    | 1     | 1          |                         |          | (※)                           |
|                      | 機械物理学講究 II A<br>Mechanical Science Research II A  | 2     | 1          |                         |          | (※)                           |
|                      | 機械物理学講究 II B<br>Mechanical Science Research II B  | 2     | 1          |                         |          | (※)                           |
|                      | 機械物理学セミナー I A<br>Mechanical Science Seminar I A   | 1     | 1          |                         |          | (※)                           |
|                      | 機械物理学セミナー I B<br>Mechanical Science Seminar I B   | 1     | 1          |                         |          | (※)                           |
|                      | 機械物理学セミナー II A<br>Mechanical Science Seminar II A | 2     | 1          |                         |          | (※)                           |
|                      | 機械物理学セミナー II B<br>Mechanical Science Seminar II B | 2     | 1          |                         |          | (※)                           |
|                      | Advanced in Composite Science and Engineering     | 1or2  |            | 2                       |          |                               |
|                      | Advanced Energy Functional Materials Engineering  | 1or2  |            | 2                       |          |                               |
|                      | Advanced Energy Plant                             | 1or2  |            | 2                       |          |                               |
|                      | Nuclear Energy Applications                       | 1or2  |            | 2                       |          |                               |
|                      | Advanced Manufacturing Management Systems         | 1or2  |            | 2                       |          |                               |
|                      | 制御工学特論<br>Control System Design                   | 1or2  |            | 2                       |          |                               |
|                      | 流体工学特論<br>Applied Fluid Dynamics                  | 1or2  |            | 2                       |          | (※)                           |
|                      | 設計学特論<br>Mechanical Engineering Design            | 1or2  |            | 2                       |          |                               |
|                      | 機械力学特論<br>Advanced Machinery Dynamics             | 1or2  |            | 2                       |          | (※)                           |
|                      | Advanced Biomass Resources                        | 1or2  |            | 2                       |          |                               |
|                      | Advanced Biofuel Engineering                      | 1or2  |            | 2                       |          |                               |
|                      | Advanced Quantum Materials Engineering            | 1or2  |            | 2                       |          |                               |
|                      | Special Lecture on Mechanical Engineering I       | 1or2  |            |                         | 2        |                               |
|                      | Special Lecture on Mechanical Engineering II      | 1or2  |            |                         | 2        |                               |
|                      | Special Lecture on Mechanical Engineering III     | 1or2  |            |                         | 2        |                               |
|                      | Special Lecture on Mechanical Engineering IV      | 1or2  |            |                         | 2        |                               |
|                      | Special Lecture on Mechanical Engineering V       | 1or2  |            |                         | 2        |                               |
|                      | Special Lecture on Mechanical Engineering VI      | 1or2  |            |                         | 2        |                               |
|                      | Mathematics II                                    | 1or2  |            |                         | 2        | Subject of System Cybernetics |
|                      | Mathematics III                                   | 1or2  |            |                         | 2        | Subject of System Cybernetics |

※ The subject marked(※) in Remarks column offers the class in English in addition to the same class in Japanese.

The overlapped subject is not recognized as credit.

**【Requirement for Completion】**

- (1) Core Subjects: More than 8 credits.
- (2) Compulsory Specialized Subjects: 8 credits [Research 4 subjects, Seminar 4 subjects].
- (3) Common Subjects: More than 2 credits of subject of 'MOT'.
- (4) More than 8 credits are required from Compulsory but optional subjects of Specialized Subjects and Core Subjects [except the credits in (1)].
- (5) Optional Subjects and Subjects offered in the other departments(Special Lecture is excluded).

**Total: 30 credits are required.**

\*Interdisciplinary Program Student should get the program's Subjects more than 8 credits.

These Subjects are able to be included in the credits for (4).

\*If the credits earned at International Partner Universities are acknowledged as the credits of Core Subjects or Specialized Subjects of Mechanical Systems Engineering, Common Subjects or Subjects offered in the other departments(Special Lecture is excluded), they can be included in the above (1) to (5) subjects for Double Degree Program Students.



## System Cybernetics(Master's program)

| Segment       | Class Subject                                     | Grade | Credit | Remarks |  |
|---------------|---|-------|--------|---------|--|
| Core Subjects | 数学Ⅰ<br>Mathematics I                              | 1or2  | 2      | (※)     |  |
|               | 数学Ⅱ<br>Mathematics II                             | 1or2  | 2      |         |  |
|               | 数学Ⅲ<br>Mathematics III                            | 1or2  | 2      |         |  |
|               | システム計画特論<br>Advanced Systems Planning             | 1or2  | 2      | (※)     |  |
|               | システム制御特論<br>Advanced System Control               | 1or2  | 2      | (※)     |  |
|               | 社会システム工学特論<br>Advanced Social Systems Engineering | 1or2  | 2      | (※)     |  |
|               | 電力系統工学特論<br>Advanced Power System Engineering     | 1or2  | 2      | (※)     |  |
|               | サイバネティクス工学特論<br>Advanced Cybernetics Engineering  | 1or2  | 2      | (※)     |  |
|               | ロボティクス特論<br>Advanced Robotics                     | 1or2  | 2      | (※)     |  |
|               |   |       |        |         |  |
|               |   |       |        |         |  |
|               |   |       |        |         |  |
|               |   |       |        |         |  |
|               |   |       |        |         |  |

| Segment                   | Class Subject   | Grade | Credit     |                         |          | Remarks                            |
|---------------------------|---|-------|------------|-------------------------|----------|------------------------------------|
|                           |   |       | Compulsory | Compulsory but optional | Optional |                                    |
| 専門科目 Specialized Subjects | システムサイバネティクス講義ⅠA<br>Directed Study in System Cybernetics I A  | 1     | 1          |                         |          | (※)                                |
|                           | システムサイバネティクス講義ⅠB<br>Directed Study in System Cybernetics I B  | 1     | 1          |                         |          | (※)                                |
|                           | システムサイバネティクス講義ⅡA<br>Directed Study in System Cybernetics II A | 2     | 1          |                         |          | (※)                                |
|                           | システムサイバネティクス講義ⅡB<br>Directed Study in System Cybernetics II B | 2     | 1          |                         |          | (※)                                |
|                           | システムサイバネティクスセミナーⅠA<br>Seminar in System Cybernetics I A       | 1     | 1          |                         |          | (※)                                |
|                           | システムサイバネティクスセミナーⅠB<br>Seminar in System Cybernetics I B       | 1     | 1          |                         |          | (※)                                |
|                           | システムサイバネティクスセミナーⅡA<br>Seminar in System Cybernetics II A      | 2     | 1          |                         |          | (※)                                |
|                           | システムサイバネティクスセミナーⅡB<br>Seminar in System Cybernetics II B      | 2     | 1          |                         |          | (※)                                |
|                           | Applied Cybernetics   | 1or2  |            | 2                       |          |                                    |
|                           | ハイパー・ヒューマン工学特論<br>Hyper Human Engineering                     | 1or2  |            | 2                       |          | (※)                                |
|                           | Advanced Scheduling   | 1or2  |            | 2                       |          |                                    |
|                           | 応用数理特論<br>Advanced Applied Mathematical Sciences              | 1or2  |            | 2                       |          | (※)                                |
|                           | 確率微分方程式特論<br>Stochastic Differential Equations                | 1or2  |            | 2                       |          | (※)                                |
|                           | Advanced Signal Processing                                    | 1or2  |            | 2                       |          |                                    |
|                           | Electric Power System Operation                               | 1or2  |            | 2                       |          |                                    |
|                           | Advanced Biosystems Engineering                               | 1or2  |            |                         | 2        |                                    |
|                           | Advanced Learning Systems                                     | 1or2  |            | 2                       |          |                                    |
|                           | Mathematics IV  | 1or2  |            | 2                       |          |                                    |
|                           | パワーエレクトロニクス特論<br>Advanced Power Electronics                   | 1or2  |            | 2                       |          | (※)                                |
|                           | Software Reliability Engineering                              | 1or2  |            | 2                       |          | Subject of Information Engineering |
|                           | Advanced Visual Information Processing                        | 1or2  |            |                         | 2        | Subject of Information Engineering |
|                           | Fault-Tolerant Systems  | 1or2  |            |                         | 2        | Subject of Information Engineering |
|                           | Image Analysis and Synthesis Technology                       | 1or2  |            | 2                       |          | Subject of Information Engineering |
|                           | Formal Language Theory  | 1or2  |            | 2                       |          | Subject of Information Engineering |
|                           | Special Lecture on System Cybernetics I                       | 1or2  |            |                         | 2        |                                    |
|                           | Special Lecture on System Cybernetics II                      | 1or2  |            |                         | 2        |                                    |
|                           | Special Lecture on System Cybernetics III                     | 1or2  |            |                         | 2        |                                    |
|                           | Special Lecture on System Cybernetics IV                      | 1or2  |            |                         | 2        |                                    |
|                           | Special Lecture on System Cybernetics V                       | 1or2  |            |                         | 2        |                                    |

※ The subject marked(※) in Remarks column offers the class in English in addition to the same class in Japanese.

The overlapped subject is not recognized as credit.

【Requirement for Completion】(Except student of TAOYAKA Program)

- (1) Core Subjects: More than 8 credits.
- (2) Specialized Subjects Compulsory: 8 credits [Research 4 subjects, Seminar 4 subjects].  
Compulsory but optional: More than 10 Credits
- (3) Common Subjects: More than 2 credits of subject of 'MOT'.
- (4) Optional Subjects and Subjects offered in the other departments(Special Lecture is excluded).

**Total: 30 credits are required.**

\*Interdisciplinary Program Student should get the program's Subjects more than 8 credits.

These Subjects are able to be included in the credits for (4).

【Requirement for Completion】(Only for student of TAOYAKA Program)

- (1) Core Subjects: More than 8 credits.
- (2) Specialized Subjects Compulsory: 8 credits [Research 2 subjects, Seminar 2 subjects].  
Compulsory but optional: More than 6 Credits
- (3) Common Subjects: More than 2 credits of subject of 'MOT'.
- (4) Optional Subjects, Subjects offered in the other departments(Special Lecture is excluded) and Subject of TAOYAKA Program.

**Total: 30 credits are required.**

Information Engineering(Master's program)

| Segment       | Class Subject                          | Grade | Credit | Remarks |
|---------------|--|-------|--------|---------|
| Core Subjects | Advanced Operating Systems             | 1or2  | 2      |         |
|               | Software Reliability Engineering       | 1or2  | 2      |         |
|               | Advanced Visual Information Processing | 1or2  | 2      |         |
|               | Database Engineering                   | 1or2  | 2      |         |
|               | Embedded Software                      | 1or2  | 2      |         |
|               | Embedded Hardware                      | 1or2  | 2      |         |
|               | Information Security                   | 1or2  | 2      |         |
|               | Machine Learning                       | 1or2  | 2      |         |

| Segment  | Class Subject                                  | Grade | Credit     |                         |          | Remarks                              |
|--|--|-------|------------|-------------------------|----------|--------------------------------------|
|  |  |       | Compulsory | Compulsory but optional | Optional |                                      |
| 専門科目 Specialized Subjects                      | 情報工学講究 I A                                     | 1     | 1          |                         |          | (※)                                  |
|  | Directed Study in Information Engineering I A  |       |            |                         |          |                                      |
|  | 情報工学講究 I B                                     | 1     | 1          |                         |          | (※)                                  |
|  | Directed Study in Information Engineering I B  |       |            |                         |          |                                      |
|  | 情報工学講究 II A                                    | 2     | 1          |                         |          | (※)                                  |
|  | Directed Study in Information Engineering II A |       |            |                         |          |                                      |
|  | 情報工学講究 II B                                    | 2     | 1          |                         |          | (※)                                  |
|  | Directed Study in Information Engineering II B |       |            |                         |          |                                      |
|  | 情報工学セミナー I A                                   | 1     | 1          |                         |          | (※)                                  |
|  | Seminar in Information Engineering I A         |       |            |                         |          |                                      |
|  | 情報工学セミナー I B                                   | 1     | 1          |                         |          | (※)                                  |
|  | Seminar in Information Engineering I B         |       |            |                         |          |                                      |
|  | 情報工学セミナー II A                                  | 2     | 1          |                         |          | (※)                                  |
|  | Seminar in Information Engineering II A        |       |            |                         |          |                                      |
|  | 情報工学セミナー II B                                  | 2     | 1          |                         |          | (※)                                  |
|  | Seminar in Information Engineering II B        |       |            |                         |          |                                      |
|  | Advanced Parallel Architectures and Algorithms | 1or2  |            | 2                       |          |                                      |
|  | Fault-Tolerant Systems                         | 1or2  |            | 2                       |          |                                      |
|  | Applied Mechano-informatics                    | 1or2  |            | 2                       |          |                                      |
|  | Image Analysis and Synthesis Technology        | 1or2  |            | 2                       |          |                                      |
|  | Mobile Computing                               | 1or2  |            | 2                       |          |                                      |
|  | Advanced Information Networks                  | 1or2  |            | 2                       |          |                                      |
|  | Formal Language Theory                         | 1or2  |            | 2                       |          |                                      |
|  | Advanced Information and Media Processing      | 1or2  |            | 2                       |          |                                      |
|  | Analysis in Mathematical Science               | 1or2  |            | 2                       |          |                                      |
|  | Data Management                                | 1or2  |            | 2                       |          |                                      |
|  | Human Computer Interaction                     | 1or2  |            | 2                       |          |                                      |
|  | Information retrieval                          | 1or2  |            | 2                       |          |                                      |
|  | Artificial and Natural Intelligence            | 1or2  |            | 2                       |          |                                      |
|  | 応用数理特論   | 1or2  |            | 2                       |          | (※)<br>Subject of System Cybernetics |
|  | Advanced Applied Mathematical Sciences         |       |            |                         |          |                                      |
|  | ハイパーヒューマン工学特論                                  | 1or2  |            | 2                       |          | (※)<br>Subject of System Cybernetics |
|  | Hyper Human Engineering                        |       |            |                         |          |                                      |
|  | Mathematics II                                 | 1or2  |            | 2                       |          | Subject of System Cybernetics        |
|  | Mathematics III                                | 1or2  |            | 2                       |          | Subject of System Cybernetics        |
|  | Mathematics IV                                 | 1or2  |            | 2                       |          | Subject of System Cybernetics        |
| Special Lecture on Information Engineering I   | 1or2   |       |            | 2                       |          |                                      |
| Special Lecture on Information Engineering II  | 1or2   |       |            | 2                       |          |                                      |
| Special Lecture on Information Engineering III | 1or2   |       |            | 2                       |          |                                      |
| Special Lecture on Information Engineering IV  | 1or2   |       |            | 2                       |          |                                      |

※ The subject marked(※) in Remarks column offers the class in English in addition to the same class in Japanese. The overlapped subject is not recognized as credit.

**【Requirement for Completion】**

- (1) Core Subjects: More than 8 credits.
- (2) Specialized Subjects Compulsory: 8 credits [Research 4 subjects, Seminar 4 subjects].  
Compulsory but optional: More than 6 Credits
- (3) Common Subjects: More than 2 credits of subject of 'MOT'.
- (4) Optional Subjects, Subjects offered in the other departments and other graduate school(Special Lecture is excluded

**Total: 30 credits are required.**

\*Interdisciplinary Program Student should get the program's Subjects more than 8 credits.  
These Subjects are able to be included in the credits for (4).

## Chemical Engineering(Master's program)

| Segment       | Class Subject  | Grade | Credit | Remarks |
|---------------|--|-------|--------|---------|
| Core Subjects | 平衡・輸送物性特論<br>Advanced Equilibrium and Transport Properties | 1or2  | 2      | (※)     |
|               | 微粒子工学論<br>Fine Particle Technology                         | 1or2  | 2      | (※)     |
|               | 物質移動特論<br>Advanced Mass Transfer                           | 1or2  | 2      | (※)     |
|               | 伝熱工学特論<br>Advanced Heat Transfer Engineering               | 1or2  | 2      | (※)     |
|               | 流動解析論<br>Fluid Dynamics Analysis                           | 1or2  | 2      | (※)     |
|               | 環境化学工学特論<br>Advanced Environmental Chemistry Engineering   | 1or2  | 2      | (※)     |

| Segment              | Class Subject  | Grade | Credit     |                         |          | Remarks                             |
|----------------------|--|-------|------------|-------------------------|----------|-------------------------------------|
|                      |  |       | Compulsory | Compulsory but optional | Optional |                                     |
| Specialized Subjects | 化学工学講究 I A<br>Chemical Engineering Research I A        | 1     | 1          |                         |          | (※)                                 |
|                      | 化学工学講究 I B<br>Chemical Engineering Research I B        | 1     | 1          |                         |          | (※)                                 |
|                      | 化学工学講究 II A<br>Chemical Engineering Research II A      | 2     | 1          |                         |          | (※)                                 |
|                      | 化学工学講究 II B<br>Chemical Engineering Research II B      | 2     | 1          |                         |          | (※)                                 |
|                      | 化学工学セミナー I A<br>Chemical Engineering Seminar I A       | 1     | 1          |                         |          | (※)                                 |
|                      | 化学工学セミナー I B<br>Chemical Engineering Seminar I B       | 1     | 1          |                         |          | (※)                                 |
|                      | 化学工学セミナー II A<br>Chemical Engineering Seminar II A     | 2     | 1          |                         |          | (※)                                 |
|                      | 化学工学セミナー II B<br>Chemical Engineering Seminar II B     | 2     | 1          |                         |          | (※)                                 |
|                      | 触媒化学論<br>Advanced Catalysis Chemistry                  | 1or2  |            |                         | 2        | (※)<br>Subject of Applied Chemistry |
|                      | 応用無機化学論<br>Advanced Applied Inorganic Chemistry        | 1or2  |            |                         | 2        | (※)<br>Subject of Applied Chemistry |
|                      | 有機材料化学論<br>Organic Materials Chemistry                 | 1or2  |            |                         | 2        | (※)<br>Subject of Applied Chemistry |
|                      | 高分子合成化学論<br>Advanced Synthetic Polymer Chemistry       | 1or2  |            |                         | 2        | (※)<br>Subject of Applied Chemistry |
|                      | 分析化学論<br>Advanced Analytical Chemistry                 | 1or2  |            |                         | 2        | (※)<br>Subject of Applied Chemistry |
|                      | 超分子化学論<br>Supramolecular Chemistry                     | 1or2  |            |                         | 2        | (※)<br>Subject of Applied Chemistry |
|                      | ソフトマテリアルプロセス工学特論<br>Advanced Soft Materials Processing | 1or2  |            |                         | 2        | (※)                                 |
|                      | グリーンプロセス工学論<br>Green Process Engineering               | 1or2  |            |                         | 2        | (※)                                 |
|                      | 熱流体プロセス工学特論<br>Thermal Fluid Process Engineering       | 1or2  |            |                         | 2        | (※)                                 |
|                      | Complex Fluid Dynamics                                 | 1or2  |            |                         | 2        |                                     |
|                      | Advanced Surface Control Engineering                   | 1or2  |            |                         | 2        |                                     |
|                      | Special Lecture on Chemical Engineering I              | 1or2  |            |                         | 1        |                                     |
|                      | Special Lecture on Chemical Engineering II             | 1or2  |            |                         | 1        |                                     |

※ The subject marked(※) in Remarks column offers the class in English in addition to the same class in Japanese. The overlapped subject is not recognized as credit.

## 【Requirement for Completion】

- (1) Core Subjects: More than 8 credits.
- (2) Compulsory Specialized Subjects: 8 credits [Research 4 subjects, Seminar 4 subjects].
- (3) Common Subjects: More than 2 credits of subject of 'MOT'.
- (4) More than 12 credits are required from Compulsory but optional subjects of Specialized Subjects , Core Subjects [except the credits in (1)] and Optional Subjects.
- (5) Subjects offered in the other departments(Special Lecture is excluded) and other graduate school(Special Lecture is excluded)

**Total: 30 credits are required.**

\*Interdisciplinary Program Student should get the program's Subjects more than 8 credits.

These Subjects are able to be included in the credits for (4).

## Applied Chemistry(Master's program)

| Segment       | Class Subject                                    | Grade | Credit | Remarks |
|---------------|--|-------|--------|---------|
| Core Subjects | 触媒化学論<br>Advanced Catalysis Chemistry            | 1or2  | 2      | (※)     |
|               | 応用無機化学論<br>Advanced Applied Inorganic Chemistry  | 1or2  | 2      | (※)     |
|               | 有機材料化学論<br>Organic Materials Chemistry           | 1or2  | 2      | (※)     |
|               | 高分子合成化学論<br>Advanced Synthetic Polymer Chemistry | 1or2  | 2      | (※)     |
|               | 機能性色素化学論<br>Functional Dye Chemistry             | 1or2  | 2      | (※)     |
|               | 分析化学論<br>Advanced Analytical Chemistry           | 1or2  | 2      | (※)     |
|               | 超分子化学論<br>Supramolecular Chemistry               | 1or2  | 2      | (※)     |
|               | 高分子材料化学論<br>Polymer Materials Chemistry          | 1or2  | 2      | (※)     |

| Segment                    | Class Subject  | Grade | Credit     |                         |          | Remarks                                |
|----------------------------|--|-------|------------|-------------------------|----------|--|
|                            |  |       | Compulsory | Compulsory but optional | Optional |  |
| 専門科目Ⅲ Specialized Subjects | 応用化学講究ⅠA<br>Directed Study in Applied ChemistryⅠA          | 1     | 1          |                         |          | (※)                                    |
|                            | 応用化学講究ⅠB<br>Directed Study in Applied ChemistryⅠB          | 1     | 1          |                         |          | (※)                                    |
|                            | 応用化学講究ⅡA<br>Directed Study in Applied ChemistryⅡA          | 2     | 1          |                         |          | (※)                                    |
|                            | 応用化学講究ⅡB<br>Directed Study in Applied ChemistryⅡB          | 2     | 1          |                         |          | (※)                                    |
|                            | 応用化学セミナーⅠA<br>Seminar in Applied ChemistryⅠA               | 1     | 1          |                         |          | (※)                                    |
|                            | 応用化学セミナーⅠB<br>Seminar in Applied ChemistryⅠB               | 1     | 1          |                         |          | (※)                                    |
|                            | 応用化学セミナーⅡA<br>Seminar in Applied ChemistryⅡA               | 2     | 1          |                         |          | (※)                                    |
|                            | 応用化学セミナーⅡB<br>Seminar in Applied ChemistryⅡB               | 2     | 1          |                         |          | (※)                                    |
|                            | Physical Properties of Organic Compounds                   | 1or2  |            |                         | 2        |  |
|                            | Applied Analytical Chemistry                               | 1or2  |            |                         | 2        |  |
|                            | Advanced Organic Reactions                                 | 1or2  |            |                         | 2        |  |
|                            | Environmental Polymer Chemistry                            | 1or2  |            |                         | 2        |  |
|                            | Advanced Magnetic Resonance in Chemistry                   | 1or2  |            |                         | 2        |  |
|                            | Advanced ordered porous material                           | 1or2  |            |                         | 2        |  |
|                            | Advanced Functional Materials Chemistry                    | 1or2  |            |                         | 2        |  |
|                            | Developing Debating Skills                                 | 1or2  |            |                         | 1        |  |
|                            | 平衡・輸送物性特論<br>Advanced Equilibrium and Transport Properties | 1or2  |            |                         | 2        | (※)<br>Subject of Chemical Engineering |
|                            | グリーンプロセス工学論<br>Green Process Engineering                   | 1or2  |            |                         | 2        | (※)<br>Subject of Chemical Engineering |
|                            | 微粒子工学論<br>Fine Particle Technology                         | 1or2  |            |                         | 2        | (※)<br>Subject of Chemical Engineering |
|                            | 物質移動特論<br>Advanced Mass Transfer                           | 1or2  |            |                         | 2        | (※)<br>Subject of Chemical Engineering |
|                            | 伝熱工学特論<br>Advanced Heat Transfer Engineering               | 1or2  |            |                         | 2        | (※)<br>Subject of Chemical Engineering |
|                            | 流動解析論<br>Fluid Dynamics Analysis                           | 1or2  |            |                         | 2        | (※)<br>Subject of Chemical Engineering |
|                            | Special Lecture on Applied ChemistryⅠ                      | 1or2  |            |                         | 1        |  |
|                            | Special Lecture on Applied ChemistryⅡ                      | 1or2  |            |                         | 1        |  |
|                            | Special Lecture on Applied ChemistryⅢ                      | 1or2  |            |                         | 1        |  |
|                            | Special Lecture on Applied ChemistryⅣ                      | 1or2  |            |                         | 1        |  |

※ The subject marked(※) in Remarks column offers the class in English in addition to the same class in Japanese.  
The overlapped subject is not recognized as credit.

## 【Requirement for Completion】

- (1) Core Subjects: More than 8 credits.
- (2) Compulsory Specialized Subjects: 8 credits [Research 4 subjects, Seminar 4 subjects].
- (3) Common Subjects: More than 2 credits of subject of 'MOT'.
- (4) More than 12 credits are required from Compulsory but optional subjects of Specialized Subjects , Core Subjects [except the credits in (1)] and Optional Subjects.
- (5) Subjects offered in the other departments and other graduate school

**Total: 30 credits are required.**

\*Interdisciplinary Program Student should get the program's Subjects more than 8 credits.  
These Subjects are able to be included in the credits for (4).

Civil and Environmental Engineering(Master's program)

| Segment       | Class Subject  | Grade | Credit | Remarks |
|---------------|--|-------|--------|---------|
| Core Subjects | 地盤工学特論<br>Advanced Geotechnical Engineering                                | 1or2  | 2      | (※)     |
|               | コンクリート構造特論<br>Advanced Structural Concrete                                 | 1or2  | 2      | (※)     |
|               | 構造力学特論<br>Advanced Structural Engineering                                  | 1or2  | 2      | (※)     |
|               | Infrastructure and Regional Planning                                       | 1or2  | 2      |         |
|               | Advanced Environmental Systems Engineering                                 | 1or2  | 2      |         |
|               | Environmental Fluid Mechanics  | 1or2  | 2      |         |
|               | 環境保全工学特論<br>Advanced Environmental Protection Engineering                  | 1or2  | 2      | (※)     |
|               | 気象学特論<br>Advanced Meteorology  | 1or2  | 2      | (※)     |
|               | 沿岸環境工学特論<br>Advanced Environmental Coastal Engineering                     | 1or2  | 2      | (※)     |
|               | Management of Natural Disasters  | 1or2  | 2      |         |
|               | Advanced Technical English Writing for Civil and Environmental Engineering | 1or2  | 2      |         |

| Segment                    | Class Subject   | Grade | Credit     |                         |          | Remarks |
|----------------------------|---|-------|------------|-------------------------|----------|---------|
|                            |   |       | Compulsory | Compulsory but optional | Optional |         |
| 専門科目(Specialized Subjects) | 社会基盤環境工学講究 I A<br>Civil and Environmental Engineering Research I A    | 1     | 1          |                         |          | (※)     |
|                            | 社会基盤環境工学講究 I B<br>Civil and Environmental Engineering Research I B    | 1     | 1          |                         |          | (※)     |
|                            | 社会基盤環境工学講究 II A<br>Civil and Environmental Engineering Research II A  | 2     | 1          |                         |          | (※)     |
|                            | 社会基盤環境工学講究 II B<br>Civil and Environmental Engineering Research II B  | 2     | 1          |                         |          | (※)     |
|                            | 社会基盤環境工学セミナー I A<br>Civil and Environmental Engineering Seminar I A   | 1     | 1          |                         |          | (※)     |
|                            | 社会基盤環境工学セミナー I B<br>Civil and Environmental Engineering Seminar I B   | 1     | 1          |                         |          | (※)     |
|                            | 社会基盤環境工学セミナー II A<br>Civil and Environmental Engineering Seminar II A | 2     | 1          |                         |          | (※)     |
|                            | 社会基盤環境工学セミナー II B<br>Civil and Environmental Engineering Seminar II B | 2     | 1          |                         |          | (※)     |
|                            | 構造材料学特論<br>Advanced Structural Materials                              | 1or2  |            |                         | 2        | (※)     |
|                            | Transportation Engineering  | 1or2  |            |                         | 2        |         |
|                            | Regional and Urban Engineering  | 1or2  |            |                         | 2        |         |
|                            | Advanced River Engineering  | 1or2  |            |                         | 2        |         |
|                            | 応用気象工学<br>Advanced Meteorological Engineering                         | 1or2  |            |                         | 2        | (※)     |
|                            | 環境リスク制御工学特論<br>Environmental risk management                          | 1or2  |            |                         | 2        | (※)     |
|                            | Special Exercises in Civil and Environmental Engineering I            | 1or2  |            |                         | 1        |         |
|                            | Special Exercises in Civil and Environmental Engineering II           | 1or2  |            |                         | 1        |         |
|                            | Special Exercises in Civil and Environmental Engineering III          | 1or2  |            |                         | 1        |         |
|                            | Special Exercises in Civil and Environmental Engineering IV           | 1or2  |            |                         | 1        |         |
|                            | Special Lecture on Civil and Environmental Engineering I              | 1or2  |            |                         | 1        |         |
|                            | Special Lecture on Civil and Environmental Engineering II             | 1or2  |            |                         | 1        |         |
|                            | Special Lecture on Civil and Environmental Engineering III            | 1or2  |            |                         | 1        |         |
|                            | Special Lecture on Civil and Environmental Engineering IV             | 1or2  |            |                         | 1        |         |

\* The subject marked(※) in Remarks column offers the class in English in addition to the same class in Japanese. The overlapped subject is not recognized as credit.

Requirement for Completion (Except Student of Phoenix Leader Education Program, Double Degree Program with National Central University (NCU) and Japanese Grant Aid for Human Resource Development Scholarship Program (JDS))

- (1) Core Subjects: 8 credits.
- (2) Compulsory Specialized Subjects: 8 credits [Research 4 subjects, Seminar 4 subjects].
- (3) Common Subjects: More than 2 credits of subject of 'MOT'.
- (4) More than 10 credits are required from Core Subjects [except the credits in (1)] , Optional Subjects and Subjects offered in the other departments(Special Lecture is excluded).
- (5) Subjects offered in the other graduate school(Special Lecture is excluded)

**Total: 30 credits are required.**

\*Interdisciplinary Program Student should get the program's Subjects more than 8 credits.

These Subjects are able to be included in the credits for (4).

**[Requirement for Completion](Only for Student of Phoenix Leader Education Program)**

- (1) Core Subjects: 8 credits.(You can include 4 credits of 'Introduction to Environmental Radiation', 'Historical Review of Radiation Casualty', 'Radiation Physics' and 'Measurement and Detection of Radiation'.)
- (2) Compulsory Specialized Subjects: 8 credits [Research 4 subjects, Seminar 4 subjects].
- (3) Common Subjects: More than 2 credits of subject of 'MOT'.
- (4) More than 10 credits are required from Core Subjects [except the credits in (1)] ,Optional Subjects and Subjects offered in the other departments(Special Lecture is excluded.)(You can include 8 credits of Subjects of Phoenix Leader Education Program in Graduate School of Engineering.)
- (5) Subjects offered in the other graduate school(Special Lecture is excluded)

**Total: 30 credits are required.**

**[Requirement for Completion](Only for Student of Double Degree Program with NCU)**

- (1) Core Subjects: 8 credits.(You can include within 4 credits from Subjects of NCU written in appended Table-1.)
- (2) Compulsory Specialized Subjects: 8 credits [Research 4 subjects, Seminar 4 subjects].
- (3) Common Subjects: More than 2 credits of subject of 'MOT'.
- (4) More than 10 credits are required from Core Subjects [except the credits in (1)] ,Optional Subjects and Subjects offered in the other departments(Special Lecture is excluded.)(You can include within 6 credits from Subjects of NCU written in appended Table-2.)
- (5) Subjects offered in the other graduate school(Special Lecture is excluded)

**Total: 30 credits are required.**

**[Requirement for Completion](Only for Students of Japanese Grant Aid for Human Resource Development Scholarship)**

- (1)Core Subjects: 8 credits (You can include 4 credits totally from 2 credits of Environmental Management and Economic Development and Policy and from 2 credits of Developing Designing Ability, Graduate Writing I, and Graduate Writing II offered at IDEC.)
- (2)Compulsory Specialized Subjects: 8 credits [Research 4 subjects and Seminar 4 subjects]
- (3)Common Subjects: More than 2 credits of subject of MOT.
- (4)More than 10 credits are required from Core Subjects [except the credits in (1)], Optional Subjects, Subjects offered in the other department of Engineering and in the Division of Development Science of IDEC (Special Lecture is excluded.)
- (5)Subjects offered in the other graduate school (Special Lecture is excluded.)

**Total: 30 credits are required.**

社会基盤環境工学専攻（博士課程前期）  
ダブルディグリープログラム(台湾国立中央大学)（コア科目）

| 科目区分  | 科目名  | 台湾国立中央大学における単位数 | 広島大学が認定する単位数 |
|---|--|-----------------|--------------|
| コア科目  | Experimental Soil Mechanics                  | 3               | 2            |
|   | Groundwater and Seepage                      | 3               | 2            |
|   | Structural Dynamics                          | 3               | 2            |
|   | Finite Element                               | 3               | 2            |
|   | Physical & Chemical Properties of Cement     | 3               | 2            |
|   | Instrumentation for Material Research        | 3               | 2            |
|   | Environmental Fluid Mechanics                | 3               | 2            |
|   | Fluid Dynamics                               | 3               | 2            |
|   | Transportation Engineering.                  | 3               | 2            |
|   | Transportation Planning & Networks           | 3               | 2            |
|   | Satellite Geodesy and Navigation             | 3               | 2            |
|   | Digital Photogrammetry                       | 3               | 2            |
|   | Geographical Information Systems             | 3               | 2            |
|   | Data Mining in Engineering                   | 3               | 2            |
|   | Environment and Disaster Monitoring Practice | 3               | 2            |
| Spatio-Temporal Environmental Data Analysis and Visualization | 3  | 2               |              |

ダブルディグリープログラム(台湾国立中央大学)（専門科目）

| 科目区分  | 科目名  | 台湾国立中央大学における単位数 | 広島大学が認定する単位数 |
|---|--|-----------------|--------------|
| 専門科目  | Applied Soil Mechanics I   | 3               | 3            |
|   | Soil Dynamics  | 3               | 3            |
|   | Slope Engineering  | 3               | 3            |
|   | Soil Improvement   | 3               | 3            |
|   | Moderate Soil Mechanics  | 3               | 3            |
|   | Rock Mechanics   | 3               | 3            |
|   | Finite Element Method II   | 3               | 3            |
|   | Continuum Mechanics  | 3               | 3            |
|   | Bridge Engineering   | 3               | 3            |
|   | Elasticity   | 3               | 3            |
|   | Plasticity   | 3               | 3            |
|   | Plastic Analysis and Design for Steel                                      | 3               | 3            |
|   | Structure Design in Tall Building  | 3               | 3            |
|   | Vector Mechanics of Structures and Solids                                  | 3               | 3            |
|   | Asphalt Concrete Mix Design  | 3               | 3            |
|   | Green Building Industry Sustainable Development                            | 3               | 3            |
|   | Pavement Design of Highway   | 3               | 3            |
|   | Behavior of Hardened Concrete  | 3               | 3            |
|   | Water Resources Systems Engineering  | 3               | 3            |
|   | Soil and Water Conservation Engineering                                    | 3               | 3            |
|   | Optimum Design and Management  | 3               | 3            |
|   | Computer Algorithms in Transportation                                      | 3               | 3            |
|   | Traffic Control  | 3               | 3            |
|   | Spatial Data Analysis and Applications                                     | 3               | 3            |
|   | Geographical Information Systems   | 3               | 3            |
|   | Aerial Photogrammetry  | 3               | 3            |
|   | Practical Programming for Image Analysis                                   | 3               | 3            |
|   | LabView Software System Design   | 3               | 3            |
|   | Traffic Flow Theory  | 3               | 3            |
|   | Mathematical Planning  | 3               | 3            |
|   | Technical Writing for Engineers  | 1               | 1            |
|   | Engineering Computations and Software Applications                         | 3               | 3            |
|   | Earthquake Disaster Reduction  | 2               | 2            |
|   | Geotechnical Earthquake Engineering  | 2               | 2            |
|   | Management Systems in Pavement Maintain                                    | 3               | 3            |
|   | Digital Terrain and City Modeling  | 3               | 3            |
|   | Mobile Application Design and Implementation for Smart Disaster Mitigation | 3               | 3            |
|   | Advanced Strength of Materials   | 3               | 3            |
|   | Advanced Soil Mechanics  | 3               | 3            |
|   | Advanced Reinforced Concrete   | 3               | 3            |
|   | Foundation Design  | 3               | 3            |
|   | Insurance Quality in Civil Materials                                       | 3               | 3            |
|   | Research Methods   | 3               | 3            |
|   | Application of Artificial Intelligent in Civil Engineering                 | 3               | 3            |
|   | Cloud-based Geographic Information System                                  | 3               | 3            |
|   | Structural Stability   | 3               | 3            |
|   | Engineering Database   | 3               | 3            |
| Advanced Foundation Engineering                           | 3  | 3               |              |
| Centrifuge modeling technique and data analysis           | 3  | 3               |              |
| Geotechnical reliability and risk assessment              | 3  | 3               |              |
| Internet of Things and Smart Structural Health Monitoring | 3  | 3               |              |
| Plastic Analysis and Design for Steel                     | 3  | 3               |              |
| System Analysis and Design for Engineering                | 3  | 3               |              |
| Land Hydrological Processes                               | 3  | 3               |              |
| Applied Numerical Methods                                 | 3  | 3               |              |
| Scientific Computing                                      | 3  | 3               |              |

Transportation and Environmental Systems(Master's program)

| Segment | Class Subject   | Grade | Credit | Remarks |
|---------|---|-------|--------|---------|
|         | 構造計測制御特論<br>Advanced Instrumentation and Control for Structures | 1or2  | 2      | (※)     |
|         | 材料力学特論<br>Advanced Strength of Material                         | 1or2  | 2      | (※)     |
|         | 有限要素法特論<br>Advanced Finite Element Method                       | 1or2  | 2      | (※)     |
|         | 環境シミュレーション特論<br>Simulation of Environmental Mechanics           | 1or2  | 2      | (※)     |
|         | 海上輸送機器計画特論<br>Initial Design of Marine Vehicles                 | 1or2  | 2      | (※)     |
|         | 輸送機器耐空・耐航性能特論<br>Airworthiness and Seakeeping for the Vehicles  | 1or2  | 2      | (※)     |
|         | システム計画学特論<br>System Planning                                    | 1or2  | 2      | (※)     |

| Segment                      | Class Subject   | Grade | Credit     |                         |          | Remarks |
|------------------------------|---|-------|------------|-------------------------|----------|---------|
|                              |   |       | Compulsory | Compulsory but optional | Optional |         |
| 専攻科目<br>Specialized Subjects | 輸送・環境システム講究 I A<br>Transportation and Environmental Systems Research I A    | 1     | 1          |                         |          | (※)     |
|                              | 輸送・環境システム講究 I B<br>Transportation and Environmental Systems Research I B    | 1     | 1          |                         |          | (※)     |
|                              | 輸送・環境システム講究 II A<br>Transportation and Environmental Systems Research II A  | 2     | 1          |                         |          | (※)     |
|                              | 輸送・環境システム講究 II B<br>Transportation and Environmental Systems Research II B  | 2     | 1          |                         |          | (※)     |
|                              | 輸送・環境システムセミナー I A<br>Transportation and Environmental Systems Seminar I A   | 1     | 1          |                         |          | (※)     |
|                              | 輸送・環境システムセミナー I B<br>Transportation and Environmental Systems Seminar I B   | 1     | 1          |                         |          | (※)     |
|                              | 輸送・環境システムセミナー II A<br>Transportation and Environmental Systems Seminar II A | 2     | 1          |                         |          | (※)     |
|                              | 輸送・環境システムセミナー II B<br>Transportation and Environmental Systems Seminar II B | 2     | 1          |                         |          | (※)     |
|                              | 計算破壊力学特論<br>Computational Fracture Mechanics                                | 1or2  |            |                         | 2        | (※)     |
|                              | 構造計測制御特論<br>Advanced Instrumentation and Control for Structures             | 1or2  |            |                         | 2        | (※)     |
|                              | 環境エネルギー特論<br>Energy and Environmental Engineering                           | 1or2  |            |                         | 2        | (※)     |
|                              | 計算海洋流体力学特論<br>Computed Marine Hydrodynamics                                 | 1or2  |            |                         | 2        | (※)     |
|                              | 輸送機器操縦・制御特論<br>Maneuvering and Control of Vehicles                          | 1or2  |            |                         | 2        | (※)     |
|                              | 最適設計特論<br>Advanced Optimal Design   | 1or2  |            |                         | 2        | (※)     |
|                              | リモートセンシング特論<br>Advanced Remote Sensing Engineering                          | 1or2  |            |                         | 2        | (※)     |
|                              | Transportation and Environmental Systems Internship                         | 1or2  |            |                         | 1        |         |
|                              | Special Lecture on Transportation and Environmental Systems I               | 1or2  |            |                         | 1        |         |
|                              | Special Lecture on Transportation and Environmental Systems II              | 1or2  |            |                         | 1        |         |
|                              | Special Lecture on Transportation and Environmental Systems III             | 1or2  |            |                         | 1        |         |
|                              | Special Lecture on Transportation and Environmental Systems IV              | 1or2  |            |                         | 1        |         |

※ The subject marked(※) in Remarks column offers the class in English in addition to the same class in Japanese.  
The overlapped subject is not recognized as credit.

**【Requirement for Completion】**

- (1) Core Subjects: More than 8 credits.
- (2) Compulsory Specialized Subjects: 8 credits [Research 4 subjects, Seminar 4 subjects].
- (3) Common Subjects: More than 2 credits of subject of 'MOT'.
- (4) More than 8 credits are required from Optinal Subjects ,Core Subjects [except the credits in (1)] and Subjects offered in the other departments(Special Lecture is excluded).
- (5) Subjects offered in the other graduate school(Special Lecture is excluded)

**Total: 30 credits are required.**

\*Interdisciplinary Program Student should get the program's Subjects more than 8 credits.  
These Subjects are able to be included in the credits for (4).

Architecture(Master's program)

| Segment       | Class Subject  | Grade | Credit | Remarks |
|---------------|--|-------|--------|---------|
| Core Subjects | 建築環境設備学特論<br>Advanced Architectural Environment and Building Service | 1or2  | 2      | (※)     |
|               | 建築設計学特論<br>Advanced Architectural Project                            | 1or2  | 2      | (※)     |
|               | 都市環境計画特論<br>Advanced Urban Environmental Planning                    | 1or2  | 2      | (※)     |
|               | 鋼構造設計法特論<br>Advanced Design of Steel Structures                      | 1or2  | 2      | (※)     |
|               | 鉄筋コンクリート構造特論<br>Advanced Reinforced Concrete Structures              | 1or2  | 2      | (※)     |
|               | 建築物性能設計法特論<br>Advanced Performance Design of Buildings               | 1or2  | 2      | (※)     |
|               | 建築構工法特論<br>Structure and Construction Techniques of Buildings        | 1or2  | 2      | (※)     |
|               | 建築構造物振動特論<br>Dynamics of Building-Structure                          | 1or2  | 2      | (※)     |
|               | 建築企画・計画特論<br>Advanced Architectural Planning and Programming         | 1or2  | 2      | (※)     |
|               | 建築空間理論特論<br>Advanced Lecture for Architectural Theory of Space       | 1or2  | 2      | (※)     |
|               | 木質構造特論<br>Advanced Timber Structures                                 | 1or2  | 2      | (※)     |

| Segment | Class Subject  | Grade | Credit     |                         |          | Remarks   |
|---------|--|-------|------------|-------------------------|----------|---|
|         |  |       | Compulsory | Compulsory but optional | Optional |   |
|         | 建築学講究 I A<br>Directed Study in Architecture I A                                    | 1     | 1          |                         |          | (※)   |
|         | 建築学講究 I B<br>Directed Study in Architecture I B                                    | 1     | 1          |                         |          | (※)   |
|         | 建築学講究 II A<br>Directed Study in Architecture II A                                  | 2     | 1          |                         |          | (※)   |
|         | 建築学講究 II B<br>Directed Study in Architecture II B                                  | 2     | 1          |                         |          | (※)   |
|         | 建築学セミナー I A<br>Seminar in Architecture I A   | 1     | 1          |                         |          | (※)   |
|         | 建築学セミナー I B<br>Seminar in Architecture I B   | 1     | 1          |                         |          | (※)   |
|         | 建築学セミナー II A<br>Seminar in Architecture II A                                       | 2     | 1          |                         |          | (※)   |
|         | 建築学セミナー II B<br>Seminar in Architecture II B                                       | 2     | 1          |                         |          | (※)   |
|         | 人間環境工学特論<br>Advanced Human Environmental Engineering                               | 1or2  |            |                         | 2        | (※)   |
|         | 環境・建築設計 I<br>Environmental & Architectural Design I                                | 1or2  |            |                         | 2        | (※)   |
|         | 環境・建築設計 II<br>Environmental & Architectural Design II                              | 1or2  |            |                         | 1        | (※)   |
|         | 基礎地盤防災特論<br>Advanced Ground Disaster Prevention                                    | 1or2  |            |                         | 2        | (※)   |
|         | 建築都市地震工学特論<br>Advanced Theory of Earthquake Engineering                            | 1or2  |            |                         | 2        | (※)   |
|         | サステナブル建築特論<br>Advanced Theory for Sustainable Architecture                         | 1or2  |            |                         | 2        | (※)   |
|         | 建築物設計荷重演習<br>Practice of Loads on Buildings  | 1or2  |            |                         | 1        | (※)   |
|         | 鉄筋コンクリート構造設計法演習<br>Practice of Structural Design for Reinforced Concrete Structure | 1or2  |            |                         | 1        | (※)   |
|         | 鋼構造設計法演習<br>Practice of Structural Design for Steel Structures                     | 1or2  |            |                         | 1        | (※)   |
|         | Architectural Design Internship  | 1or2  |            |                         | 4        | ・NOT subject to requirement for completion<br>・Whole year subject |
|         | Special Lecture on Architecture I  | 1or2  |            |                         | 1        |   |
|         | Special Lecture on Architecture II   | 1or2  |            |                         | 1        |   |
|         | Special Lecture on Architecture III  | 1or2  |            |                         | 1        |   |
|         | Special Lecture on Architecture IV   | 1or2  |            |                         | 1        |   |
|         | Special Lecture on Architecture V  | 1or2  |            |                         | 1        |   |
|         | Special Lecture on Architecture VI   | 1or2  |            |                         | 1        |   |

※ The subject marked(※) in Remarks column offers the class in English in addition to the same class in Japanese. The overlapped subject is not recognized as credit.

【Requirement for Completion】

- (1) Core Subjects: More than 8 credits.
- (2) Compulsory Specialized Subjects: 8 credits [Research 4 subjects, Seminar 4 subjects].
- (3) Common Subjects: More than 2 credits of subject of 'MOT'.
- (4) More than 8 credits are required from Optional Subjects[except 'Architectural Design Internship'] ,Core Subjects [except the credits in (1)] .
- (5) Subjects offered in the other departments and other graduate school(Special Lecture is excluded)

**Total: 30 credits are required.**

\*Interdisciplinary Program Student should get the program's Subjects more than 8 credits. These Subjects are able to be included in the credits for (4).



## Common Subjects(Master's program)

| Segment                          | Class Subject  | Grade | Credit     |                         |   | Remarks  |
|----------------------------------|--|-------|------------|-------------------------|---|--|
|                                  |  |       | Compulsory | Compulsory but optional | Optional                                  |  |
| Common Subjects                  | Pre Academic English II                                    | 1or2  |            |                         | 2   |  |
|                                  | Advanced English I   | 1or2  |            |                         | 2   |  |
|                                  | International Joint Research I                             | 1or2  |            |                         | 1   |  |
|                                  | International Joint Research II                            | 1or2  |            |                         | 1   |  |
|                                  | International Internship                                   | 1or2  |            |                         | 1   |  |
|                                  | PBL for Technology Transfer                                | 1or2  |            |                         | 2   |  |
|                                  | MOT and Venture Business(MOT-1)                            | 1or2  |            |                         | 2   | Acquire 2 credits from the following subjects. |
|                                  | Technology Strategy for Management(MOT-2)                  | 1or2  |            |                         | 2   |  |
|                                  | Intellectual Property, Finance and Accounting(MOT-3)       | 1or2  |            |                         | 2   |  |
|                                  | Technology Transfer(MOT-4)                                 | 1or2  |            |                         | 2   |  |
|                                  | MOT and Venture Business(MOT-E1)                           | 1or2  |            |                         | 2   |  |
|                                  | Technology Transfer(MOT-E2)                                | 1or2  |            |                         | 2   |  |
|                                  | Special Topics in Synchrotron Radiation Science I          | 1or2  |            |                         | 2   | Graduate School of Science                     |
|                                  | Special Topics in Synchrotron Radiation Science II         | 1or2  |            |                         | 2   | Graduate School of Science                     |
|                                  | PBL for International Reseach on Engineering Field (Basic) | 1or2  |            |                         | 2   |  |
|                                  | 共同セミナー   | 1or2  |            |                         | 2   |  |
| Sustainability Materials Science | 1or2   |       |            | 2                       | Institute for Advanced Materials Research |  |

\* Above mentioned subjects are not corresponded to "Subjects offered in the other departments".

## Common Subjects(Docter's program)

| Segment        | Class Subject   | Grade | Credit     |                         |          | Remarks |
|----------------|---|-------|------------|-------------------------|----------|---------|
|                |   |       | Compulsory | Compulsory but optional | Optional |         |
| Common Subject | PBL for International Reseach on Engineering Field (Advanced) | 1~3   |            |                         | 2        |         |

Interdisciplinary Programs (for students in the Master's Program)

The Interdisciplinary Programs enable students to acquire knowledge and skills beyond their areas of specialization while still remaining anchored in their majors. The special educational focus of these Programs is cutting-edge technological fields that emerge from the integration of different scientific disciplines. Students are required to select one Program from among those listed below (note that choice is limited according to Department).

**Biomass** 【Target Department : Mechanical Systems Engineering, Mechanical Science and Engineering, Chemical Engineering】

Educational objectives:

This Program focuses on biomass, of which practical application and technological development are sought after for society due to its renewable and carbon-neutral properties. Based on their knowledge in Mechanical Engineering and Chemical Engineering, students will acquire basic knowledge about technologies and systems for effective biomass utilization and understand the current status of biomass research and development. The students will also study the methodologies of mechanical engineering- and chemical engineering-based practical application as example biomass utilizations. Ultimately, the Program aims to train future specialists who will work on utilization technologies and system development for biomass, which is in great societal demand.

| Segment                    | Class Subject                | Grade | Credit     |                         |          | Remarks |
|----------------------------|------------------------------|-------|------------|-------------------------|----------|---------|
|                            |                              |       | Compulsory | Compulsory but optional | Optional |         |
| Interdisciplinary Subjects | 熱工学特論                        | 1or2  |            |                         | 2        | (※)     |
|                            | Advanced Thermal Engineering |       |            |                         |          |         |
|                            | 燃焼工学特論                       | 1or2  |            |                         | 2        |         |
|                            | Combustion                   | 1or2  |            |                         | 2        |         |
|                            | Advanced Energy Plant        | 1or2  |            |                         | 2        |         |
|                            | Advanced Biomass Resources   | 1or2  |            |                         | 2        |         |
|                            | Advanced Biofuel Engineering | 1or2  |            |                         | 2        |         |
|                            | グリーンプロセス工学論                  | 1or2  |            |                         | 2        | (※)     |
| Green Process Engineering  |                              |       |            |                         |          |         |

※ The subject marked(※) in Remarks column offers the class in English in addition to the same class in Japanese. The overlapped subject is not recognized as credit.

Hyper-Human Technology (program open to students in the Departments of Mechanical Systems Engineering, Mechanical Science and Engineering, System Cybernetics, Information Engineering, and Chemical Engineering)

Educational objectives:

The main theme of this Program, Hyper-Human Technology, is the collective term for measuring, information-processing, and control technologies that largely surpass the humanly-possible levels of excellence. The development of Hyper-Human Technology, combining robotics, bio-engineering, image engineering and other branches of engineering, aims at creating innovative new technologies and realizing their practical applications that cover not only engineering but medicine, welfare, biological production, etc. The Program therefore aims at leading the students to acquire knowledge and skills with which they will, on the basis of the results of the 21st COE research project "Hyper-Human Technology toward 21st-century Industrial Revolution," search for interdisciplinary solutions to societal problems by integrating technologies according to societal needs.

| Segment                                 | Class Subject                                   | Grade | Credit     |                         |          | Remarks |
|---|---|-------|------------|-------------------------|----------|---------|
|   |   |       | Compulsory | Compulsory but optional | Optional |         |
| Interdisciplinary Subjects              | Control System Design                           | 1or2  |            |                         | 2        |         |
|   | ハイパーヒューマン工学特論                                   | 1or2  |            |                         | 2        | (※)     |
|   | Hyper Human Engineering                         |       |            |                         |          |         |
|   | サイバネティクス工学特論                                    | 1or2  |            |                         | 2        | (※)     |
|   | Advanced Cybernetics Engineering                |       |            |                         |          |         |
|   | ロボティクス特論  | 1or2  |            |                         | 2        | (※)     |
|   | Advanced Robotics                               |       |            |                         |          |         |
|   | Advanced Biosystems Engineering                 | 1or2  |            |                         | 2        |         |
|   | Advanced Scientific Visualization Methodologies | 1or2  |            |                         | 2        |         |
|   | Database Engineering                            | 1or2  |            |                         | 2        |         |
| Image Analysis and Synthesis Technology | 1or2  |       |            | 2                       |          |         |

※ The subject marked(※) in Remarks column offers the class in English in addition to the same class in Japanese. The overlapped subject is not recognized as credit.

Green Chemistry (program open to students in the Departments of Chemical Engineering and Applied Chemistry)

Educational objectives:

To reconcile technological development with global environmental protection, it is essential to expand the use of functional chemical materials while securing their safety. Meanwhile, it is becoming increasingly important to tackle environmental problems through chemical approaches. In view of this situation, the Program aims at conducting research into "green manufacturing," which involves, among other aspects, designing environmentally safe molecules and reactions, developing highly efficient chemical conversions, and employing environment-friendly chemical processes, as well as at preparing the students for such research that may ultimately enable fundamental solutions to be found to the environmental problems.

| Segment                          | Class Subject                                | Grade | Credit     |                         |          | Remarks |
|----------------------------------|--|-------|------------|-------------------------|----------|---------|
|                                  |  |       | Compulsory | Compulsory but optional | Optional |         |
| Interdisciplinary Subjects       | グリーンプロセス工学論                                  | 1or2  |            |                         | 2        | (※)     |
|                                  | Green Process Engineering                    |       |            |                         |          |         |
|                                  | Advanced Environmental Chemistry Engineering | 1or2  |            |                         | 2        |         |
|                                  | 触媒化学論  | 1or2  |            |                         | 2        | (※)     |
|                                  | Advanced Catalysis Chemistry                 |       |            |                         |          |         |
|                                  | Environmental Polymer Chemistry              | 1or2  |            |                         | 2        |         |
| Advanced Ordered Porous Material | 1or2   |       |            | 2                       |          |         |

※ The subject marked(※) in Remarks column offers the class in English in addition to the same class in Japanese. The overlapped subject is not recognized as credit.

General Urban Disaster Reduction (program open to students in the Departments of Civil and Environmental Engineering and Architecture)

Educational objectives:

Japan suffers from 13.4% of the total damage (in monetary value) caused by natural disasters in the world. In the next 30 years, major earthquakes are predicted in the Tokai and Tonankai regions in Japan. At the same time, the threat of flooding in urban centers is growing due to global climate change. The experience of Kobe Port, which lost its previous position as one of the world's major ports following the earthquake, points to the urgency and importance of disaster reduction in urban centers, where population, properties, and production facilities are concentrated. On the other hand, the number of buildings and infrastructural facilities that support urban life and are older than 50 years will remarkably increase in the next 50 years, and their low levels of anti-disaster functionality and resistance is a cause of much societal concern.

| Segment                                   | Class Subject                       | Grade | Credit     |                         |          | Remarks |
|---|-------------------------------------|-------|------------|-------------------------|----------|---------|
|   |                                     |       | Compulsory | Compulsory but optional | Optional |         |
| Interdisciplinary Subjects                | Advanced River Engineering          | 1or2  |            |                         | 2        |         |
|   | 気象学特論                               | 1or2  |            |                         | 2        | (※)     |
|   | Advanced Meteorology                |       |            |                         | 2        |         |
|   | Geotechnical Earthquake Engineering | 1or2  |            |                         | 2        |         |
|   | 構造材料学特論                             | 1or2  |            |                         | 2        | (※)     |
|   | Advanced Structural Materials       |       |            |                         | 2        |         |
|   | 維持管理工学特論                            | 1or2  |            |                         | 2        | (※)     |
|   | Maintenance of Steel Structure      |       |            |                         | 2        |         |
|   | Soft Ground Engineering             | 1or2  |            |                         | 2        |         |
|   | 建築構造物振動特論                           | 1or2  |            |                         | 2        | (※)     |
|   | Dynamics of Building-Structure      |       |            |                         | 2        |         |
|   | 基礎地盤防災特論                            | 1or2  |            |                         | 2        | (※)     |
|   | Advanced Ground Disaster Prevention |       |            |                         | 2        |         |
| 建築都市地震工学特論                                | 1or2                                |       |            | 2                       | (※)      |         |
| Advanced Theory of Earthquake Engineering |                                     |       |            | 2                       |          |         |

※ The subject marked(※) in Remarks column offers the class in English in addition to the same class in Japanese. The overlapped subject is not recognized as credit.

Biosphere Environmental Systems (program open to students in the Departments of Transportation and Environmental Systems and Civil and Environmental

Educational objectives:

Global warming and other global environmental problems which have become aggravated in recent years occur due to interactions of human activities, fluid systems, and ecosystems. This Program aims at training the students so that they may be able to tackle global environmental problems, which manifest themselves as such complex systems, by mobilizing their expertise from a broad academic perspective, ultimately contributing to humankind's sustainable development. To this end, the educational and research focal points of the Program are the measurement and dynamics of global environmental changes, and analysis, assessment, and generation based on chemistry, biology, and ecology.

| Segment   | Class Subject   | Grade | Credit     |                         |                                      | Remarks                              |
|---|---|-------|------------|-------------------------|--------------------------------------|--------------------------------------|
|   |   |       | Compulsory | Compulsory but optional | Optional                             |                                      |
| Interdisciplinary Subjects                              | グリーンプロセス工学論   | 1or2  |            |                         | 2                                    | (※)                                  |
|   | Green Process Engineering   |       |            |                         | 2                                    |                                      |
|   | Advanced Environmental Chemistry Engineering                                  | 1or2  |            |                         | 2                                    |                                      |
|   | Advanced River Engineering  | 1or2  |            |                         | 2                                    |                                      |
|   | 環境保全工学特論  | 1or2  |            |                         | 2                                    | (※)                                  |
|   | Advanced Environmental Protection Engineering                                 |       |            |                         | 2                                    |                                      |
|   | 気象学特論   | 1or2  |            |                         | 2                                    | (※)                                  |
|   | Advanced Meteorology  |       |            |                         | 2                                    |                                      |
|   | 沿岸環境工学特論  | 1or2  |            |                         | 2                                    | (※)                                  |
|   | Advanced Environmental Coastal Engineering                                    |       |            |                         | 2                                    |                                      |
|   | 環境リスク制御工学特論   | 1or2  |            |                         | 2                                    | (※)                                  |
|   | Environmental risk management   |       |            |                         | 2                                    |                                      |
|   | 環境エネルギー特論   | 1or2  |            |                         | 2                                    | (※)                                  |
|   | Energy and Environmental Engineering  |       |            |                         | 2                                    |                                      |
|   | Environmental Analytical Chemistry of Atmosphere and Hydrosphere              | 1or2  |            |                         | 1                                    | Graduate School of Biosphere Science |
|   | Practicum in Environmental Analytical Chemistry of Atmosphere and Hydrosphere | 1or2  |            |                         | 1                                    | Graduate School of Biosphere Science |
|   | Introduction to Aquatic Environmental Ecology                                 | 1or2  |            |                         | 1                                    | Graduate School of Biosphere Science |
|   | Advance in Aquatic Environmental Ecology                                      | 1or2  |            |                         | 1                                    | Graduate School of Biosphere Science |
|   | Numerical Model Analysis of Marine Ecosystem ( Fundamental Course )           | 1or2  |            |                         | 1                                    | Graduate School of Biosphere Science |
|   | Numerical Model Analysis of Marine Ecosystem ( Applied Course )               | 1or2  |            |                         | 1                                    | Graduate School of Biosphere Science |
| Management of Coastal Marine Environment (Introduction) | 1or2  |       |            | 1                       | Graduate School of Biosphere Science |                                      |
| Management of Coastal Marine Environment                | 1or2  |       |            | 1                       | Graduate School of Biosphere Science |                                      |

※ The subject marked(※) in Remarks column offers the class in English in addition to the same class in Japanese. The overlapped subject is not recognized as credit.

## Special Course(Master's Program)

| Segment              | Class Subject  | Semester | Credit     |                         |          | Remarks |
|----------------------|--|----------|------------|-------------------------|----------|---------|
|                      |  |          | Compulsory | Compulsory but optional | Optional |         |
| Core Subjects        | Japanese-Style Business Management and Manufacturing | 1        | 2          |                         |          |         |
|                      | Japanese-Style Manufacturing PBL                     | 2        | 2          |                         |          |         |
|                      | 《Core Subject of belonged Department》                | —        | /          | /                       | /        |         |
| Specialized Subjects | Technology Transfer(MOT-E2)                          | 2        | 2          |                         |          |         |
|                      | Internship   | 2        | 1          |                         |          |         |
|                      | PBL for Technology Transfer                          | 3        | 2          |                         |          |         |
|                      | 《Specialized Subjects of belonged Department》        | —        | /          | /                       | /        |         |
| Common Subjects      | Introductory Business Japanese                       | 1        | 2          |                         |          |         |
|                      | Advanced Business Japanese                           | 2        | 2          |                         |          |         |
|                      | MOT and Venture Business(MOT-1)                      | 2        |            | 2                       |          |         |
|                      | MOT and Venture Business(MOT-E1)                     | 2        |            | 2                       |          |         |
|                      | Technology Strategy for Management(MOT-2)            | 2        |            | 2                       |          |         |
|                      | Intellectual Property, Finance and Accounting(MOT-3) | 3        |            | 2                       |          |         |
|                      | 《Other Common Subjects》                              | —        | /          | /                       | /        |         |

## Requirement for Completion

(Including the exchange student who belonging to the Advanced Global Engineers to Promote International Expansion of Japanese Manufacturers)

- (1) Core Subjects: More than 8 credits are required including 4 credits "Japanese-Style Business Management and Manufacturing" and "Japanese-Style Manufacturing PBL"
  - (2) Specialized Subjects:  
13 credits : [Research 2 subjects, Seminar 2 subjects and 5 credits from above list].  
More than 8 credits : [Specialized Subjects of belonged Department(If it is possible to include Core Subjects to Specialized Subjects, Core Subjects (except the credits in (1))]
  - (3) Common Subjects: More than 6 credits are required including 4 credits of 'Introductory Business Japanese' and 'Advanced Business Japanese'
- Total: 35 credits are required and receive your supervisor's research guidance.**

## Special Course(Master's Program) of Advanced Global Engineers

| Segment              | Class Subject                      | Semester | Credit     |                         |          | Remarks |
|----------------------|------------------------------------|----------|------------|-------------------------|----------|---------|
|                      |                                    |          | Compulsory | Compulsory but optional | Optional |         |
| Basic Subjects       | Technology Transfer(MOT-4)         | 1        |            | 2                       |          |         |
|                      | Technology Transfer(MOT-E2)        | 1        |            | 2                       |          |         |
|                      | Study on Global Engineers          | 1        | 2          |                         |          |         |
| Language and Culture | 日本語コミュニケーション演習                     | 1        |            |                         | 1        |         |
| Practice Subjects    | internship                         | 1        |            |                         | 1        |         |
|                      | PBL for Technology Transfer        | 4        |            |                         | 2        |         |
|                      | Technology Strategy for Management | 4        |            |                         | 2        |         |

## Requirement for Completion

- (1) To fulfill the requirements of your own department.
- (2) Basic Subjects: More than 4 credits.
- (3) Language and Culture.
- (4) Practice Subjects.

## Special Course(Doctral Program)

| Segment              | Class Subject                | Semester | Credit     |                         |          | Remarks |
|----------------------|------------------------------|----------|------------|-------------------------|----------|---------|
|                      |                              |          | Compulsory | Compulsory but optional | Optional |         |
| Specialized Subjects | Technology Transfer(MOT-E2)  | 2        | 2          |                         |          |         |
|                      | Internship                   | 2・3      | 1          |                         |          |         |
|                      | PBL for Technology Transfer  | 3        | 2          |                         |          |         |
|                      | Study on Technology Transfer | 5・6      | 2          |                         |          |         |

## Requirement for Completion

You have to get the credits of 'Directed Study III, IV and V in your Department', in addition to the subject mentioned above, and receive your supervisor's research guidance.

## Special Course(Doctral Program)

Advanced Global Engineers to Promote International Expansion of Japanese Manufacturers

| Segment           | Class Subject                         | Semester | Credit     |                         |          | Remarks |
|-------------------|---------------------------------------|----------|------------|-------------------------|----------|---------|
|                   |                                       |          | Compulsory | Compulsory but optional | Optional |         |
| Practice subjects | International Collaborative Research  | 3~5      | 1          |                         |          |         |
|                   | International Conference Presentation | 3~5      | 1          |                         |          |         |

## Requirement for Completion

You have to get the credits of 'Directed Study III, IV and V in your Department' in addition to the subject mentioned above and receive your supervisor's research guidance.

Class Subjects and Requirement for Completion  
Mechanical Systems Engineering(Doctoral Program)

| Segment              | Class Subject                               | Grade | Credit     |                         |          | Remarks |
|----------------------|---|-------|------------|-------------------------|----------|---------|
|                      |   |       | Compulsory | Compulsory but optional | Optional |         |
| Specialized Subjects | Mechanical Systems Engineering Research III | 1     | 2          |                         |          |         |
|                      | Mechanical Systems Engineering Research IV  | 2     | 2          |                         |          |         |
|                      | Mechanical Systems Engineering Research V   | 3     | 2          |                         |          |         |

Requirement for Completion

You should get the credits of 'Mechanical Systems Engineering Research III, IV and V' and receive your supervisor's research guidance.

Mechanical Science and Engineering(Doctoral Program)

| Segment              | Class Subject                   | Grade | Credit     |                         |          | Remarks |
|----------------------|---------------------------------|-------|------------|-------------------------|----------|---------|
|                      |                                 |       | Compulsory | Compulsory but optional | Optional |         |
| Specialized Subjects | Mechanical Science Research III | 1     | 2          |                         |          |         |
|                      | Mechanical Science Research IV  | 2     | 2          |                         |          |         |
|                      | Mechanical Science Research V   | 3     | 2          |                         |          |         |

Requirement for Completion

You should get the credits of 'Mechanical Science Research III, IV and V' and receive your supervisor's research guidance.

System Cybernetics(Doctoral Program)

| Segment              | Class Subject                            | Grade | Credit     |                         |          | Remarks |
|----------------------|--|-------|------------|-------------------------|----------|---------|
|                      |  |       | Compulsory | Compulsory but optional | Optional |         |
| Specialized Subjects | Directed Study in System Cybernetics III | 1     | 2          |                         |          |         |
|                      | Directed Study in System Cybernetics IV  | 2     | 2          |                         |          |         |
|                      | Directed Study in System Cybernetics V   | 3     | 2          |                         |          |         |

Requirement for Completion

You should get the credits of 'Directed Study in System Cybernetics III, IV and V' and receive your supervisor's research guidance.

Information Engineering(Doctoral Program)

| Segment              | Class Subject                                 | Grade | Credit     |                         |          | Remarks |
|----------------------|---|-------|------------|-------------------------|----------|---------|
|                      |   |       | Compulsory | Compulsory but optional | Optional |         |
| Specialized Subjects | Directed Study in Information Engineering III | 1     | 2          |                         |          |         |
|                      | Directed Study in Information Engineering IV  | 2     | 2          |                         |          |         |
|                      | Directed Study in Information Engineering V   | 3     | 2          |                         |          |         |

Requirement for Completion

You should get the credits of 'Directed Study in Information Engineering III, IV and V' and receive your supervisor's research guidance.

Chemical Engineering(Doctoral Program)

| Segment              | Class Subject                     | Grade | Credit     |                         |          | Remarks |
|----------------------|-----------------------------------|-------|------------|-------------------------|----------|---------|
|                      |                                   |       | Compulsory | Compulsory but optional | Optional |         |
| Specialized Subjects | Chemical Engineering Research III | 1     | 2          |                         |          |         |
|                      | Chemical Engineering Research IV  | 2     | 2          |                         |          |         |
|                      | Chemical Engineering Research V   | 3     | 2          |                         |          |         |

Requirement for Completion

You should get the credits of 'Chemical Engineering Research III, IV and V' and receive your supervisor's research guidance.

Applied Chemistry(Doctoral Program)

| Segment              | Class Subject                           | Grade | Credit     |                         |          | Remarks |
|----------------------|---|-------|------------|-------------------------|----------|---------|
|                      |   |       | Compulsory | Compulsory but optional | Optional |         |
| Specialized Subjects | Directed Study in Applied Chemistry III | 1     | 2          |                         |          |         |
|                      | Directed Study in Applied Chemistry IV  | 2     | 2          |                         |          |         |
|                      | Directed Study in Applied Chemistry V   | 3     | 2          |                         |          |         |

Requirement for Completion

You should get the credits of 'Directed Study in Applied Chemistry III, IV and V' and receive your supervisor's research guidance.

Civil and Environmental Engineering(Doctoral Program)

| Segment              | Class Subject                                    | Grade | Credit     |                         |          | Remarks |
|----------------------|--|-------|------------|-------------------------|----------|---------|
|                      |  |       | Compulsory | Compulsory but optional | Optional |         |
| Specialized Subjects | Civil and Environmental Engineering Research III | 1     | 2          |                         |          |         |
|                      | Civil and Environmental Engineering Research IV  | 2     | 2          |                         |          |         |
|                      | Civil and Environmental Engineering Research V   | 3     | 2          |                         |          |         |

Requirement for Completion

You should get the credits of 'Civil and Environmental Engineering Research III, IV and V' and receive your supervisor's research guidance.

Transportation and Environmental Systems(Doctoral Program)

| Segment              | Class Subject   | Grade | Credit     |                         |          | Remarks |
|----------------------|---|-------|------------|-------------------------|----------|---------|
|                      |   |       | Compulsory | Compulsory but optional | Optional |         |
| Specialized Subjects | Transportation and Environmental Systems Research III | 1     | 2          |                         |          |         |
|                      | Transportation and Environmental Systems Research IV  | 2     | 2          |                         |          |         |
|                      | Transportation and Environmental Systems Research V   | 3     | 2          |                         |          |         |

Requirement for Completion

You should get the credits of 'Transportation and Environmental Systems Research III, IV and V' and receive your supervisor's research guidance.

Architecture(Doctoral Program)

| Segment              | Class Subject                      | Grade | Credit     |                         |          | Remarks |
|----------------------|------------------------------------|-------|------------|-------------------------|----------|---------|
|                      |                                    |       | Compulsory | Compulsory but optional | Optional |         |
| Specialized Subjects | Directed Study in Architecture III | 1     | 2          |                         |          |         |
|                      | Directed Study in Architecture IV  | 2     | 2          |                         |          |         |
|                      | Directed Study in Architecture V   | 3     | 2          |                         |          |         |

Requirement for Completion

You should get the credits of 'Directed Study in Architecture III, IV and V' and receive your supervisor's research guidance.

**Procedures for Course Registration,  
Research Plan Submission, etc.  
at Hiroshima University Graduate School of Engineering**

- Students are required to complete the course registration procedure as described below in accordance with Article 11 of the Regulations of the Graduate School of Engineering, Hiroshima University. Note that without course registration procedure correctly completed, you will not be allowed to attend classes, even as auditors, or not be able to obtain credits for the coursework.
  - 1. Course registration
    - a) Copies of the timetable of classes for the first and second semesters are distributed at the beginning of the first semester; you are responsible for keeping your copy for your use, especially for course registration at the beginning of the second semester.
    - b) Details of the course registration procedure are posted on My Momiji and on the bulletin board in the Student Support Office of the Graduate School of Engineering before the beginning of each semester; make sure to check updates.
    - c) You are required to register, during the registration period, for all the courses you wish to take.
    - d) You may add or cancel courses strictly only during the confirmation/revision period.
  - 2. Important notes
    - a) If you have forgotten your password, which is required for course registration, you may reset your password in the Student Support Office of the Graduate School of Engineering.
    - b) For course registration, you are required to register for all the courses you wish to take.
    - c) The registration of lectures and seminars must be completed in the first semester if you are enrolled in April and in the second semester if you are enrolled in October.
  
- Students are required to submit their research plans and other relevant documents (prescribed forms are provided) upon receiving guidance and advice from their academic advisors in compliance with the provisions of Articles 7 and 11 of the Regulations of the Graduate School of Engineering, Hiroshima University.  
The prescribed forms will be distributed to you upon enrollment; you are responsible for keeping them appropriately for your use.
  - 1. Students in the Master's Program
    - a) Research plans
      - To be submitted: By the last day of May of Year 1 (last day of November for students enrolled in October)
      - By the last day of April of Year 2 (last day of October for students enrolled in October)
  - 2. Students in the Doctoral Program
    - a) Research plans
      - To be submitted: By the last day of May of Year 1 (last day of November for students enrolled in October)
      - By the last day of April of Year 2 and 3 (last day of October for students enrolled in October)
    - b) Research achievement reports
      - To be submitted: By the last day of April of Year 2 and 3 (last day of October for students enrolled in October)

## **Hiroshima University Graduate School of Engineering Assessment of Academic Performance**

- In compliance with the provisions of Article 30 of the Hiroshima University Graduate School Regulations, the students' academic performance in courses (class subjects) shall be assessed as follows:
  - 1. Academic performance shall be assessed on a scale of five levels: "Excellent," "Superior," "Good," "Fair," and "Poor." The first four shall be passing grades, while "Poor" shall be a failing grade.
  - 2. In case of doubts about the assessment of academic performance, the concerned party may:
    - a) Consult the instructor in charge of the course in question;
    - b) If the doubts remain even after consultation with the instructor concerned, contact the Student Support Office of the Graduate School of Engineering (in charge of graduate school curricula) within one week from the start of the courses in the subsequent semester.

### **Master's Thesis Review and Final Examination**

1. Thesis Review
  - (1) Notification of Master's Thesis Title  
Students who plan to complete a Master's Program shall submit their Thesis Titles to the Dean of the Graduate School (head of the Department) via their academic advisors by the date prescribed by the respective Departments.
  - (2) Submission of the Master's Thesis  
Closing date: as prescribed by each Department (for all students, regardless of the timing of their program completion)  
Number of copies: 1  
To be submitted to: Dean of Graduate School (head of the Department)
  - (3) Thesis Screening Committee
    - (a) The head of each Department shall select candidate members of a Thesis Screening Committee for each thesis (the student's academic advisor and one or more teaching faculty members related to the subject of the thesis; if only one committee member is selected for the latter category, this member cannot be from the same laboratory as the academic advisor's) and notify their names to the Dean of the Graduate School (Student Support Office of the Graduate School of Engineering) no later than February 1 (or July 1 for students who expect to complete the Program in September).
    - (b) The Thesis Screening Committee composition (with the student's academic advisor as principal reviewer) shall be finalized by the Graduate School Board of Representatives.
    - (c) The Thesis Screening Committee shall review the thesis to determine whether it is accepted or not.
2. Final Examination
  - (1) Each Department shall subject the students whose thesis has been accepted to a final examination and make a pass/fail decision.
  - (2) The final examination shall be completed no later than the last day of February (or the last day of August for students who expect to complete the Program in September).
3. Final Results
  - (1) The head of each Department shall submit a written report of the final results of the thesis reviews and final examinations to the Dean of the Graduate School (Student Support Office of the Graduate School of Engineering) no later than the last day of February (or the last day of August for students who expect to complete the Program in September).
  - (2) The Dean of the Graduate School shall advise the Faculty Meeting of the Graduate School to discuss the course completion of thesis authors by referring to the final results, and the Faculty Meeting shall comply.
4. Other matters  
Matters that cannot be settled in accordance with the present guidelines shall be referred to the Faculty Meeting of the Graduate School so that a decision may be made in each case.

# Acquisition of Doctorates

September 8, 2011

January 21, 2016

Approved by the Graduate School Council of the Graduate School of Engineering

## 1. Requirements for doctorate conferment

(1) Doctoral candidates must demonstrate a high level of scholarship in an area of specialization related to the Graduate School.

(2) Doctoral candidates must demonstrate research competency that is sufficient to contribute to the development of an area of specialization related to the Graduate School

(Student doctoral candidates)

Must be enrolled in the Graduate School for a prescribed number of academic years to obtain the required number of credits for coursework and receive instruction in research, submit a doctoral dissertation, and pass the review of the dissertation and the final examination.

(Non-student doctoral candidates)

Must submit a doctoral dissertation and pass the review of the dissertation and the final examination.

In addition, the candidates' doctoral dissertations or the principal sections of the dissertations must have been published, or be scheduled to be published, in a referred publication.

Student doctoral candidates whose research achievements are recognized by the Graduate School Council as exceptionally outstanding may be enrolled in the Graduate School for a period of at least one year (for early program completion).

## 2. Other requirements for application for doctorate conferment

| Department                               | Student doctoral candidates   | Non-student doctoral candidates  |
|--|---|--|
| Mechanical Systems Engineering           | Researcher/specialist track:<br>At least 3 (A)s, or 2 (A)s and at least 1 (B)<br>In either case, the candidate must be the principal author of at least 1 (A).  | At least 5 (A)s (of which the candidate is the principal author of at least 2)   |
| Mechanical Science and Engineering       | Researcher/specialist track:<br>At least 3 (A)s, or 2 (A)s and at least 1 (B)<br>In either case, the candidate must be the principal author of at least 1 (A).  | At least 5 (A)s (of which the candidate is the principal author of at least 2)   |
| System Cybernetics                       | Researcher/specialist track:<br>At least 2 (A)s and at least 1 (B), in principle  | At least 5 (A)s and at least 1 (B), in principle   |
| Information Engineering                  | Researcher/specialist track:<br>At least 2 (A)s and at least 1 (B) of which the candidate is the principal author, in principle   | At least 4 (A)s (of which the candidate is the principal author of at least 1) and at least 1 (B) of which the candidate is the principal author, in principle |
| Chemical Engineering                     | Researcher/specialist track:<br>At least 3 (A)s, or 2 (A)s and at least 1 (B)<br>In either case, the candidate must be the principal author of at least 1 (A).  | At least 5 (A)s (of which the candidate is the principal author of at least 2)   |
| Applied Chemistry                        | Researcher/specialist track:<br>At least 3 (A)s (of which the candidate is the principal author of at least 1)  | At least 5 (A)s (of which the candidate is the principal author of at least 1), in principle   |
| Civil and Environmental Engineering      | Researcher/specialist track:<br>At least two research papers of the category (A), all of which the first author is the candidate, including at least one journal paper with SCI.  | At least 3 (A)s (of which the candidate is the principal author of at least 1)   |
| Transportation and Environmental Systems | Researcher/specialist track:<br>At least 2 (A)s (of which the candidate is the principal author of at least 1), or 1 (A) of which the candidate is the principal author and at least 1 (B) of which the candidate is the principal author | At least 3 (A)s (of which the candidate is the principal author of at least 1)   |
| Architecture                             | Researcher/specialist track:<br>At least 2 (A)s (of which the candidate is the principal author of at least 1)  | At least 3 (A)s (of which the candidate is the principal author of at least 1)   |

\* The symbol (A) denotes an academic paper published (or scheduled to be published) in a referred publication of a related scientific society and the like.

\* The symbol (B) denotes an academic paper read (or scheduled to be read) at an international scientific conference.



## An Outline of the Doctorate Conferral Procedure for Student Doctoral Candidates

| Step                 | Outline  |
|----------------------|--|
| Preliminary review   | <p>(Documents required for preliminary review)</p> <ol style="list-style-type: none"> <li>1. Candidates for doctorates (Doctor of Engineering or Arts) are required to submit the following documents to their academic advisors:               <ol style="list-style-type: none"> <li>(1) Summary of the dissertation (typed or word-processor-finished; 1 A4 page or about 1,600 words)</li> <li>(2) Doctoral candidate survey (use the prescribed form): 1 copy</li> <li>(3) A draft of the dissertation: 1 copy</li> <li>(4) Offprint of a published research report: 1 copy</li> </ol>               (Preliminary Review Committee)             </li> <li>2. The head academic advisor of each doctoral candidate shall nominate reviewers to form a Preliminary Review Committee.<br/>(Preliminary Review)</li> <li>3. The Preliminary Review Committee shall examine the documents submitted by the doctoral candidate to determine whether or not the candidate is accepted, and authorize the accepted candidate to proceed with the application for doctorate conferral.</li> </ol>  |
| Application          | <p>Documents to be submitted (Graduate School of Engineering Regulations Article 3)</p> <ol style="list-style-type: none"> <li>(1) Application for Review of Dissertation (Form No. 1): 1 copy</li> <li>(2) List of publications (Form No. 3): 3 copies<br/>(Give a Japanese translation in parentheses if the original title is in a language other than Japanese, and an English translation if in Japanese.)</li> <li>(3) Dissertation (bound in file form): 1 copy</li> <li>(4) Reference papers, if any: 2 sets of copies</li> <li>(5) Summary of the papers: 3 copies<br/>(Make sure that the titles, either in Japanese or English, are the same as on Form No. 3.)</li> <li>(6) Curriculum vitae (Form No. 4): 3 copies</li> <li>(7) Reception of degree application form (Application for Review of Dissertation; use the prescribed form): 1 copy</li> <li>(8) Summary of the dissertation: 1 copy<br/>(Typed or word-processor-finished; 1 A4 page or about 1,600 words)<br/>(Make sure that the titles, either in Japanese or English, are the same as on Form No. 3.)</li> <li>(9) Doctoral candidate survey (use the prescribed form): 1 copy<br/>(Make sure that the titles, either in Japanese or English, are the same as on Form No. 3.)</li> <li>(10) Statement of confirmation regarding submission and publication of the dissertation (application form): 1 copy</li> <li>(11) Electronic versions of (3) and (5): 1 set</li> <li>(12) Letter of consent (not required for single-authored dissertations): 1 copy</li> </ol> <ol style="list-style-type: none"> <li>1. Required documents must be submitted, via the head academic advisor and following consultation with the concerned Department, to the Graduate School office in charge of student doctoral candidates, no later than:               <ul style="list-style-type: none"> <li>January 20 for students expecting to complete the program in March, or</li> <li>July 20 for students expecting to complete the program in September (or immediately previous Fridays if the above dates fall on Saturday or Sunday).</li> </ul>               Students expecting to complete the program in a period longer than 3 years may submit the document at any time.             </li> <li>2. Dissertation review fee: Not required</li> </ol> |
| Reception and review | <p>The Dean of the Graduate School shall forward the following from among the documents submitted by the academic advisor to the Graduate School Board of Representatives no later than January 20 (or July 25 for students expecting to complete the program in September):</p> <ol style="list-style-type: none"> <li>(1) Summary of the dissertation</li> <li>(2) Doctoral candidate survey</li> </ol> <p>Upon receiving the above documents, the Graduate School Board of Representatives shall distribute copies of the documents to all the professors concerned at least seven days prior to the next scheduled Graduate School Board of Representatives meeting.</p> <p>A formal objection may be filed to the Dean of the Graduate School in writing within seven days from the distribution of the documents. In the absence of any objection, the Graduate School Board of Representatives need not deliberate on the summary of the dissertation at the meeting.</p> <p>The Graduate School Board of Representatives shall finalize the composition of the Review Committee.</p>   |

|                                |   |
|--------------------------------|---|
| Presentation of dissertation   | The Review Committee shall select a date for the presentation of the dissertation as soon as it is received and submit a prescribed posting request form to the Graduate School office in charge of student doctoral candidates. Posting shall be undertaken by the same Graduate School office and the Department offices. (Places of posting: Student Support Office and relevant Department bulletin boards)   |
| Review Committee               | (Review Committee)<br>1. The Review Committee, which inspects the dissertation and examines the candidate, shall be established by the Graduate School Board of Representatives, based on recommendations made by the Department to which the head academic advisor belongs.<br>2. Each Review Committee shall consist of at least three faculty members of the Graduate School of Engineering, of whom at least two must be professors of the Graduate School of Engineering. However, the Review Committee may also include members of other Hiroshima University graduate school faculties, postgraduate faculties of other universities, research institutions and the like when deemed necessary by the Graduate School Board of Representatives.<br>3. The Review Committee shall establish a chair, to which a faculty member of the Graduate School of Engineering shall be appointed.<br>(Graduate School of Engineering Regulations on Academic Degrees, Article 5) |
| Examination                    | (Examination)<br>Doctoral candidates shall be subjected to an examination in subjects mainly related to the theme of their dissertations.<br>(Hiroshima University Degree Regulations, Article 6, Paragraph 1)  |
| Review period                  | 1. The review of dissertation and a written or oral examination shall be terminated within 12 months from the reception of the dissertation.<br>2. Under special circumstances, the period of the review of dissertation may be extended by a period not exceeding twelve months, with consent from the Faculty Meeting.  |
| Report by Review Committee     | Upon completing the review of dissertation and the examination, the Review Committee shall promptly report to the concerned Faculty Meeting in writing, using the prescribed forms as listed below, on the content of the dissertation, and the review and examination results:<br>Summary of Review of Dissertation (Form No. 5), Summary of Examination Results (Form No. 6)<br>(Hiroshima University Degree Regulations, Article 8)  |
| Perusal of dissertations       | Dissertations submitted as part of requirements for the conferral of academic degrees may be made available for perusal at request.   |
| Review of degree conferral     | 1. The Faculty Meeting shall distribute copies of the submitted Reports on the Review of Dissertation to all the professors concerned at least seven days prior to the nearest meeting of Faculty Meeting (which is held in April, May, July, September, November, January, and March).<br>2. In the absence of formal objection from the professors, the Faculty Meeting need not deliberate on the Reports on the Review of Dissertation at the meeting.<br>3. The decision on the conferral of an academic degree requires the attendance of two-thirds of the members of the Faculty Meeting (excluding those on overseas assignment or in long-term convalescence), as well as a consensus of at least two-thirds of the members in attendance.<br>(Hiroshima University Degree Regulations, Article 9, Paragraph 2)   |
| Report to University President | The Dean of the Graduate School shall report to the President of Hiroshima University of the decisions made regarding academic degrees with the following documents:<br>(1) Report on degree conferral: 1 copy      (5) Summary of review of dissertation: 1 copy<br>(2) Curriculum vitae: 1 copy      (6) Summary of examination results: 1 copy<br>(3) List of publications: 1 copy      (7) Dissertation: 2 copies<br>(4) Summary of dissertation: 1 copy  |
| Dates of degree conferral      | 1. Successful candidates completing the Doctoral Program in three years (excluding those opting for early program completion): Day of the degree conferral ceremony in September or March<br>2. Successful candidates completing the Doctoral Program in a period exceeding three years: Day of the decision on degree conferral<br>3. Successful candidates opting for early program completion (at least one year and within three years) of the Doctoral Program: Day of the decision on degree conferral, or day of the degree conferral ceremony in September or March   |

# Doctoral Degree Application Procedures

## 1. Documents to be submitted and the number of copies required

### (1) Student doctoral candidates

- a. Application for Review of Dissertation (form provided) ..... 1 copy
- b. List of publications (form provided).....3 copies
- c. Dissertation..... 1 copy
- d. Reference papers (if any) ..... 2 sets of copies
- e. Summary of the papers .....3 copies
- f. Curriculum vitae (form provided) .....3 copies
- g. Reception of degree application form (form provided) ..... 1 copy
- h. Summary of Dissertation ..... 1 copy
- i. Doctoral candidate survey (form provided)..... 1 copy
- j. Statement of confirmation regarding submission and publication  
of the Dissertation (application form) ..... 1 copy
- k. Electronic versions (PDF files) of the Dissertation and its summary ..... 1 set
- l. Letter of consent (form provided) ..... 1 copy

### (2) Non-student doctoral candidates

- a. Application for Degree Conferral (form provided) ..... 1 copy
- b. List of publications (form provided).....3 copies
- c. Dissertation..... 1 copy
- d. Reference papers (if any)..... 2 sets of copies
- e. Summary of the papers .....3 copies
- f. Curriculum vitae (form provided) .....3 copies
- g. Certificate of graduation from the last educational institution attended  
or a copy of diploma ..... 1 copy  
(Certificate of postgraduate program completion or copy of certificate of academic degree)
- h. Certificate of the length of the candidate's research experience (signed by the academic  
advisor or equivalent person) ..... 1 copy
- i. Reception of degree application (form provided)..... 1 copy
- j. Summary of Dissertation ..... 1 copy
- k. Doctoral candidate survey (form provided)..... 1 copy
- l. Certificate of acquisition of credits in a postgraduate program ..... 1 copy
- m. Dissertation review fee ..... Fifty-seven thousand (57,000) yen
- n. Statement of confirmation regarding submission and publication  
of the Dissertation (application form) ..... 1 copy
- o. Electronic versions (PDF files) of the Dissertation and its summary ..... 1 set
- p. Letter of consent (form provided) ..... 1 copy

2. Notes about document (form) completion

- (1) Entries may be handwritten (fountain or ball-point pen), typed, or electronically copied.
- (2) A single identical personal seal (hanko) must be used by each candidate.

3. Application for Review of Dissertation or for Degree Conferral

Use Form No. 1 or No. 2.

4. List of publications

(1) Form

Use Form No. 3.

(2) Dissertation

(A) Title

- a. Give the title (and the subtitle if applicable) as it appears on the submitted dissertation.
- b. Give a Japanese translation in parentheses if the original title is in a language other than Japanese, and an English translation if in Japanese.
- c. If the dissertation is composed of several papers each with a different title, give a collective title without specifying the individual titles.

(B) Publication and timing

- a. Dissertations for which Hiroshima University confers doctorates are published in Hiroshima University's academic information repository.
- b. For the publication as per the paragraph above, dissertations are usually published in their entirety. Regarding dissertations which have been published in their entirety but with minor modifications or omissions in such a manner as not to directly alter the research content when such publication was permitted, the dates of publication and the names of the journals in which the dissertations were published (as well as the volumes, numbers and pages of the journals) or places of publication must be indicated.
- c. Components of a dissertation may be separately published in units of division (volumes, chapters, etc.) or in sub-themes of the research content; in this case, the mode and the date of each publication must be indicated.
- d. Dissertations may be considered as published when other papers with identical content are published by the same authors; in this case, the mode and the date of each publication must be indicated.  
For unpublished papers, the scheduled mode and date of publication must be indicated.

(3) Reference papers

- a. Indicate the title, author(s), and mode and date of publication of a paper single- or co-authored by the doctoral candidate that deals with a subject that is different from that of the Dissertation and is particularly important as reference, if any.
- b. Make a list of reference papers, if there are two or more of them.
- c. Enter "none" if there are no reference papers.

5. Dissertation

The Dissertation must be bound in file form (paper) with the title and the author's name inscribed on the front cover.

6. Reference papers

Reference papers must be bound together with the Dissertation.

7. Summary of Dissertation

The summary must not exceed 4,000 Japanese characters (e.g. up to ten 400-character sheets) or 1,600 words in English.

## 8. Curriculum vitae

### (1) Form

Use Form No. 4

### (2) Registry address (nationality)

Candidates of Japanese nationality must enter **their prefecture's name** only; candidates of other nationalities must enter their country's name.

### (3) Current address

(A) Enter the address as it appears on your residence certificate (*juminhyo*).

(B) Enter also the building name, apartment number, etc. for assured communication.

(C) Candidates who plan to stay overseas for an extended period of time following the submission of the Dissertation must also enter their overseas address.

### (4) Name

If your name is written in Chinese ideograms (*kanji*), indicate its reading in *kana*.

### (5) Academic background

(A) Enter chronologically the educational institutions attended, starting with graduation from secondary school.

(B) If you withdrew from a doctoral program after completing the coursework, attach a certificate of acquisition of credits in a postgraduate program.

(C) Indicate the change of name of a school during your enrollment, if any.

(D) Enter only the educational programs you pursued at institutions of formal education; years spent at an educational institution as a research fellow, etc. must be entered under "Research background."

### (6) Professional career

List chronologically all the posts of full-time employment you assumed, with each employer's name and job title. It is desirable that part-time posts are also listed if they are related to education and research.

### (7) Research background

(A) List chronologically the research activities undertaken that are noteworthy in connection with the envisaged academic degree.

(B) Information on noteworthy academic research activities expected in this column includes the following (examples):

a. Research projects (including joint projects) related to your doctoral research theme

b. Training programs (including those pursued as a research fellow at a university)

c. Academic surveys and investigations

d. Publications and presentations (books, papers, etc.)

e. Activities involving scholarships and grants

f. Activities involving academic societies

g. Others that may be of significance in connection with the envisaged academic degree

(C) Entries entered under "Academic background" or "Professional career" should not be double-entered under "Research background."

## 9. Reception of degree application.

Use the prescribed form.

## 10. Summary of Dissertation

A summary of the Dissertation must be about 1,600 words (one A4 page).

## 11. Doctoral candidate survey

The Doctoral candidate survey (Form) must bear the candidate's academic advisor's seal to indicate confirmation.

## 12. Statement of confirmation regarding submission and publication of the Dissertation (application form)

Use the prescribed form.

13. Electronic versions of the Dissertation and its summary

They must be submitted in PDF files (PDF/A ISO19005 recommended).

14. Letter of consent

Use the prescribed form. A letter of consent must be signed by all the co-authors or by the representative of the co-authors. However, no letter of consent is required under special circumstances where it is extremely difficult to obtain a written statement.

15. Other matters

Candidates who are currently salaried company employees or are otherwise employed must indicate their office address and telephone number (business card may be attached).

第 3 号様式

ここに記載してある氏名表記を学位記の氏名欄に使用する。  
Name written here is used for name on your diploma.

押印してください。  
印鑑がない場合は、サイン(署名)。  
Stamp seal here.  
If you don't have a seal, sign here.

論 文 目 録



Applicant's Name

氏 名 広 大 学

印

論 文

Title of your Doctoral Dissertation

題 目 A Study on the Flow Field and Combustion Characteristics in a Swirl Type Combustor  
( 旋回流燃焼器内の流動と燃焼特性に関する研究 )

Method and Term of Publication

公表の方法及び時期

外国語の場合は和訳、日本語の場合は英訳を付記する。  
English title should have Japanese translation.  
Japanese title should have English translation.

- 1 . 第 2 章 旋回流の流動予測  
日本〇〇学会誌第 2 巻 1 0 号 1 0 頁 ~ 1 5 頁 20XX 年 9 月 23 日 発行
- 2 . 第 3 章 旋回流燃焼機内の燃焼特性  
〇〇学会論文集 5 巻 6 号 20XX 年 12 月発行予定
- 3 . Chapter 4 Analysis of Combustion Characteristics  
*Journal of 〇〇〇〇* Vol.5, No.3, pp.666-670 20XX 年 7 月 11 日 発行
- 4 . Chapter 5 Analysis of Flow Field in a Swirl Type Combustor  
*International Journal of 〇〇〇* Vol.2 20XX 年 12 月発行予定

Number of your Doctoral Dissertation

冊数 1 冊

学位請求論文の目次の題目を記入する。公表した論文の題目は記入しない。  
Write the titles of chapters of your Doctoral Dissertation.  
Don't write the title of your published paper.

Reference Dissertation

参考論文

な し

ない場合は、「なし」と記入する。  
学位論文の内容以外の公表論文のうち、特に参考になる自著及び共著の論文があれば、次のことを記載する。  
・ 題目 ・ 著者名 ・ 公表の方法及び時期  
If you don't submit a Reference Dissertation, write "なし" (nothing) here.  
If you have some special papers written by yourself or joint papers in your published papers which are other than the contents of your Doctoral Dissertation, write the following items:  
\*Title \*Author's Name \*Method of Publication and Date of Publication

論 文 の 要 旨

Title of your Doctoral Dissertation

題 目 A Study on the Flow Field and Combustion Characteristics in a Swirl Type Combustor

( 旋回流燃焼器内の流動と燃焼特性に関する研究 )

論文目録(第3号様式)に記載した題目と全く同じ題目を記載する。

You must write exactly the same title for your Doctoral Dissertation as the title given in Dissertation List (Form No. 3).

Applicant's Name

氏 名 広 大 学

A4版, 横書きとし, 4,000字以内で作成し, 片面印刷する。(複数ページになっても構わない。)  
One-side printing less than 4000 Japanese characters on A4 size paper. (More than 2 pages is no problem.)



第 4 号様式

氏名は、論文目録（第 3 号様式）に記載したものと全く同じ表記で記載する。  
氏名にはふりがなを付ける。You must write exactly the same name as the name given in Dissertation List (Form No.3) with *Furigana*.

該当の性別を○で囲む。  
Choose appropriate gender and encircle it.

|                        |       |  |
|------------------------|-------|--|
| 氏名<br>Applicant's Name | 広 大 学 | 男 <input checked="" type="radio"/> 女 <input type="radio"/> |
|------------------------|-------|--|

|                       |               |   |
|-----------------------|---------------|---|
| 生年月日<br>Date of Birth | 平成○○年 1 月 6 日 | 日本籍の者は、元号で記入。<br>外国籍の者は、西暦で記入。<br>If you are Japanese, write in Japanese era name.<br>If you are not Japanese, write in the dominical year. |
|-----------------------|---------------|---|

|                    |     |   |
|--------------------|-----|---|
| 本 籍<br>Nationality | 広島県 | 日本籍の者は、本籍の県名を記入。<br>外国籍の者は、出身国名を記入。<br>If you are Japanese, write your prefecture of registry.<br>If you are not Japanese, write your home country. |
|--------------------|-----|---|

|                          |  |         |   |
|--------------------------|--|---------|---|
| 現 住 所<br>Present Address | 〒 7 3 9 - 8 5 2 4<br>広島県東広島市鏡山一丁目 4 - 1<br>○○○ハイツ B 棟 201 号室 | TEL ○○○ | 旧制の卒業生は、中等学校卒業から記載。<br>If you are an old-education-system middle school graduate, write from middle school (only for Japanese). |
|--------------------------|--|---------|---|

|                            |  |  |  |
|----------------------------|--|--|--|
| 学 歴<br>Academic Background |  |  |  |
|----------------------------|--|--|--|

|           |               |                   |
|-----------|---------------|-------------------|
| 平成○○年 3 月 | 広島県立広島高等学校 卒業 | High School Level |
|-----------|---------------|-------------------|

|                        |                        |                     |
|------------------------|------------------------|---------------------|
| 平成○○年 4 月<br>平成○○年 3 月 | 広島大学工学部第○類 入学<br>同上 卒業 | Undergraduate Level |
|------------------------|------------------------|---------------------|

|                              |                                    |               |
|------------------------------|------------------------------------|---------------|
| 平成○○年 4 月 1 日<br>平成○○年 3 月○日 | ○○大学大学院○○研究科博士課程前期○○専攻 入学<br>同上 修了 | Master Course |
|------------------------------|------------------------------------|---------------|

|               |   |                 |
|---------------|---|-----------------|
| 平成○○年 4 月 1 日 | 広島大学大学院工学研究科博士課程後期○○専攻 入学 (進学)<br>現在に至る | Doctoral Course |
|---------------|---|-----------------|

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| 職 歴<br>Professional Career |  |  |  |
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| 平成○○年 4 月○日 | 日本工業 (株) 採用      | 常勤の職について、年次を追って勤務先、職名等を付し、退職等についても記載する。現職の場合、「現在に至る」と明示する。Write your place of employment and job title year by year, including resignation if any. If you are currently employed, write also “現在に至る” (Hitherto). |
| 平成○○年 9 月○日 | 同上 設計課に配置換 現在に至る |  |

|                            |  |  |  |
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| 研究歴<br>Research Background |  |  |  |
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| 平成○○年○月○日 | ○○○○の研究に従事し現在に至る。 | 工学研究科での研究は記載しない<br>Write your research background other than your research at Graduate School of Engineering, Hiroshima University. |
|-----------|-------------------|---|

|                             |    |   |
|-----------------------------|----|---|
| 賞 罰<br>Prizes and Penalties | なし | ない場合は「なし」と記入する。<br>If you have received neither prize nor penalty, write “なし” (Nothing) here. |
|-----------------------------|----|---|

上記のとおり違いありません。  
平成○○年○月○日

|                         |       |   |
|-------------------------|-------|---|
| 氏 名<br>Applicant's Name | 広 大 学 | 印 |
|-------------------------|-------|---|

押印してください。  
印鑑がない場合は、サイン (署名)。  
Stamp seal here.  
If you don't have a seal, sign here.

# 学位論文概要

Title of your Doctoral Dissertation

題目 A Study on the Flow Field and Combustion Characteristics in a Swirl Type Combustor

( 旋回流燃焼器内の流動と燃焼特性に関する研究 )

氏名 広 大 学

Applicant's Name

A4 版に片面印刷 1 ページ(1,600 字程度)で作成する。  
One-side printing less than 1600 Japanese characters on  
A4 size paper. (Only one page is acceptable.)

氏名は、論文目録（第3号様式）に記載したものと全く同じ表記で記載する。氏名にはふりがなを付ける。  
You must write exactly the same name as the name given in Dissertation List (Form No.3) with Furigana.

指導（主査）教員の確認印が押されていること。  
Supervisor's seal is required.

論文指導教員（主査予定者）確認印



# 学位申請者調書

日本籍の者は、元号で記入。  
外国籍の者は、西暦で記入。  
If you are Japanese, write in Japanese era name.  
If you are not Japanese, write in the dominical year.

|          |  |                           |  |                          |                        |
|----------|--|---------------------------|--|--------------------------|------------------------|
| 申請者      | 氏名<br>Applicant's Name   |                           | Date of Birth                                  |                          |                        |
|          | ひろだい まなぶ<br>広 大 学  |                           | 平成〇〇年 1 月 6 日                                  |                          |                        |
| 履歴       | 学歴<br>Academic Background  |                           |  |                          |                        |
|          | 高校   | 広島県立広島高等学校（高等専門学校）        |  | 平成〇〇年 3 月 卒業             |                        |
|          | 大学   | 広島大学工学部                   |  | 平成〇〇年 3 月 卒業             |                        |
|          | 大学院  | 広島大学大学院 工学研究科 博士課程前期 〇〇専攻 | 入学 平成〇〇年 4 月 〇日                                | 修了 平成〇〇年 3 月 〇日          |                        |
|          | 広島大学大学院 工学研究科 博士課程後期 〇〇専攻  | 入学 平成〇〇年 4 月 1日           | 現在に至る  |                          |                        |
|          | 職歴<br>Professional Career  |                           |  |                          |                        |
|          | 平成〇〇年 4 月 日本工業（株）採用<br>平成〇〇年 9 月 同上 設計課に配置換<br>現在に至る   |                           |  |                          |                        |
| 論文名      | Title of your Doctoral Dissertation<br>Field and Combustion Characteristics<br>( 旋回流燃焼器内の流動と燃焼特性に関する研究 ) |                           |  |                          |                        |
| 主要研究論文題目 | 題 目<br>Title   | 著者名<br>Author             | 刊行物の名称<br>Name of Publication                  | 巻・号・頁<br>Volume, No., pp | 発行年月日<br>Date of Issue |
|          | 噴霧火炎の安定性に及ぼす影響   | 広 大 学                     | 日本機械学会誌  | 4 巻 5 号 11 頁 ~ 18 頁      | 昭和 56.4.9 (1981)       |
|          | 噴霧の燃焼特性に及ぼす影響  | 広 大 学                     | 日本機械学会誌  | 5 巻 6 号 21 頁 ~ 28 頁      | 昭和 57.4.9 (1982)       |
|          | Effect of Fuel Volatility on Spray   | M.HIRODAI<br>H.HIROSHIMA  | 19 <sup>th</sup> Int Symp on Combustion        | P.10 ~ P.20              | 1983.3.20              |
| 審査       | 審査委員<br>Names of review committee members  |                           | 試験委員<br>Names of examination committee members |                          |                        |
|          | 主査 〇〇〇   |                           | 主査 教授 〇〇〇〇<br>" . . . .<br>" . . . .           |                          |                        |

論文目録（第3号様式）に記載した題目と全く同じ題目を載せる。  
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- ・ 投稿中又は投稿予定のものは記載しないこと。ただし、採録が決定済又は、印刷中のものはその旨明記して記載できる。
- ・ 発行年月日を元号表示する場合は、その末尾に西暦年を括弧書きで併記すること。
- ・ Write either Japanese title or English title if both have the same content.
- ・ Don't write the title of the paper which you have just submitted and will submit. However, you can write the title of any paper which has been determined to be accepted or any paper in press, indicating accordingly.
- ・ If you write the published date in era name, add the dominical year in parentheses below

# 学位論文の表紙について

## About Front cover of Your Doctoral Thesis

※ 最終的に提出する学位論文の表紙は、次のことに留意して作成すること。

Pay attention to the followings when making your final doctoral thesis.

- (1) 表紙には学位論文題目、学位取得年月及び氏名を記載し、背表紙には学位論文題目及び氏名を記載すること。

Front cover must have the thesis title, the year and month of acquisition and your name. Spine must have the thesis title and your name.

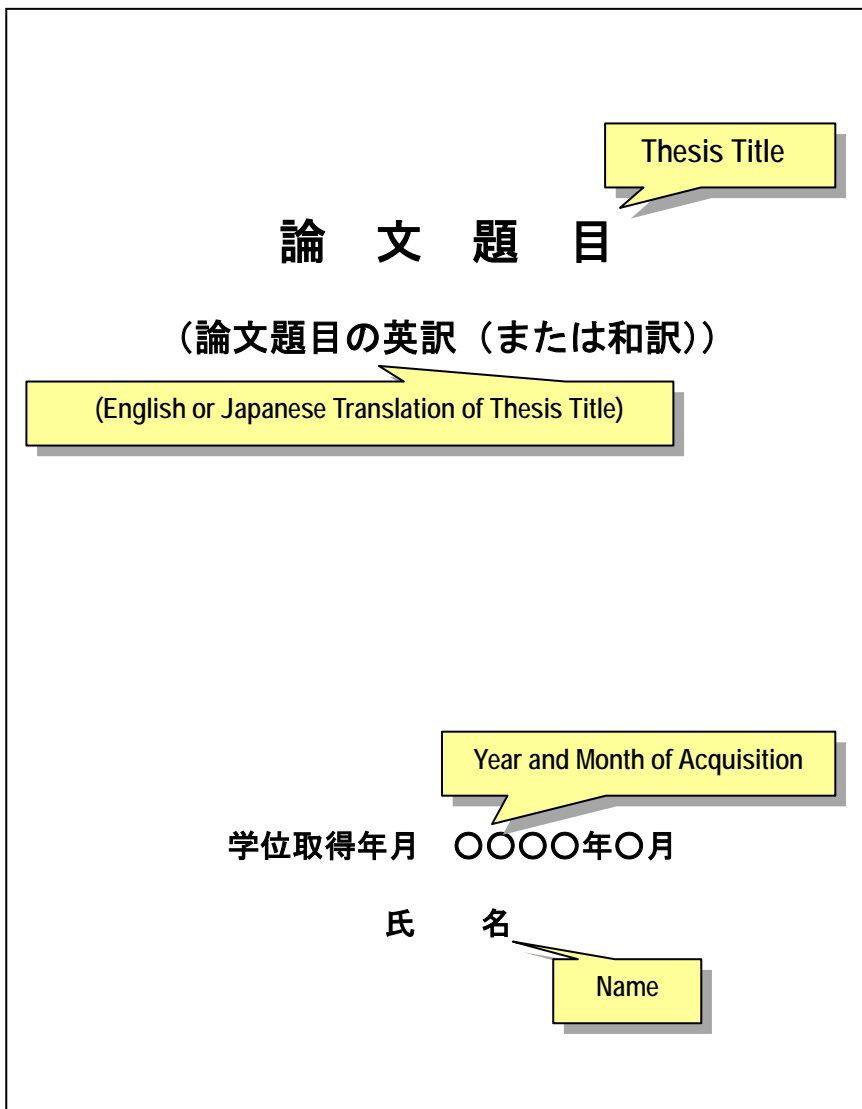
- (2) 学位論文題目は、学位申請時に届け出たものと全く同一の表記を記載すること。

(和題・英題ともに記載し、英題の大文字小文字の別も学位申請時の届け出と同一にすること。)

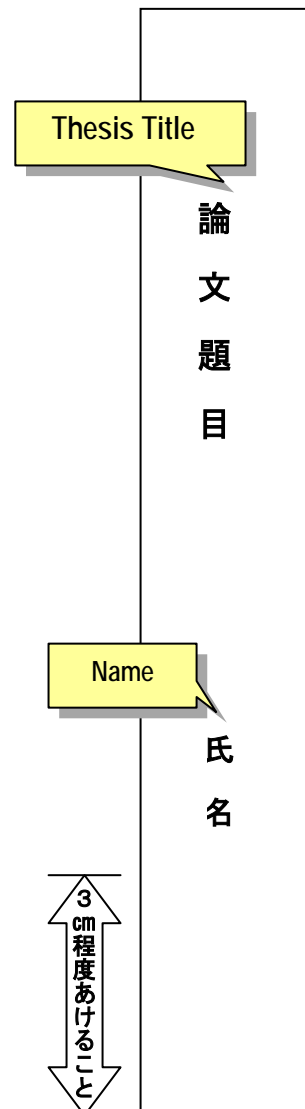
The thesis title on the front cover and spine must be just all the same as the title which you applied.

(English and Japanese title must be printed on the cover. The titles must be all the same as the title which you applied, including the difference between small letters and big letters of English title.)

### (表紙) Front cover



### (背表紙) Spine



**By-laws of the Graduate School of Engineering, Hiroshima University**

April 1, 2004

Approved by the Dean of the Graduate School

(Purpose)

**Article 1** The purpose of the present By-laws is to stipulate necessary matters regarding research and education at the Graduate School of Engineering, Hiroshima University (“Graduate School”) not stipulated in the Hiroshima University Graduate School Regulations (Regulations No. 2, January 15, 2008; “Hiroshima University Regulations”).

(Purposes of Education and Research)

**Article 2** The purposes of education, research, and human resource development at the Graduate School and its respective Departments shall be as indicated in the table below.

|   | Master’s Program   | Doctoral Program  |
|---|--|---|
| Graduate School                             | <p>Purposes of human resource development:</p> <ol style="list-style-type: none"> <li>(1) Leading the students to understand the objectives of engineering, develop a sense of social responsibility, and become autonomous as engineers</li> <li>(2) Leading the students to acquire advanced knowledge required in engineering</li> <li>(3) Training the students as highly specialized engineers with the ability to set research themes for themselves and effectively work them out</li> <li>(4) Developing the students’ ability to conduct advanced research/interdisciplinary research</li> <li>(5) Developing the students’ other abilities related to engineering</li> </ol> <p>Purposes of education and research<br/>Promoting advanced research/interdisciplinary research so as to contribute to society through research results in building an affluent society and assuring peace, development, and continuation of humankind</p> | <p>Purposes of human resource development:</p> <ol style="list-style-type: none"> <li>(1) Leading the students to deeply understand the objectives of engineering, develop a keen sense of social responsibility, and become fully autonomous as engineers</li> <li>(2) Leading the students to acquire advanced expert knowledge required in engineering</li> <li>(3) Training the students as highly specialized engineers with superb ability to set research themes for themselves and effectively work them out</li> <li>(4) Developing the students’ ability to conduct advanced cutting-edge research/interdisciplinary research</li> <li>(5) Developing the students’ other advanced abilities related to engineering so that they may lead future succession and development of engineering</li> </ol> <p>Purposes of education and research<br/>Promoting advanced cutting-edge research/ interdisciplinary research so as to contribute to society through research results in building an affluent society and assuring peace, development, and continuation of humankind</p> |
| Dept. of Mechanical Systems Engineering     | <p>Training the students as specialized engineers and researchers who, in response to ever-growing demand for advanced expertise in mechanical industries, possess a vast body of knowledge about physical phenomena and their engineering applications, and who are capable of research and development on mechanical system optimization design, functional sophistication, and intelligence integration on the basis of computational mechanics and electronic measuring and control technology; promoting advanced research/ interdisciplinary research in Mechanical Systems Engineering so as to contribute to society through research results in building an affluent society</p>  | <p>Training the students as highly specialized engineers and researchers who have the superb ability to set advanced research themes for themselves and effectively work them out on the basis of the fundamental knowledge in Mechanical Systems Engineering acquired in the Master’s Program; promoting advanced cutting-edge research/interdisciplinary research in Mechanical Systems Engineering so as to contribute to society through research results in building an affluent society</p>   |
| Dept. of Mechanical Science and Engineering | <p>Training the students as specialized engineers and researchers who have a vast body of knowledge about physical phenomena and their engineering application especially in the fields of energy, materials, and the environment, and who are capable of research and development concerning mechanical design and manufacturing, detection of causes of abnormal phenomena, and discovery of new functions; promoting advanced research/interdisciplinary research in Mechanical Science and Engineering so as to contribute to society through research results in building an affluent society</p>   | <p>Training the students as highly specialized engineers and researchers who have the superb ability to set advanced research themes for themselves and effectively work them out on the basis of the fundamental knowledge in Mechanical Science and Engineering acquired in the Master’s Program; promoting advanced cutting-edge research/interdisciplinary research in Mechanical Science and Engineering so as to contribute to society through research results in building an affluent society</p>   |
| Dept. of System Cybernetics                 | <p>Leading the students to acquire a broad body of basic knowledge necessary to systematically understand diverse and complex systems that surround humans in the highly information-oriented contemporary society and to effectively utilize such systems, as well as specialized knowledge about the latest technologies and applications. The Department’s education and research aim at training the students as highly specialized engineers capable of contributing to the development of methodologies concerning various real systems, as well as their integration in human society and their harmonization with the global environment.</p>  | <p>In addition to the same objectives as in the Master’s Program, training the students as highly specialized engineers, researchers, and educators who, based on their structured body of specialized knowledge about diverse and complex systems, develop new methodologies for analyzing, designing, controlling, and utilizing various real systems (large-scale complex systems, optimized systems, systems with organic man-machine interfaces, etc.) from the systems engineering perspective, create innovative new 21-st century technologies, and lead their development</p>  |
| Dept. of Information Engineering            | <p>Leading the students to acquire a broad body of advanced knowledge and information technologies ranging from basics to application systems on the foundation of computer hardware and software, the basic theories of information engineering, and the organic integration of five domains of applied mathematics; training the students as globally operational scientists who proactively take up research and development in new and complex fields; developing the students’ ability to put the knowledge and expertise they have acquired to practical use through participation in research and development projects that mobilize the most advanced theories and technologies in Information Engineering</p>   | <p>Training the students’ ability to assimilate advanced knowledge required to adequately respond to advanced developments in Information Engineering and concurrent changes and progress in the information society; to find original research themes on their own; and analyze and find solutions; leading the students to enrich their experience, deepen their understanding of the knowledge acquired thus far, and improve their ability to practice their expertise through participation in advanced research and development projects as proactive and leading members; training the students as globally operational and highly specialized engineers and researchers who take the lead in research and development by mobilizing their superb abilities</p>  |

|   |  |  |
|---|--|--|
| Dept. of Chemical Engineering                     | Training the students as highly specialized engineers who are capable of constructing a recycling-oriented industrial society that eliminate environmental, energy and resource-related problems, based on knowledge about the transfer, conversion, and circulation of matter and energy and through the creation of new materials featuring novel functions and the development of highly efficient manufacturing, separating and recycling processes; in addition, the Department's education and research aim at developing the students as human resources with a broad perspective who will contribute to building an affluent society with the ability to understand human activity- and environment-related problems and material recycling from a global, engineering perspective | Training the students as highly specialized engineers and researchers who, on the basis of the fundamental knowledge in Chemistry and Process Engineering acquired in the Master's Program, have the ability to conduct research and development and find solutions from an advanced perspective, to design original research plans, and to actively work as leaders and instructors, and who also have advanced knowledge that enable them to flexibly handle complex problems and the excellent ability to work on a global scale  |
| Dept. of Applied Chemistry                        | The properties of materials largely depend on their molecules as components; accordingly, the chemical approach of analyzing materials at a molecular level is essential for the development of novel functional materials. The Department of Applied Chemistry, charged with the social mission of developing planet-friendly materials, aims at training the students as highly specialized engineers and researchers who conduct molecular-level material design and analysis and take the lead in creating new functional materials and energy sources by mobilizing chemical methods.   | Training the students as highly specialized engineers and researchers who, on the basis of the acquisition of the ability acquired in the Master's Program to design and analyze materials at a molecular level and create novel functional materials and energy sources through chemical methods, have the ability to conduct research and development and find solutions from an advanced perspective, to design original research plans, and to actively work as leaders and instructors, and who also have advanced knowledge that enable them to flexibly handle complex problems and the excellent ability to work on a global scale, considering that many of the research projects handled by the Department require global collaboration  |
| Dept. of Civil and Environmental Engineering      | Training the students as highly specialized engineers with a broad based of knowledge and the ability to solve problems in the area of Civil and Environmental Engineering who will be able to work as leading technical administrators charged with infrastructural development and maintenance and disaster prevention in national or regional government, construction engineers who can complete globally with advanced technical and management abilities, environmental engineers who develop new industrial fields with technologies for the preservation and restoration of the natural environment, etc.  | In addition to the same objectives as in the Master's Program, training the students as researchers and educators who create new specializations expected to promote global environmental preservation, discover concrete individual research themes and implement them, and contribute to the development of global advanced science and technology, with a strong sense of mission in the area of Civil and Environmental Engineering, which explores a foundation for society's sustainable development   |
| Dept. of Transportation and Environmental Systems | Training the students as researchers capable of advanced research and highly specialized engineers capable of working on technical problems relating to transportation equipment, distribution systems, and the environment comprehensively and from a broad global environmental perspective to find solutions, and building or creating systems that harmonize artificial transportation equipment with the natural environment  | Training the students as educators, researchers capable of most advanced research, and highly specialized engineers capable of working on technical problems relating to transportation equipment, distribution systems, and the environment comprehensively and from a broad global environmental perspective to find solutions, and building or creating systems that harmonize artificial transportation equipment with the natural environment   |
| Dept. of Architecture                             | Training the students as engineers who can take the lead in architectural projects that aim at reasonably realizing buildings that are safe, comfortable, and sustainable, and cities as assemblies of such buildings; leading the students to acquire specialized knowledge about structures, materials, loads, production, environment, planning, and architectural and artistic design as the fundamental requirement for architectural projects, as well as the practical ability to mobilize such knowledge in integrating manners, so as to train the students as highly specialized engineers capable of setting research problems based on societal needs and proactively finding solutions  | Training the students as engineers who can take the lead in architectural projects that aim at reasonably realizing buildings that are safe, comfortable, and sustainable, and cities as assemblies of such buildings; leading the students to acquire specialized knowledge about structures, materials, loads, production, environment, planning, and architectural and artistic design as the fundamental requirement for architectural projects, as well as the practical ability to mobilize such knowledge in integrating manners, so as to train the students as educators, researchers capable of advanced research, and highly specialized engineers capable of setting research themes based on societal needs and analyzing and working them out from an advanced perspective |

(Interdisciplinary Programs)

**Article 3** The Departments of the Graduate School each shall establish the interdisciplinary programs as indicated in the table below:

| Department                               | Program   |
|--|---|
| Mechanical Systems Engineering           | Hyper-Human Technology<br>Biomass                                   |
| Mechanical Science and Engineering       | Biomass<br>Hyper-Human Technology                                   |
| System Cybernetics                       | Hyper-Human Technology  |
| Information Engineering                  | Hyper-Human Technology  |
| Chemical Engineering                     | Biomass<br>Hyper-Human Technology<br>Green Chemistry                |
| Applied Chemistry                        | Green Chemistry   |
| Civil and Environmental Engineering      | General Urban Disaster Reduction<br>Biosphere Environmental Systems |
| Transportation and Environmental Systems | Biosphere Environmental Systems                                     |
| Architecture                             | General Urban Disaster Reduction                                    |

(Special Courses)

**Article 4** The Graduate School shall establish a special course for international students of advanced specialization, Advanced Global Engineers to Promote International Expansion of Japanese Manufacturers and Advanced Global Engineers in the master's programs.

2. The Graduate School shall establish a special course of Advanced Global Engineers to Promote International Expansion of Japanese Manufacturers in the doctoral program.
3. Students wishing to enroll in either of the special courses indicated in the two paragraphs above may do so by obtaining permission from their respective academic advisor and applying to the Dean of the Graduate School for approval.

(Selection of Interdisciplinary Program)

**Article 5** Students may select and study in one of the interdisciplinary programs indicated in Article 3.

(Academic Advisor)

**Article 6** Upon students' enrollment in the Graduate School, the Head of each Department shall promptly assign to each student an academic advisor and secondary academic advisors who will offer advice and guidance on course subjects and research. Each student shall have up to two secondary academic advisors, who may be chosen, as the need arises, from teaching faculty members of other Hiroshima University graduate schools or other universities' graduate schools.

2. Students wishing to change their primary or secondary academic advisor shall apply to the Head of their Department for approval.
3. The Head of each Department may change their students' primary and/or secondary academic advisors if such change is deemed desirable, upon obtaining approval of the students concerned.

(Research Title)

**Article 7** Upon enrollment in the Graduate School, the students must decide their research title in consultation with their academic advisors within two months from enrollment and submit it to the Dean of the Graduate School.

(Curriculum)

**Article 8** The curricula of the Graduate School shall be as indicated in the appended table.

(Class Subjects and Related Matters)

**Article 9** Course subjects and their numbers of credits shall be as indicated in the appended table.

2. The syllabus and timetable of classes shall be published at the beginning of each academic year.

(Standards for Calculation of Credits)

**Article 10** The number of credits of each course shall be calculated based on the following standards and according to course modes.

- (1) For lectures, 15 hours of coursework constitute 1 credit.
- (2) For seminars, 15 or 30 hours of coursework constitute 1 credit.
- (3) For experiments and practical exercises, 30 or 45 hours of coursework constitute 1 credit.
2. For a course conducted in two or more modes in parallel, the number of hours of coursework to be conducted in each mode shall be determined in light of the standards indicated above and so that 45 hours of combined coursework constitute 1 credit.

(Registration Procedure)

**Article 11** The students must select courses in consultation with their academic advisors and complete the prescribed procedure to register for the courses within the period designated for each semester.

2. Students who fail to complete the procedure as stated in the preceding paragraph shall not be allowed to take courses unless under legitimate circumstances, in which case the students may take courses upon obtaining approval from the instructors in charge of the courses concerned.
3. The students may take courses offered by other Hiroshima University graduate schools or undergraduate faculties that are deemed necessary by their academic advisors upon obtaining approval from the Dean of the Graduate School and in accordance with the rules of the graduate school or undergraduate faculty concerned; in such cases, the courses may count toward the degree requirements of the Graduate School if so approved by the Faculty Council of the Graduate School of Engineering, Hiroshima University ("Faculty Council"), with the exception of undergraduate faculty courses.
4. Students of other graduate schools wishing to register for courses offered by the Graduate School must take the prescribed procedure within the designated period for each semester upon obtaining approval from instructors in charge of the courses concerned.

(Special Arrangements)

**Article 12** Special arrangements may be made to facilitate the pursuance of graduate school education by students with professional activities, if the Faculty Council considers it especially necessary from an educational standpoint, by scheduling classes or research guidance sessions in the evening or at specific hours or during specific period or devising other appropriate measures.

(Recognition of Credits Acquired Prior to Admission)

**Article 13** The Graduate School may, if it considers this to be beneficial from an educational standpoint, recognize as part of its degree requirements the credits that the students acquired by completing courses at other graduate schools in Japan or

overseas (including credits acquired as credited auditors) prior to admission to the Graduate School.

2. The number of credits other than those acquired at the Graduate School (including credits acquired as credited auditors) that may be recognized as part of the degree requirements pursuant to the provision of the preceding paragraph shall not exceed 10 credits, except in cases of transfer.
3. The recognition of credits acquired prior to admission to the Graduate School as prescribed in the preceding two paragraphs shall be determined in accordance with the Hiroshima University By-Laws Regarding Approval of Previously Acquired Credits (approved by the Vice President in charge of education and student affairs on April 1, 2004).

(Requirements for Completing Master's Program)

**Article 14** To complete a Master's Program, a student must have been enrolled in the Program for at least two years, have obtained 30 credits or more by completing the courses indicated in the appended table, received necessary research guidance, submitted a Master's thesis during the enrollment period, and passed the screening of the thesis and final examination, with the exception of students whom the Faculty Council recognizes as having achieved outstanding academic performance, who may be exempt from the enrollment requirement and may complete the Program in one year at least.

2. For the students exempt from the enrollment requirement as per the preceding paragraph, credits indicated in the following may not be added to 30 credits required for completing the Master's Program.
  - (1) Enrollment for more than 1 year and less than 1 year and a half: Lecture IIA, Seminar IIA, Lecture IIB and Seminar IIB indicated in the appended table of each department.
  - (2) Enrollment for more than 1 year a half and less than 2 years: Lecture IIB and Seminar IIB indicated in the appended table of each department.
3. Notwithstanding the first paragraph above, the students enrolled in the Doctoral Leadership Program as stipulated in the Graduate Schools Rules Article 25-2, Item 1, may replace the requirements of the successful thesis screening and final examination with the following:
  - (1) An examination in advanced specialized knowledge and skills in the student's area of specialization and basic knowledge and understanding in related areas that must be acquired or cultivated in the Master's Program concerned
  - (2) A screening in the ability that is required of the student to proactively conduct research leading to a doctoral dissertation and that must be acquired in the Master's Program concerned.

(Requirements for Completing Doctoral Program)

**Article 15** To complete a Doctoral Program, the students must have been enrolled in the Program for at least three years, have obtained six credits or more by completing the courses indicated in the appended table, received necessary research guidance, submitted a Doctoral dissertation during the enrollment period, and passed the screening of the dissertation and final examination, with the exception of students whom the Faculty Council recognizes as having achieved outstanding research results, for whom the enrollment duration of one year at least and the acquisition of two or more prescribed credits shall suffice (for students who completed a Master's Program in less than two years, the total enrollment duration of three years at least).

(Submission of Thesis/Dissertation)

**Article 16** The students in the Master's Program must submit, upon approval of their academic advisors, a Notification of the Research Title and a Master's thesis to the Dean of the Graduate School by the date specified separately.

**Article 17** The students in the Doctoral Program must submit, upon approval of their academic advisors, a Doctoral dissertation to the Dean of the Graduate School by the date specified separately.

(Screening of Thesis/Dissertation)

**Article 18** Theses and dissertations submitted as part of the requirements for academic degrees shall be screened pursuant to the provisions of the Hiroshima University Degree Regulations (Regulations No. 8 of April 1, 2004) and the Graduate School of Engineering Regulations Concerning the Application of the Hiroshima University Degree Regulations (approved by the Dean of the Graduate School of April 1, 2004).

(Final Examination)

**Article 19** The final examination for the Master's or Doctoral Program shall be taken by the students who have obtained required credits, received necessary guidance and submitted their prescribed thesis or dissertation.

2. The final examination shall take place separately for respective Departments of the Graduate School.
3. The date and method of final examination shall be announced in advance.

(Withdrawal, Leave of Absence, and Transfer)

**Article 20** Students wishing to withdraw from the Graduate School, take a leave of absence or transfer to another educational institution must complete the prescribed procedure to obtain approval from the Faculty Council.

(Change of Major)

**Article 21** A change of major may be accepted when recognized by the Faculty Council as beneficial from an educational standpoint.

(Re-admission)

**Article 22** The students who discontinued their studies in the Master's or Doctoral Program and wish to apply for re-admission to the program may petition the President of the University only at the beginning of an academic year,



following consultation with the Faculty Council.

2. The year of study and the number of years that students re-admitted to the Graduate School may remain in their respective program shall be indicated separately from the present By-laws.
3. In principle, the re-admitted students shall revert to the same Department as before their withdrawal.
4. The students applying for re-admission may be subjected to examination as deemed necessary.

(Teaching License)

**Article 23** The students who have acquired necessary credits by completing the courses prescribed in the Education Personnel Certification Act (Act No. 147 of 1949) and the Education Personnel Certification Act Enforcement Regulations (Ordinance of the Ministry of Education No. 26 of 1954) are eligible to obtain teacher's licenses of the types and subjects indicated in the table below.

| Type of license  | Subject licensed to teach |
|--|---------------------------|
| Advanced level teaching certificate for upper secondary school | Industry Information      |

2. Of the subjects listed in the table above, the students enrolled in the Departments of System Cybernetics and Information Engineering may be eligible to obtain the license to teach the subject "Information."

**Article 24** Any necessary matters relevant to education in the Graduate School not stipulated in the present By-laws shall be determined in deliberations by the Faculty council.

(Omitted)

Supplementary Provisions

1. The present By-laws shall come into force on April 1, 2013.
2. The curricula for the students enrolled in or before the academic year 2012 shall not be affected by the revisions in the provisions of the By-laws of the Graduate School of Engineering, Hiroshima University.

**Hiroshima University Degree Regulations  
(Graduate School of Engineering Regulations)**

April 1, 2004

Approved by the Dean of the Graduate School

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- Chapter II Review of Dissertation for Confirmation of Completion of Doctoral Program at the Graduate School of Engineering (Articles 2 - 5)
- Chapter III Review of Dissertation for Conferral of Doctoral Degree (Articles 6 - 10)
- Chapter IV Miscellaneous Provisions (Articles 11 - 12)
- Supplementary Provisions

**Chapter I General Provisions**

(Purpose)

**Article 1** The purpose of these Graduate School Regulations shall be to stipulate necessary matters regarding the conferral of academic degrees by the Graduate School of Engineering, Hiroshima University (“Graduate School”) pursuant to the provisions of Article 17 of the Hiroshima University Degree Regulations (“Hiroshima University Regulations”).

(Appellation of area of specialization)

- 2 The areas of specialization inscribed on certificates of academic degrees that are defined under Article 3, Paragraph 2 of the Hiroshima University Regulations and conferred by the Graduate School shall be as summarized in the table below, according to the Department with which each degree recipient is affiliated.

| Department   | Area of specialization |                           |
|--|------------------------|---------------------------|
|  | Master’s               | Doctorate                 |
| Mechanical Systems Engineering<br>Mechanical Science and Engineering<br>Chemical Engineering<br>Applied Chemistry<br>Civil and Environmental Engineering<br>Transportation and Environmental Systems<br>Architecture | Engineering            | Engineering               |
| System Cybernetics<br>Information Engineering  | Engineering<br>Arts    | Engineering<br>Philosophy |

**Chapter II Review of Dissertation for Confirmation of Completion of Doctoral Program at the Graduate School of Engineering**

(Timing and Eligibility for Submitting Dissertation)

**Article 2** Candidates for doctoral degrees as prescribed in Article 2, Paragraph 2 of the Hiroshima University Regulations shall submit a doctoral dissertation while enrolled in the Graduate School no later than January 20 of the academic year in which the candidates expect to complete their doctoral program (or no later than July 20 for candidates whose academic year ends in September). Students enrolled in the Graduate School for a period longer than three years or those corresponding to the provisions of Article 15 of the By-laws of the Graduate School of Engineering, Hiroshima University (“Graduate School By-laws”) may submit their dissertations at any time.

- 2 Before submitting their dissertations as per the paragraph above, the candidates for doctoral degrees must have obtained the required number of credits stipulated in Article 15 of the Graduate School By-laws (“Required Credits”) or fully expect to obtain the Required Credits by the end of the academic year in which the Dissertation is submitted, and have received academic guidance for the writing of the dissertation (“Research Guidance”).

(Procedures for Submitting Dissertation)

**Article 3** Doctoral degree candidates as prescribed in Paragraph 2 of the preceding article must submit, at the time of submitting their dissertation, the documents listed below to the Dean of the Graduate School upon obtaining approval from the candidate’s respective advisor.

- (1) Application for Review of Dissertation: 1 copy
- (2) List of publications: 3 copies

- (3) Dissertation: 1 copy (bound in file form)
- (4) Reference papers (if any): 2 sets of copies
- (5) Summary of the dissertation: 3 copies
- (6) Curriculum vitae: 3 copies
- (7) Statement of confirmation regarding submission and publication of the dissertation (application form): 1 copy
- (8) Electronic versions of (3) and (5): 1 set
- (9) Letters of consent: 1 copy (not required if the dissertation is single-authored)

(Acceptance of Dissertation)

**Article 4** When a dissertation is submitted pursuant to the provisions of the preceding article, the Dean of the Graduate School shall consult with the Faculty Meeting of the Graduate School to decide whether or not to accept the dissertation.

(Review Committee)

**Article 5** When a decision of acceptance is made pursuant to the provisions of the preceding article, the Dean of the Graduate School shall promptly entrust the review of the dissertation to the Faculty Meeting.

- 2 Upon entrustment as prescribed in the preceding paragraph, the Faculty Meeting shall immediately form a Review Committee.
- 3 A Review Committee shall consist of at least three faculty members of the Graduate School and may include members of other Hiroshima University graduate school faculties, postgraduate faculties of other universities, research institutions and the like when deemed necessary by the Faculty Meeting.
- 4 The Review Committee shall establish a chair, to which a faculty member of the Graduate School shall be appointed.
- 5 The Review Committee shall organize a public defense of the dissertation.

### **Chapter III Review of Dissertation for Conferral of Doctoral Degree**

(Eligibility for Applying for Conferral of Doctoral Degree)

**Article 6** To be eligible to apply for the conferral of a Doctoral Degree by submitting a dissertation as prescribed in Article 2, Paragraph 3 of the Hiroshima University Regulations, a candidate must fall under any of the items below:

- (1) The candidate was enrolled in a Doctoral Program of the Graduate School for a period of three or more years, obtained the Required Credits, and received Research Guidance before withdrawing from the Graduate School.
- (2) The candidate completed a Master's Program and has three or more years of research experience.
- (3) The candidate graduated from a university and has five or more years of research experience.
- (4) The candidate does not fall under any of the preceding categories and has nine or more years of research experience.

(Dissertation Submission Procedures)

**Article 7** A candidate who falls under any of the categories stipulated in the preceding article may apply for review of his or her Dissertation by submitting the documents listed below to the President via the Dean of the Graduate School.

- (1) Application for Degree Conferral: 1 copy
- (2) List of publications: 3 copies
- (3) Dissertation: 1 copy (bound in file form)
- (4) Reference papers (if any): 2 sets of copies
- (5) Summary of the dissertation: 3 copies
- (6) Curriculum Vitae: 3 copies
- (7) Certificate of graduation or photocopy of diploma from the last school attended (certificate of completion, or photocopy of degree certificate of the graduate school): 1 copy
- (8) Document signed by head academic advisor or equivalent person certifying the length of research experience: 1 copy
- (9) Statement of confirmation regarding submission and publication of the dissertation (application form): 1 copy
- (10) Electronic versions of (3) and (5): 1 set
- (11) Letters of consent: 1 copy (not required if the dissertation is single-authored)

- 2 Notwithstanding the provisions of the preceding paragraph, candidates who graduated from the Faculty of Engineering, Hiroshima University or Hiroshima University Graduate School of Engineering and whose research experience has exclusively taken place at Hiroshima University shall not be required to submit the documents (7) and (8) of the preceding paragraph.

(Acceptance of Dissertation)

**Article 8** Acceptance of a dissertation shall be pursuant to the provisions of Article 4 hereof.

(Review Committee and Examining Committee)

**Article 9** Matters relevant to a Review Committee shall be as stipulated in Article 5 hereof.

- 2 An Examining Committee shall consist of members that include three or more members selected from the teaching faculty members of the Graduate School (Review Committee members may also serve on the Examining Committee), and may include members of other Hiroshima University graduate school faculties, postgraduate faculties of other universities, research institutions and the like when deemed necessary by the Faculty Meeting.
- 3 The Examining Committee shall establish a chair, to which a faculty member of the Graduate School shall be appointed.

(Time Limitation for Examination or Questioning)

**Article 10** The time limitation prescribed in Article 6, Paragraph 4 of the Hiroshima University Regulations shall be three years.

#### **Chapter IV Miscellaneous Provisions**

(Formats of Documents)

**Article 11** The formats of relevant documents shall be as shown in Appended Forms 1 to 7.

(Other matters)

**Article 12** Any relevant matters not stipulated in these Graduate School Regulations shall be determined by the Dean of the Graduate School following deliberations by the Faculty Meeting.

#### **Supplementary provisions**

(omitted)