

2011 Program for Leading Graduate Schools by MEXT

*Phoenix Leader Education Program  
(Hiroshima Initiative)  
for Renaissance from Radiation Disaster*

**– Self- study Report –  
Dec. 20 1 2**



– Hiroshima University –

# Introduction

The Phoenix Leader Education Program (Hiroshima Initiative) for Renaissance from Radiation Disaster (hereafter, “the Program”) is a doctoral program designed to foster interdisciplinary and eclectic global leaders (Phoenix Leaders) who are able to undertake the best possible actions in any circumstance involving a radiation hazard, and to contribute to the recovery by displaying leadership based on appropriate judgment and a clear vision. Hiroshima University inaugurated the Program by taking advantage of its wealth of experience in supporting the recovery from the destruction of the atomic bomb, as well as the University’s proven expertise as an advanced medical institution to treat survivors of the A-bomb. The 49 members of the Program comprise faculty members of eight graduate schools and research centers of Hiroshima University, as well as those from Fukushima Medical University, Tohoku University, Fukushima University, Nagasaki University, the Radiation Effects Research Foundation, and the National Institute of Radiological Sciences. Moreover, the Program is supported by many other research institutions and companies both inside and outside Japan, including the International Atomic Energy Agency (IAEA), the World Health Organization (WHO), and the International Federation of Red Cross and Crescent Societies (IFRC).

Under the conventional Japanese educational system, education and training to foster individual doctors have been provided only by a limited number of faculty members who belong to a single graduate school. This is also true of Hiroshima University, which has 11 graduate schools. Under such an educational system, it is difficult to foster leaders who can offer a broad perspective, creativity, and communication abilities sufficient to help resolve various complex problems inherent in contemporary society, and who will be active in global academic, industrial, and governmental arenas. The Program, designed to foster multidisciplinary leaders, has been adopted as one of the MEXT Leading Programs in Doctoral Education (in interdisciplinary areas), unified four or five-year doctoral programs inaugurated in Academic Year 2011 with support from Japan’s Ministry of Education, Culture, Sports, Science and Technology (MEXT). The aim is the radical reformation of Japan’s conventional graduate-school systems towards enhancing the quality of its doctoral education to a global level by jointly involving industry, academia, and government. MEXT will continue to support the Program of Hiroshima University until the end of the 2017 Academic Year.

In planning the Program, we held year-long discussions with faculty members belonging to a wide range of academic fields. As a result, we were able to prepare a plan for the Phoenix Leader Education Program (Hiroshima Initiative) for Renaissance from Radiation Disaster, the world’s first multidisciplinary doctoral program involving Hiroshima University and various other educational institutions inside and outside Japan. We found, however, that it was no easy task to implement an educational program involving multiple universities, institutions, and graduate schools. For instance, although we used teleconference systems for plenary and operational meetings to ensure participation of members from the many organizations, regrettably, some members have never attended such meetings. In this regard, I am aware of my own responsibility to exert

greater leadership as the Program Director. I also ask myself daily whether the present curriculum is truly effective in fostering Phoenix Leaders. Based on thorough reviews of the present curriculum, we will continue to endeavor to improve our syllabuses.

On October 1, 2012, eight students from diverse backgrounds and specialized fields, including overseas students and business persons, enrolled in the Program. Currently, they are studying “start-up common subjects,” including theories of social behavior, Hiroshima peace studies, introduction to radiation biology, the history of Hiroshima’s revival from the destruction caused by the atomic bomb, and advanced English.

This report details the results of our self-evaluation of the Program in terms of its purpose, guidance and student-support systems, responsible faculty members and supporters of education, student enrollment, curriculums and training methods, outcomes of education, student support systems, facilities and equipment, and systems to further refine the quality of education. It is my sincere hope that leading figures in industrial, academic, and governmental circles inside and outside Japan will read this report and provide us with valuable suggestions, so that we can continue to improve the Program and meet the expectations placed upon us from around the world. I would like to ask for your frank suggestions, including unrestricted criticism.

January 2013

December 2012

Tetsuji Okamoto, Program Director

Phoenix Leader Education Program (Hiroshima Initiative) for Renaissance from Radiation Disaster

Hiroshima University Graduate Schools

# Table of Contents

<b>Criterion 1: Purpose of the Program .....</b>	<b>1</b>
<b>Criterion 2: Implementation Structure .....</b>	<b>4</b>
<b>Criterion 3: Program Members and Education Supporters .....</b>	<b>9</b>
<b>Criterion 4: Status of Accepting Students .....</b>	<b>12</b>
<b>Criterion 5: Contents and Means of Education .....</b>	<b>17</b>
<b>Criterion 6: Outcomes of Education .....</b>	<b>24</b>
<b>Criterion 7: Student Support Systems .....</b>	<b>25</b>
<b>Criterion 8: Facilities and Equipment .....</b>	<b>29</b>
<b>Criterion 9: System for Quality Enhancement and Improvement of Education ....</b>	<b>30</b>



## Criterion 1. Purpose of the Program

**Point: Does the purpose of the Phoenix Leader Education Program (Hiroshima Initiative) for Renaissance from Radiation Disaster (hereafter “the Program”) comply with the purpose of the Leading Program in Doctoral Education, sponsored by the Ministry of Education, Culture, Sports, Science and Technology (MEXT): fostering leaders who have a broad perspective and creativity and who will be active in global academic, industrial, and governmental arenas?**

### [Explanation of the Situation]

The nuclear power plant accident at Fukushima Daiichi Power Station revealed that in addition to inflicting damage on human health and contaminating the environment, a nuclear power plant accident imposes great stresses on residents, making them concerned over the impacts of environmental contamination and leading to the collapse of communities. Since the end of World War II, Hiroshima University has been supporting the revival of Hiroshima and its residents from the destruction of the atomic bomb. Taking advantage of its accumulated expertise, Hiroshima University has prepared a Program to foster “Phoenix Leaders,” who will lead the interdisciplinary and integrated management of recovery programs in regions suffering from complex damage caused by radiation disasters.

To prepare an appropriate system for the Program, Hiroshima University has established a unified five-year doctoral program, and partially amended the Regulations of Hiroshima University Graduate Schools and other related rules to stipulate the purpose of the Program.

Moreover, Hiroshima University partially amended its Regulations on Diplomas, so that students who complete their doctoral education in the Program will be easily identified.

### [Evaluation and Its Logical Grounds]

Recovery from a nuclear power plant disaster entails broad perspectives and interdisciplinary approaches, covering industrial, political, and many other areas. The Program has been designed to foster Phoenix Leaders, who have a broad perspective and creativity and who will be active in global academic, industrial, and governmental arenas, as stipulated in the purpose of the MEXT Leading Program in Doctoral Education. The purpose of the Program therefore complies with the MEXT Leading Program.

★Data I-A. Application for a Grant for Leading Program in Doctoral Education for the Fiscal Year 2011 (Excerpt)

Shortly after the accident at the Fukushima Daiichi Nuclear Power Station, Hiroshima University dispatched an Emergency Medical Assistance Team to address radiation exposure. A total of over 1,200 people participated in the Emergency Medical Assistance Team and offered instructions regarding the establishment and maintenance of emergency medical systems to treat patients exposed to radiation in Fukushima. Team members have found that in addition to inflicting damage on human health and contaminating the environment, a nuclear power accident imposes great stresses on residents, making them concerned for the impacts of environmental contamination and leading to the collapse of human relations and communities. The accident in Fukushima also revealed a serious shortage of human resources capable of managing a post-disaster society, based on accurate academic knowledge on exposure to radiation. The fostering of such human resources is urgently required not only in Japan, but also in many other countries. Currently, the use of radiation is spreading rapidly in the areas of medical treatment and industrial activities. In addition, increasing numbers of developing countries are engaged in nuclear power development. At the same time, the risk of nuclear terrorism is also growing due to the increasingly unstable international situation. On the other hand, systems to ensure safety from radiation have proved to be fragile. In this context, it is an urgent task to foster global leaders, capable of giving instructions on the safe management of radiation and protection from radiation. In emergencies, these leaders should also work to reduce the impact of radiation disasters and help promote the recovery of affected areas. To develop such human resources, however, it is essential to develop a new academic field that integrates various disciplines, such as radiation disaster medical science, environmental science, social sciences and pedagogy. In other words, we must establish a new academic field, which we call "Radiation Disaster Recovery Studies." Despite the necessity and urgency of advanced education in this new academic field, however, only a few organizations in the world are capable of offering such educational programs. Hiroshima University, with its wealth of experience in supporting the recovery from the destruction of the atomic bomb, is one of the few universities in the world capable of developing human resources that are capable of engaging in comprehensive and interdisciplinary management of recovery from radiation disasters. We at Hiroshima University believe that fostering such human resources is one of the missions of Hiroshima University, which experienced the atomic bomb and struggled to recover from its impact.

★Data I-B. Regulations of Hiroshima University Graduate Schools (Excerpt)

(Doctoral program to foster leaders)

Article 25-2: To foster leaders who have broad knowledge and insight to identify the core of a problem, and the creativity to address it in original ways, the University operates the doctoral program to foster leaders as an interdisciplinary and trans-academic-field program.

2. Items necessary for the doctoral program to foster leaders shall be provided separately.

★Data I-C. Hiroshima University Regulations on Diplomas (Excerpt)

Appended Form No. 3 (In relation to Article 16)

Form for the diploma to be granted in pursuant to Article 2-2

(For students who complete the Doctoral Course Leader Education Program)

DIPLOMA	Seal
Name:	No:
	Date of Birth:
This diploma certifies that you have completed the doctoral program (xx program) as a xx major in the Graduate School of xx at Hiroshima University and are hereby awarded a Doctorate Degree in (xx academic field).	
	Date:
	Hiroshima University <span style="border: 1px solid black; padding: 2px;">Seal</span>

★Data 1-D. Regulations for Graduate School Doctoral Course Leader Education Program of Hiroshima University (Excerpt)

(Purpose)

Article 2: The purpose of establishing the doctoral program to foster leaders is developing human resources capable of identifying the essence of problems and addressing them in original ways, based on a broad perspective and knowledge, transcending conventional boundaries between academic fields.

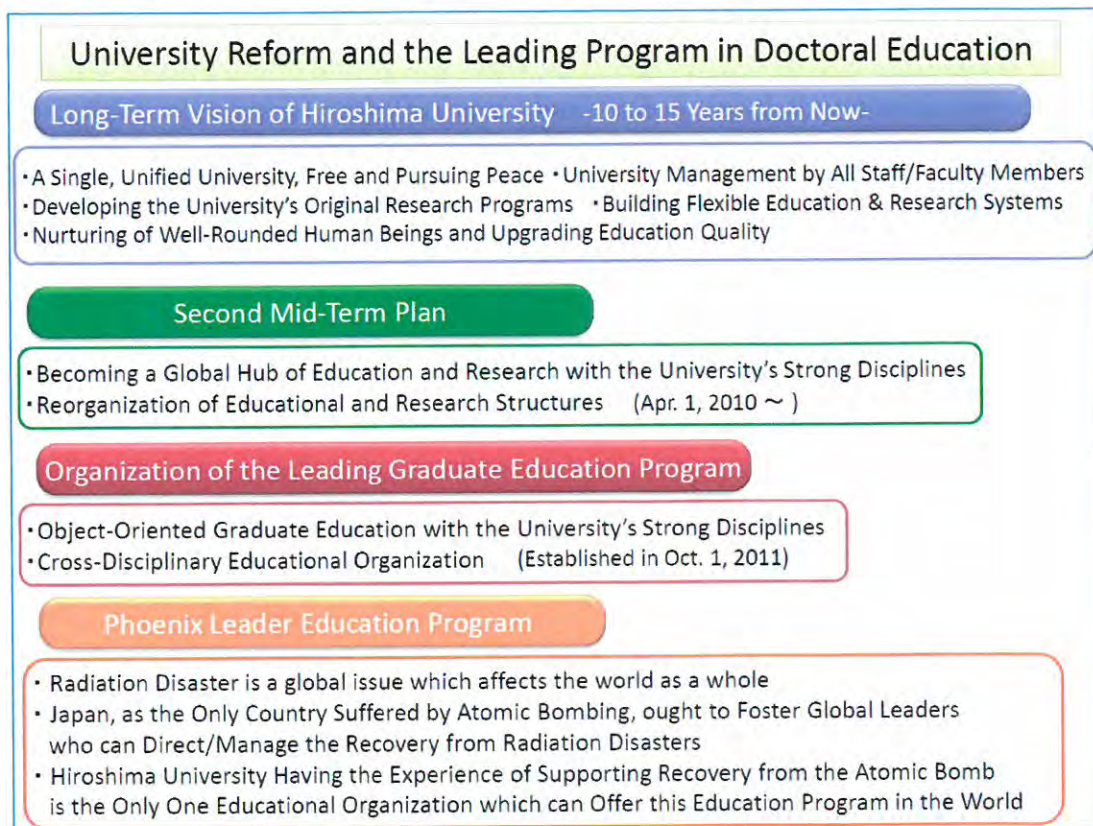
★Data 1-E. Detailed Regulations for Completion the Phoenix Leader Education Program (Hiroshima Initiative) for Renaissance from Radiation Disaster (Hiroshima University Doctoral Course) (Excerpt)

(Purpose of education and research)

Article 2: The purpose of the Phoenix Leader Education Program is to establish a new academic field, "Radiation Disaster Recovery Studies" that integrates medical science, environmental science, engineering, natural sciences, sociology, pedagogy, psychology and other fields; and to foster interdisciplinary and comprehensive global leaders (Phoenix Leaders) who are able to take the best possible actions in any circumstance involving a radiation hazard, and to contribute to the recovery by displaying leadership based on proper judgment and a clear vision.

★ Data 1-F. Leading Program in Doctoral Education (for Academic Year 2011)

Material used for on-site inspection on May 24, 2012 (Excerpt)





## Criterion 2. Implementation Structure

**Point 2-① Does the Program have guidance and student-support systems appropriate for achieving its purpose?**

### **[Explanation of the Situation]**

On October 1, 2011, Hiroshima University established the Organization of the Leading Graduate Education Program (hereafter “Leading Program Organization”). Using this organization as a platform, the University has established guidance and support systems for students, transcending conventional boundaries of graduate schools and majors. The University has also built partnerships with various international and Japanese organizations, including the International Atomic Energy Agency (IAEA), the World Health Organization (WHO), and the International Federation of Red Cross and Crescent Societies (IFRC).

As part of the efforts to build a guidance system based on these partnerships, the University formed the Fieldwork implementation Committee of the Phoenix Leader Education Program (Hiroshima Initiative) for Renaissance from Radiation Disaster (hereafter “Fieldwork Committee”), which prepares for fieldwork in the coming academic years.

The University has also established an Advisory Faculty Council for the Phoenix Leader Education Program (Hiroshima Initiative) for Renaissance from Radiation Disaster at Hiroshima University Graduate Schools (hereafter the “Advisers’ Conference”) with the aim of facilitating communication among the primary advisers regarding students’ problems and adjustment in their courses.

### **[Evaluation and Its Logical Grounds]**

To offer guidance and instructions transcending conventional boundaries between academic fields and promote recovery from a radiation disaster in a holistic manner, the guidance and support systems in the Program involve faculty members from various graduate schools, including both the cultural and scientific fields.

Students enrolled in the Program are given instructions from more than one faculty member, including a primary adviser and co- advisers. This system enables a broad and holistic perspective to be developed, essential for Phoenix Leaders. These guidance and support systems are therefore appropriate in achieving the purpose of the Program to foster Phoenix Leaders who have an ability to synthesize or analyze a whole situation.

★Data 2-①-A. Regulations of Hiroshima University Graduate Schools (Excerpt)

(Graduate Schools)

Article 7: The University operates graduate schools.

2: The University operates the following graduate schools and centers.

- The Graduate School of Integrated Arts and Sciences
- The Graduate School of Letters
- The Graduate School of Education
- The Graduate School of Social Sciences
- The Graduate School of Sciences
- The Graduate School of Advanced Sciences of Matter
- The Graduate School of Biomedical & Health Sciences
- The Graduate School of Engineering
- The Graduate School of Biosphere Science
- The Graduate School of International Development and Cooperation
- The Hiroshima University Law School
- Project Research Center for Clinical Trial and Preventive Medicine
- Project Research Center for Engineering

3: The University has established the Leading Program Organization to manage leading programs.

★Data 2-①-B. Internal Administrative Rules for the Phoenix Leader Education Program for Renaissance from Radiation Disaster (Excerpt)

Article 3. The Phoenix Leader Education Program is to gain the cooperation of the organizations noted in the table below in creating the Renaissance from Radiation Disaster Study Program.

Hiroshima University	Graduate School of Integrated Arts and Sciences, Graduate School of Literature, Graduate School of Education, Graduate School of Social Sciences, Graduate School of the Physical Sciences, Graduate School of Engineering, Graduate School of Biosphere Sciences, Graduate School of Biomedical & Health Sciences, Research Institute for Radiation Biology and Medicine, Natural Science Center for Basic Research and Development, Sustainable Development Practices Research Center (hereinafter referred to as the “Graduate Schools and Others”)
Other	Fukushima University, Fukushima Medical University, National Institute for Radiological Sciences, Radiation Effects Research Foundation

(Courses)

Article 4. The Phoenix Leader Education Program consists of the following three courses.

Program type	Course
Four year degree program	Radiation Disaster Medicine Course
Five year degree program	Radioactivity Environmental Protection Course
	Radioactivity Social Recovery Course

b. Each of the courses mentioned above will have its own Course Leader.

★Data 2-①-C. Detailed Regulations for Completion the Phoenix Leader Education Program (Hiroshima Initiative) for Renaissance from Radiation Disaster (Hiroshima University Doctoral Course) (Excerpt)

(Advisers)

Article 9: Students wishing to enroll in the Program shall submit a Written Request for Appointing Advisers, after receiving approval from the faculty members concerned within one week of enrolling at the University. The Written Request must be submitted to both the Leader of the Phoenix Leader Education Program (hereafter the “Program Leader”) and the graduate schools that the students belong to (hereafter “respective graduate schools”).

2. Based on the Written Request set out in the previous section, the Program Leader shall appoint advisers for respective students, so that students may receive instructions concerning the subjects to take and research activities to conduct.
3. At least four advisers should be appointed for each student, comprising one main adviser and three or more sub advisers.
4. The main adviser should be selected from among faculty members responsible for the appropriate course of the Program.
5. One sub adviser shall be selected from among the faculty members either responsible for or cooperating with the appropriate course of the Program.
6. Two sub advisers shall be appointed from among the faculty members of either other courses (one from each course) or other graduate schools.
7. If a student wishes to change advisers, the student must first obtain the approval of the relevant adviser, and submit a Written Request for Change in Advisers to the Program Leader and obtain his/her approval.

★Data 2-①-D. Phoenix Leader Education Program Adviser Application Form  
See Annex: *Documents Related to Course Completion* (Chap. I, p.11)

★Data 2-①-E. Division of Duties between Doctoral Leader Education Program and Respective Graduate Schools  
See Annex: *Documents Related to Office Matters* (Chap. IV, pp. 1,2)

**Point 2-② Does the Program have planning, operating, and partnership-building systems appropriate for achieving its purpose?**

**[Explanation of the Situation]**

The University has established a Leading Program Organization chaired by the President. Under the Organization, the University has further established the Program Members' General Meeting of the Phoenix Leader Education Program (Hiroshima Initiative) for Renaissance from Radiation Disaster (hereafter the "Program Meeting"), the Steering Committee of the Phoenix Leader Education Program (Hiroshima Initiative) for Renaissance from Radiation Disaster (hereafter the "Steering Committee"), the Education Committee on the Phoenix Leader Education Program (Hiroshima Initiative) for Renaissance from Radiation Disaster (hereafter the "Education Committee"), the Evaluation Committee on the Phoenix Leader Education Program (Hiroshima Initiative) for Renaissance from Radiation Disaster (hereafter the "Evaluation Committee"), the Entrance Examination Committee on the Phoenix Leader Education Program (Hiroshima Initiative) for Renaissance from Radiation Disaster (hereafter the "Entrance Examination Committee"), and a few additional organizations. The University has further established the Collaboration Office in Education and International office of Hiroshima University as the office to support the administrative work for those committees.

Moreover, the University is planning to establish an Industry-Academia-Government Collaboration Consortium, which will promote partnerships with various organizations in and outside Japan.

**[Evaluation and Its Logical Grounds]**

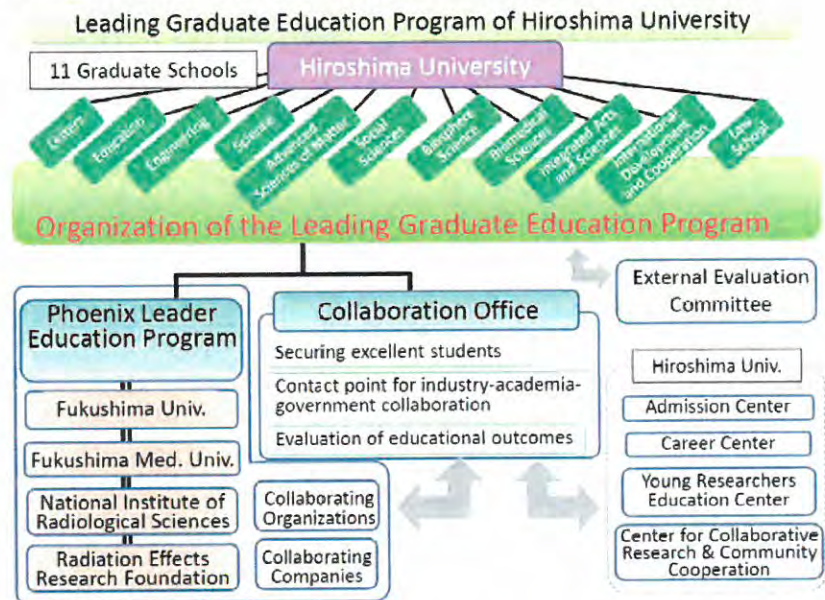
The University is currently building the planning, operating, and partnership-building systems for the Program in joint efforts with various organizations in and outside Japan to fulfill the purpose of the Program—fostering interdisciplinary and comprehensive global leaders (Phoenix Leaders). At the moment, however, many organizations are in the planning stage, including an Industry-Academia-Government Collaboration Consortium. The University is working to build and reinforce the appropriate systems to fulfill the aims of the Program.

★Data 2-②-A. An organization approved by the Leading Program Organization Steering Committee  
-Program Members' Meeting for the Phoenix Leader Education Program

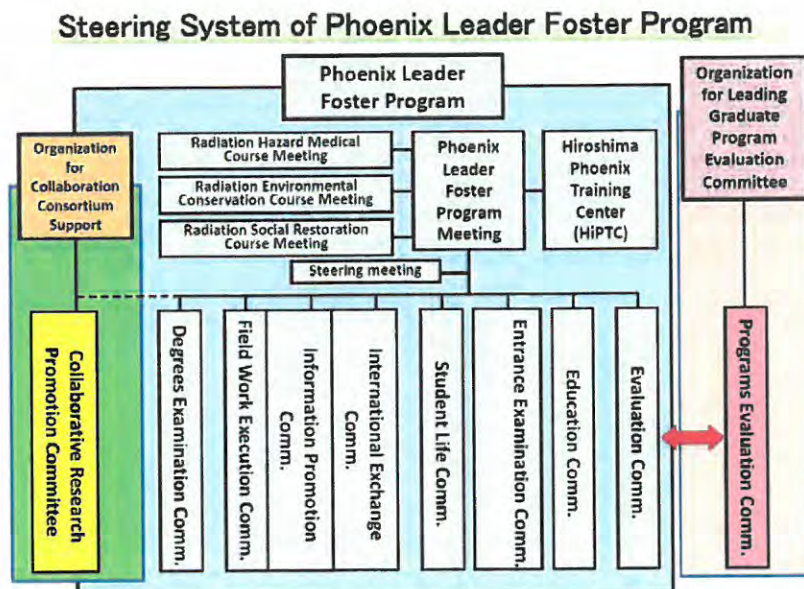
★Data 2-②-B.Organizations stipulated in Internal Administrative Rules of the Phoenix Leader Education Program for Renaissance from Radiation Disaster  
- Steering Committee for Phoenix Leader Education Program  
- Radiation Disaster Medicine Course Committee of Phoenix Leader Education Program  
- Radioactivity Environmental Protection Course Committee of Phoenix Leader Education Program  
- Radioactivity Social Recovery Course Committee of Phoenix Leader Education Program  
- Advisory Faculty Council of Phoenix Leader Education Program  
- Faculty Liaison Council of Phoenix Leader Education Program  
- Evaluation Committee of Phoenix Leader Education Program

- Education Committee of Phoenix Leader Education Program
- Entrance Examination Committee of Phoenix Leader Education Program
- Student Life Committee of Phoenix Leader Education Program
- International Exchange Committee of Phoenix Leader Education Program
- Information Promotion Committee of Phoenix Leader Education Program
- Fieldwork Implementation Committee of Phoenix Leader Education Program
- Hiroshima University Hiroshima Phoenix Training Center

★ Data 2-②-C. Leading Program in Doctoral Education (for Academic Year 2011)  
Material used for on-site inspection on May 24, 2012 (Excerpt)



★ Data 2-②-D. Leading Program in Doctoral Education (for Academic Year 2011)  
Material used for on-site inspection on May 24, 2012 (Excerpt)



### Criterion 3. Program Members and Education Supporters

**Point 3-① Does the Program have a clear policy to build an organization of faculty members? Does it clarify the responsibilities of respective members for education and research activities?**

#### [Explanation of the Situation]

Hiroshima University has built an educational system with Professor Tetsuji Okamoto as the Program Director, professor Kenji Kamiya as the Program Coordinator, Professor Shinya Matsuura as the Leader of the Radiation Disaster Medicine Course, Professor Kiyoshi Shizuma as the Leader of the Radioactivity Environmental Protection Course, and Professor Kiriko Sakata as the Leader of the Radioactivity Social Recovery Course.

The leaders of individual courses are responsible for matters that affect their respective courses, and participate in the Program Steering Committee and other council/committees to make decisions on matters affecting the entire program.

Respective faculty members concerned are responsible for matters that involve their own classes and academic subjects. In an omnibus form class, however, one faculty member is appointed as a coordinator responsible for the teaching system crossing graduate schools.

#### [Evaluation and Its Logical Grounds]

To foster Phoenix Leaders and to fulfill the purpose of the Program, the University has built a system led by the Program Director and comprising leaders of individual courses, faculty members responsible for the Program, faculty members responsible for their own classes, and coordinators of omnibus classes.

The University has also established a Program Steering Committee and other organizations of faculty members. Responsibility of individual members are stipulated in the Internal Administrative Rules for the Program and regulations/agreements.

★Data 3-① Guidelines and Agreements Specified by the Bylaws on the Operation of the Phoenix Leader Education Program (Hiroshima Initiative) for Renaissance from Radiation Disaster

- Internal Administrative Rules for the Phoenix Leader Education Program for Renaissance from Radiation Disaster
- Agreement Related to Additions and Changes of the Program Members of the Phoenix Leader Education Program for Renaissance from Radiation Disaster
- Agreement Regarding the Selection of Specially Appointed Instructors, Phoenix Leader Education Program for Renaissance from Radiation Disaster
- Agreement Related to Part-Time Lecturers' Class Implementation, Etc. for the Phoenix Leader Education Program for Renaissance from Radiation Disaster
- Agreement Related to Title Conferment for Visiting Professors for the Phoenix Leader Education Program for Renaissance from Radiation Disaster
- Code on Treatment of Teaching Assistants for the Phoenix Leader Education Program for Renaissance from Radiation Disaster
- Code on Treatment of Research Assistants for the Phoenix Leader Education Program for Renaissance from Radiation Disaster
- Agreement Concerning "Visiting Professor" and Other Titles To Grant in the Phoenix Leader Education Program (Abolished on Aug 20, 2012)

**Point 3-② Does the Program have faculty members capable of achieving the purpose of the Program: to foster Phoenix Leaders, who will conduct interdisciplinary and integrated management of recovery programs in regions suffering from complex damage caused by radiation disasters?**

**[Explanation of the Situation]**

Program Members responsible for the Program have been gathered from diverse graduate schools at Hiroshima University, including [1] the Graduate School of Integrated Arts and Sciences, [2] the Graduate School of Letters, [3] the Graduate School of Education, [4] the Graduate School of Social Sciences, [5] the Graduate School of Sciences, [6] the Graduate School of Biomedical Sciences, [7] the Graduate School of Engineering, and [8] the Graduate School of Biosphere Science. Some members are also from various other universities and research institutes, including Fukushima University, Fukushima Medical University, Radiation Effects Research Foundation, and National Institute of Radiological Sciences. With these members, the Program can offer cross-disciplinary education.

From January 2013, additional members will join the Program from the Graduate School of Biomedical Sciences of Nagasaki University and the School of Medicine of Tohoku University. These faculty members from around Japan will be dedicated to fostering Phoenix Leaders.

**[Evaluation and Its Logical Grounds]**

Faculty members responsible for the Program have been gathered from various academic fields, including both the natural sciences and humanities. Transcending boundaries between academic fields and national borders, they will work to foster interdisciplinary and comprehensive leaders. Part-time lecturers will be selected through discussions at Program Members' General Meeting.

The multiple adviser system ensures that students can gain well-balanced instruction. The Program therefore has members capable of achieving the purpose of the Program.

★Data 3-② List of Program Members of the Phoenix Leader Education Program for Renaissance from Radiation Disaster

At Dec 1, 2012

NO	Title	Name	Affiliation	Responsibility
1	Executive and Vice President	Tetsuji Okamoto	Community Relations, Public Relations and Academic Information	Program Director Radiation Disaster Medicine Course Member
2	Professor	Kenji Kamiya	Research Institute for Radiation Biology and Medicine	Program Coordinator Radiation Disaster Medicine Course Member
3	Professor	Shinya Matsuura	Research Institute for Radiation Biology and Medicine	Radiation Disaster Medicine Course Leader
4	Professor	Kiyoshi Shizuma	Graduate School of Engineering	Radioactivity Environmental Protection Course Leader
5	Professor	Kiriko Sakata	Graduate School of Integrated Arts and Sciences	Radioactivity Social Recovery Course Leader
6	Professor	Yoshio Hosoi	Research Institute for Radiation Biology and Medicine, and Institute of Biomedical & Health Sciences	Radiation Disaster Medicine Course Member
7	Professor	Mitsuo Ochi	Graduate School of Biomedical & Health Sciences	"
8	Professor	Toshiya Inaba	Research Institute for Radiation Biology and Medicine, and Institute of Biomedical & Health Sciences	"
9	Professor	Yoshihiro Takihara	Research Institute for Radiation Biology and Medicine, and Institute of Biomedical & Health Sciences	Radiation Disaster Medicine Course Member

NO	Title	Name	Organization	Responsibility
10	Professor	Hiroaki Honda	Research Institute for Radiation Biology and Medicine, and Institute of Biomedical & Health Sciences	"
11	Professor	Yukihito Higashi	Research Institute for Radiation Biology and Medicine, and Institute of Biomedical & Health Sciences	"
12	Professor	Yasushi Nagata	Graduate School of Biomedical & Health Sciences	"
13	Professor	Kazuo Awai	Graduate School of Biomedical & Health Sciences	"
14	Professor	Koichi Tanigawa	Graduate School of Biomedical & Health Sciences	"
15	Program Leader	Yoshiya Shimada	National Institute of Radiological Sciences	"
16	Professor	Seiji Yasumura	Fukushima Medical University	"
17	Professor	Motoyuki Sugai	Graduate School of Biomedical & Health Sciences	"
18	Professor	Yukio Urabe	Graduate School of Biomedical & Health Sciences	Radioactivity Social Recovery Course Member
19	Professor	Masao Kobayashi	Graduate School of Biomedical & Health Sciences	Radiation Disaster Medicine Course Member
20	Professor	Wataru Yasui	Graduate School of Biomedical & Health Sciences	"
21	Professor	Satoshi Tashiro	Research Institute for Radiation Biology and Medicine	"
22	Professor	Junko Tanaka	Graduate School of Biomedical & Health Sciences	"
23	Professor	Kazuaki Chayama	Graduate School of Biomedical & Health Sciences	"
24	Professor (Special Appointment)	Tamotsu Toshima	Graduate School of Biomedical & Health Sciences	"
25	Department Chief of Epidemiology	Kotaro Ozasa	Radiation Effects Research Foundation	"
26	Professor	Akira Sakai	Fukushima Medical University	"
27	Professor	Akira Ohtsuru	Fukushima Medical University	"
28	Professor	Satoru Nakashima	Natural Science Center for Basic Research and Development	Radioactivity Environmental Protection Course Member
29	Professor	Yasushi Fukazawa	Graduate School of Science	"
30	Professor	Toshiyuki Sawa	Graduate School of Engineering	"
31	Associate Professor (Special)	Kazuya Tanaka	Institute for Sustainable Sciences and Development	"
32	Professor	Toshinori Okuda	Graduate School of Integrated Arts and Sciences	"
33	Associate Professor	Takeshi Naganuma	Graduate School of Biosphere Science	"
34	Professor	Akira Watanabe	Fukushima University	"
35	Professor	Norihisa Kato	Graduate School of Biosphere Science	"
36	Associate Professor	Satoru Endo	Graduate School of Engineering	"
37	Professor (Special Appointment)	Shoken Miyama	Office of the President	"
38	Professor	Takashi Tsuchida	Graduate School of Engineering	"
39	Professor	Takashi Yamamoto	Graduate School of Science	"
40	Professor	Mitsuhiro Ura	Graduate School of Integrated Arts and Sciences	Radioactivity Social Recovery Course Member
41	Professor	Makoto Iwanaga	Graduate School of Integrated Arts and Sciences	"
42	Professor	Tsunekazu Toda	Graduate School of Social Sciences	"
43	Associate Professor	Yosinori Sugiura	Graduate School of Integrated Arts and Sciences	"
44	Professor	Hirotaaka Yamauchi	Graduate School of Letters	"
45	Professor	Hideaki Maemoku	Graduate School of Education	"
46	Professor	Takeshiro Hayashi	Graduate School of Education	"
47	Associate Professor	Akiko Harano	Fukushima University	"
48	Associate Professor	Hiroshi Nittono	Graduate School of Integrated Arts and Sciences	"



## Criterion 4. Status of Accepting Students

**Point 4-① Does the Program have a definite policy and criteria for admitting students?**

**Does the University publicize those criteria?**

### **[Explanation of the Situation]**

To invite applications from excellent students, the University has prepared the “Application Guide for Admission” which stipulates types of desirable students, the purpose of the Program, and applicant screening criteria. In addition, the University has established an Entrance Examination Committee to prepare for screening.

During 2012, the University held entrance examinations twice a year (in February and July), each comprising a primary screening based on evaluation of short essays submitted in advance, and a secondary screening, in which applicants joined a two-day lodging together during which they were interviewed and joined group discussions.

To promote the Program and invite applications from around the world, the University built and updated its website, publicized the Program in journals, and held briefing meetings in various Japanese cities (Fukushima, Tokyo, Osaka, and Fukuoka), as well as at overseas facilities (Hiroshima University Brazil Center and the Brazilian National Nuclear Energy Commission, etc.).

In addition, the University sent posters and bills to other universities to promote the Program and related information, particularly information on desirable students for the Program and entrance examinations.

### **[Evaluation and Its Logical Grounds]**

Basic admission policies and screening criteria, as well as types of desirable students, are publicized in the Call for Student Applications and web pages of the Phoenix Leader Education Program.

The University also held briefing meetings and promoted the Program through various media. However, further efforts should be made in public relations.

★Data 4-① Application Guide for Admission to Hiroshima University Graduate School Leader Education Program For Phoenix Leader Education Program (Hiroshima Initiative) for Renaissance from Radiation Disaster  
See Annex: *Documents Related to Student Recruitment* (Chap. VIII, pp. 1-13)

**Point 4-② Does the Program employ an appropriate system to select students according to its admission policy? Does the system function well?**

**[Explanation of the Situation]**

To evaluate applicants' academic ability, communication ability, and management ability, which are difficult to evaluate solely by written examinations, in 2012 the University held a two-day lodging together, during which time students were interviewed in Japanese and English, and joined group discussions. While the Program has a capacity for about 10 students, five applicants were selected as a result of the examinations in February 2012, and three were selected as a result of the examinations in July 2012.

Those selected students have diverse backgrounds: two students from outside Japan, a few students from Hiroshima University, and a few business persons.

**[Evaluation and Its Logical Grounds]**

To screen candidates appropriately based on their academic ability, communication ability, language proficiency, and other qualities required for Phoenix Leaders, the University organizes two phases screening with oral testing through academic dialogues such as interview and group discussion besides writing during one night and two days examination camp. While the Program has a capacity for about 10 students, five applicants were selected as a result of the examinations in February 2012, and three were selected as a result of the examinations in July 2012. Since the eight students selected include two students from outside Japan and business persons, the examination system has proved to be valid and to function well.

To increase the number of applicants, however, the University must make further efforts to promote the Program.

★Data 4-②-A. Opening Ceremony of the Phoenix Leader Education Program (Hiroshima Initiative) for Renaissance from Radiation Disaster (Oct. 1, 2012)



★Data 4-②-B. List of Students Enrolled in October 2012

NO	Gender	Nationality	Course	Affiliation	Primary Adviser
1	M	Japan	Radiation Disaster Medicine Course	Graduate School of Biomedical & Health Sciences Biomedical Sciences Major	Tetsuji Okamoto
2	F	Mongolia	Radiation Disaster Medicine Course	Graduate School of Biomedical & Health Sciences Biomedical Sciences Major	Yasushi Nagata
3	F	Japan	Radioactivity Environmental Protection Course	Graduate School of Integrated Arts and Sciences Division of Integrated Arts and Sciences	Toshinori Okuda
4	F	Japan	Radioactivity Environmental Protection Course	Graduate School of Integrated Arts and Sciences Division of Integrated Arts and Sciences	Toshinori Okuda
5	M	Indonesia	Radioactivity Environmental Protection Course	Graduate School of Integrated Arts and Sciences Division of Integrated Arts and Sciences	Toshinori Okuda
6	M	Japan	Radioactivity Environmental Protection Course	The Graduate School of Science Chemistry	Satoru Nakashima
7	F	Japan	Radioactivity Social Recovery Course	Graduate School of Integrated Arts and Sciences Division of Integrated Arts and Sciences	Mitsuhiro Ura
8	M	Japan	Radioactivity Social Recovery Course	Graduate School of Biomedical & Health Sciences Health Sciences Major	Yukio Urabe

**Point 4-③ Does the Program have a system to verify that screening methods comply with the admissions policy? Are verification results reflected in improving the screening methods?**

**[Explanation of the Situation]**

After jury members evaluate applicants, their evaluations are closely examined at the Program Members' General Meeting and the Program Steering Committee, to determine whether or not each applicant is suitable for the Program. If any problems are detected regarding entrance examinations and admission systems, their solutions are discussed by the Education Committee and the Entrance Examination Committee. Ideas for improvement set out at these meetings are reflected in the next entrance examinations.

**[Evaluation and Its Logical Grounds]**

Before finalizing successful applicants, the Program Members' General Meeting and the Program Steering Committee closely examine the results of entrance examinations.

If any problems are detected with the entrance examinations, the Education Committee studies the problems and determines appropriate solutions. Measures to improve screening methods, including reinforcement of public relations, have been adopted.

To solve the already pointed out issues, insufficiency of international , however, further efforts should be made to promote the Program outside Japan.

★Data 4-③-A. Application Guide for Admission to the Phoenix Leader Education Program (Hiroshima Initiative) for Renaissance from Radiation Disaster (for Japan)

広島大学「放射線災害復興フェニックスリーダー育成プログラム」平成25年度募集要項（募集要項）プログラム

広島大学大学院  
放射線災害復興を推進する  
フェニックスリーダー育成プログラム  
平成25年（2013年）10月入学者  
募集案内

広島大学大学院では、「放射線災害復興を推進するフェニックスリーダー育成プログラム」（学位科学系「博士課程前期リーディングプログラム」平成25年度募集要項）について、平成25（2013）年10月入学者の募集を行います。

本プログラムでは、医学、理学、工学、農学、社会学、教育学、芸術学などの基礎的知識を具し、放射線災害からの復興を推進的かつ総合的に導き出し、国際的に活躍できるリーダー、実践的グローバルリーダーの育成を目指しており、次のような学生を募集しています。

- （1）横断的知識と技術を身につけ、社会の発展に貢献したい人
- （2）人の痛みがわかり、災害復興に貢献したいと強く願う人
- （3）リーダーとなって、地域・国際社会で活躍したい人
- （4）意欲、行動力、責任心、人間力に優れた人

本プログラムでは「放射線災害復興コース」「放射線環境安全コース」「放射線社会復興コース」の3つのコースを設け、特色ある教育を実施します。

全国から優秀な学生を入学後、社会人の方、出願書類を提出してご応募ください。プログラムおよび入試情報の詳細については「放射線災害復興を推進するフェニックスリーダー育成プログラム」のホームページをご覧ください。

■ 就学上の経済支援  
学生寮料の免除、奨学金月額10～20万円（奨学金を支給しない場合）※資料・授業料は不要。

■ 入学試験説明会  
広島大学理学部5F503、工学部5F503、環境学棟5F503（1F）をそれぞれ会場として実施予定です。詳細はホームページをご覧ください。

■ 選考試験日程  
【出願資格】平成25年1月22日（水）～2月24日（月）17時～18時  
【出願期間】平成25年2月16日（土）～2月17日（日）17時～18時  
【集約試験】平成25年2月16日（土）～2月17日（日）17時～18時  
【集約試験】平成25年2月16日（土）～2月17日（日）17時～18時

「放射線災害復興を推進するフェニックスリーダー育成プログラム」  
URL <http://www.hiroshima-u.ac.jp/lp/program/ra/>

お問い合わせ先 広島大学理学部 国際教育センター5F503  
〒731-8581 広島県広島市南区 広島大学理学部5F503（TEL: 082-243-1111）E-mail: leading-group@ipc.hiroshima-u.ac.jp

Data 4-③-B. Application Guide for Admission to the Phoenix Leader Education Program (Hiroshima Initiative) for Renaissance from Radiation Disaster (for outside Japan)

Ministry of Education, Culture, Sports, Science and Technology - MEXT "PD Leading Programs"  
(multidisciplinary, cross-cutting theme) accepted from FY2011



Phoenix Leader Education Program(Hiroshima Initiative)  
for Renaissance from Radiation Disaster

## Application Guide for Admission October 2013 Enrollment

Hiroshima University Graduate School is accepting applications for October 2013 enrollment in the Phoenix Leader Education Program (Hiroshima Initiative) for Renaissance from Radiation Disaster (Ministry of Education, Culture, Sports, Science and Technology - MEXT "PD Leading Programs" accepted from FY2011).

This program aims to nurture comprehensive interdisciplinary global leaders with a basic knowledge of medicine, environmental studies, engineering, science, sociology, education and psychology capable of literally and comprehensively managing radiation disaster recovery. **The program seeks students who:**

1. desire to contribute to the development of society with interdisciplinary knowledge and skills,
2. understand the suffering of others and have a strong desire to contribute to radiation disaster recovery,
3. desire to become leaders that play an active role in regional and global society, and;
4. have exceptional enthusiasm, determination, responsibility, and people skills.

This program offers specialized, integrative studies through 3 courses: "Radiation Disaster Medicine," "Radioactivity Environmental Protection," and "Radioactivity Social Recovery." University students, graduate students, and adults possessing a wide range and zeal are **accepted from around the world**, regardless of their educational specializations. For more information regarding the program and admissions, please refer to the website for the "Phoenix Leader Education Program (Hiroshima Initiative) for Renaissance from Radiation Disaster."

### Financial Support for Students

Exemption from student housing fee, monthly stipend of 180,000 to 200,000 yen  
(Students not receiving the stipend are exempt from the admission fee/tuition)

### Explanatory Meeting for the Entrance Exam

Meetings will be held at the following Hiroshima University sites: Tokyo Office, Osaka Office, Fukuoka Office, Higashi-Hiroshima Campus, and Kasumi Campus. Please refer to the website for details.

### Selection Examination Schedule

**Preliminary Document Review of Applicant Eligibility (relevant individuals only):** Must be received by 5:00 p.m. on January 7, 2012 (Mon.)  
**Application Periods:** Begins January 22, 2013 (Tue.) and ends at 5:00 p.m. on January 26, 2013 (Mon.)  
**Second Selection:** February 16, 2013 (Sat.), February 17, 2013 (Sun.)  
**Place:** Hiroshima City Cultural Exchange Hall

Phoenix Leader Education Program website  
<http://www.hiroshima-u.ac.jp/en/lp/po/ra/>



**Inquiries:** Collaboration Office of the Education and International Office, Hiroshima University  
1-7-1, Kasahara, Higashi-Hiroshima, 739-8521 JAPAN  
Tel: +81-033-424-6322 E-mail: [leading-prog@office.hiroshima-u.ac.jp](mailto:leading-prog@office.hiroshima-u.ac.jp)

## Criterion 5. Contents and Means of Education

**Point 5-① Does the Program have systematic curriculums appropriate to fulfill its goal and suitable for granting academic degrees? Are subjects to be taught well arranged in line with the purpose of the Program?**

### [Explanation of the Situation]

The curriculums of the Program have been prepared to foster the desired leaders in the Program.

Systematic and serial educational programs have been designed by preparing a curriculum map that stipulates the purposes of individual courses. Based on the curriculum, “start-up common subjects” are currently provided to students.

The University has established the Hiroshima Phoenix Training Center (HiPTC) and the Fieldwork Committee, to prepare and provide students with comprehensive and practical opportunities to train their skills based on the knowledge learned in individual classes.

### [Evaluation and Its Logical Grounds]

Toward the goal of granting a diploma as a Phoenix Leader, the curriculums are well organized, beginning with the “start-up common subjects,” proceeding to “advanced common subjects,” and to coursework, fieldwork, and internship. In all three courses, cross-disciplinary subjects have been arranged to provide broad knowledge and to develop practical skills and communication abilities, including English proficiency. The Program therefore has curriculums suitable for fulfilling the goal of the Program: to foster Phoenix Leaders.

★Data 5-①-A. Detailed Registration Regulations for The Phoenix Leader Education Program for Renaissance from Radiation Disaster , Hiroshima University Graduate Schools (Excerpt)

(Curriculums)

Article 5: The curriculums for the Phoenix Leader Education Program (Hiroshima Initiative) for Renaissance from Radiation Disaster shall comply with items stipulated in Appendices 1 to 3.

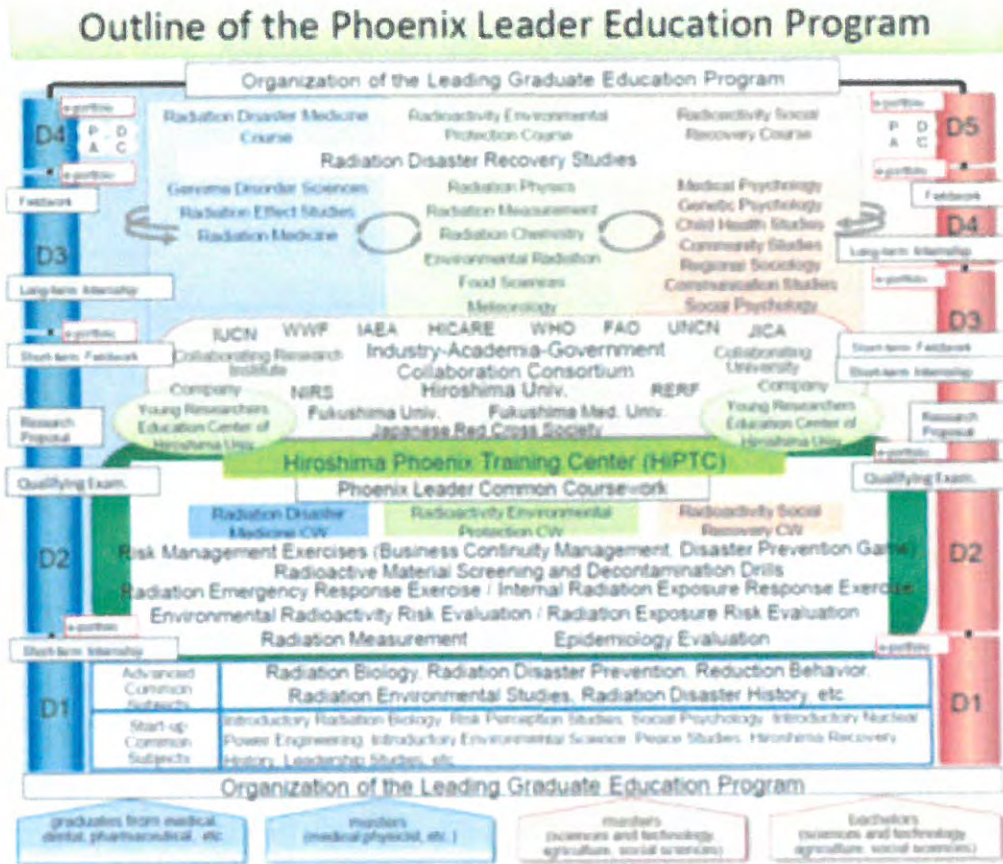
(Subjects)

Article 6: Subjects taught in the Program and their credits shall comply with items stipulated in Appendices 1 to 3.

★Data 5-①-B. Curriculums of the Phoenix Leader Education Program (Attached Table for Detailed Regulations for Completion the Phoenix Leader Education Program for Renaissance from Radiation Disaster )  
See Annex: *Documents Related to Course Completion* (Chap. I ,pp. 8-10)

★Data5-①-C. Curriculum Map for the Phoenix Leader Education Program for Renaissance from Radiation Disaster (Appendix for Code on the Curriculum Map for the Phoenix Leader Education Program for Renaissance from Radiation Disaster )  
See Annex: *Documents Related to Course Completion* (Chap. I,pp.18-23)

★Data 5-①-D. Application for a Grant for Leading Program in Doctoral Education for the Fiscal Year 2011 (Excerpt)



**Point 5-② Does the Program have means to guide students of diverse backgrounds to the goal of obtaining degrees? Does the Program have means to allow students to confirm their achievement levels?**

**[Explanation of the Situation]**

Under the leadership of the Educational Committee and the IT Promotion Committee in the Program, the University has prepared an e-learning system to provide remote lectures, as well as an e-learning portfolio system to enable students, advisers, and other members of the Program to confirm the progress of students in their studies. The e-learning portfolio system is also used to accumulate data on students' performances, based on which advisers offer appropriate suggestions and guidance to students.

At the end of the third semester of the four-year course and the fourth semester of the five-year course, Qualifying Examinations (QE) are provided to judge students' ability to prepare a doctoral thesis. The content of the examinations are basically determined at meetings of the Advisory Faculty Council and the Education Committee.

**[Evaluation and Its Logical Grounds]**

Through the effective use of the e-learning system, faculty members can offer remote lectures, correct reports of individual students, and offer suggestions appropriate to individual students with diverse backgrounds.

The learning e- portfolio system is used to facilitate the management and disclosure of information on students' progress. Since detailed information on the progress of individual students can be shared through this system, using the system, students can confirm their own achievement levels, while advisers can offer guidance to students in an interactive way.

Before granting a master's degree, QE is given to students on all courses to determine their ability to prepare a doctoral thesis, as well as their academic abilities and credentials. In this way, the University manages all the processes toward granting diplomas, while allowing students to confirm their own achievement levels.

★Data 5-②-A. Detailed Registration Regulations for The Phoenix Leader Education Program (Hiroshima Initiative) for Renaissance from Radiation Disaster , Hiroshima University Graduate Schools (Excerpt)

(Qualifying Examinations)

Article 10: Students who satisfy the criteria specified in Article 11 are eligible for the Qualifying Examination for doctoral thesis (QE), which comprises items specified in the following sections. Students who pass the QE will advance into the third year of the Phoenix Leader Education Program (Hiroshima Initiative) for Renaissance from Radiation Disaster .

- (1) Coursework: written examinations on expertise in multiple academic fields
- (2) Research work: interview in English by the QE Committee concerning students' research plans
- (3) e-learning portfolio: quality examinations by the QE Committee to determine students' credentials based on their earned credits, levels of understanding and achievement of set goals

(Eligibility for Qualifying Examination)



Article 11: Students in the four-year course who meet the following criteria are eligible for QE.

(1) Those who have gained a sufficient number of credits by the end of the first semester of the second year at their respective graduate school

(2) Those who have gained at least 22 credits by the end of the first semester of the second year of the four-year course

2. Students on the five-year course who meet the following criteria are eligible for QE.

(1) Those who are expected to gain a sufficient number of credits and to complete the master's program at their respective graduate school

(2) Those who are expected to gain at least 30 credits by the end of the second year of the five-year course

★Data 5-②-B. Guideline on the Learning e-Portfolio Operations for the Phoenix Leader Education Program for Renaissance from Radiation Disaster

See Annex: *Documents Related to Course Completion* (Chap. I, pp.24,25)

**Point 5-③ Does the Program have advanced educational functions sufficient to offer high-level practical curriculums?**

**[Explanation of the Situation]**

The University has established the Hiroshima Phoenix Training Center (HiPTC), which is equipped with diverse instruments and apparatus. At this Center, students who are in the second semester of the first year and who are in the second year study Phoenix Leader Common Coursework, which comprises the following subjects: [1] Primary Radiation Exposure/Internal Radiation Exposure Response Exercise/Epidemiology Evaluation, [2] Radioactive Material Screening/Decontamination Drills, [3] Radiation Disaster Risk Management/Disaster Prevention Exercise, [4] Radiation Measurement, and [5] Business Continuity Management (BCM).

The University has also established the Fieldwork Committee, to prepare for fieldwork. Currently, the Committee has prepared an Outline of Fieldwork and guidelines concerning the management of radiation exposure, inspection of internal radiation exposure, and emergency communication systems to prepare for an accident/disaster. Moreover, through the partnerships with various other organizations in and outside Japan, the University is preparing for fieldwork in Semipalatinsk, Chernobyl, and Fukushima.

Students experience a long-term internship in the fourth year of the five-year course and the third year of the four-year course. To prepare for this, the University is currently selecting faculty members of host organizations, including International Atomic Energy Agency (IAEA), the World Health Organization (WHO), and the International Federation of Red Cross and Crescent Societies (IFRC).

**[Evaluation and Its Logical Grounds]**

The University is preparing for trainings and exercises at the HiPTC, including drills on Business Continuity Management (BCM), as well as fieldwork and internship programs to be offered in and outside Japan. In this way, an interdisciplinary, high-level, and practical curriculum is being developed to foster Phoenix Leaders.

★Data 5-③-A. By-Laws for the Hiroshima Phoenix Training Center for the Phoenix Leader Education Program for Renaissance from Radiation Disaster  
See Annex :*Documents Related to Management & Organization* (Chap. III, pp. 8,9)

★Data 5-③-B. Code on Fieldwork in Phoenix Leader Education Program Renaissance from Radiation Disaster, Hiroshima University Graduate School  
See Annex :*Documents Related to Fieldwork* (Chap. V, pp. 1-8 )

★Data 5-③-C. Fieldwork Guidelines for Phoenix Leader Education Program for Renaissance from Radiation Disaster, Hiroshima University Graduate School  
See Annex V:*Documents Related to Fieldwork* (Chap. V, pp. 9,10)

**Point 5-④ Does the Program have a mechanism to develop students' communication and negotiation abilities so as to foster active leaders who will address global challenges?**

**[Explanation of the Situation]**

To provide students to be enrolled in the Program with the opportunity to improve their language proficiency during the gap term from April to October (when the Program starts), the University has prepared the Outline of Overseas Language Seminars of the Phoenix Leader Education Program (Hiroshima Initiative) for Renaissance from Radiation Disaster. In principle, students to be enrolled on the Program are given the status of *research students* at Hiroshima University during the gap term (before their enrollment in the Program).

As host organizations of language seminars, the University has entered into a partnership with the Center for Intensive English Studies of Florida State University (USA), INTO University of Exeter (UK), and Exeter Academy (UK). Among the students who enrolled in the Program in October 2012, three participated in language seminars at Florida State University, and reported their experiences at a meeting held in October.

In addition to language seminars, the curriculum of the Program includes various subjects designed to improve students' proficiency in English, such as Advanced English I, Current English Concerning International Development, English Communication, English Rhetoric, and English Presentation.

Apart from these ordinary language classes, the University introduced a special English class (once a week) in December 2012 with the aim of improving students' ability to communicate in English.

Moreover, students will participate in the planning and operation of the second International Symposium of the Program to be held in February 2013. This will enable faculty members to assess students' communication and negotiation abilities.

**[Evaluation and Its Logical Grounds]**

In addition to providing various subjects in English, the University offers opportunities to attend overseas language classes and give presentations in English at the International Symposiums of the Program. The University places the utmost priority on developing students' English proficiency to understand, write, and present academic papers, as well as to communicate.

★Data 5-④-A. Code on Implementing Overseas Language Training, Phoenix Leader Education Program for Renaissance from Radiation Disaster  
See Annex: *Documents Related to Language Training* (Chap. VI, pp. 1-3)

★Data 5-④-B. Code on Implementing Language Training for Graduate Students, etc., Phoenix Leader Education Program for Renaissance from Radiation Disaster  
See Annex: *Documents Related to Language Training* (Chap. VI, p.4)

★Data 5-④-C. Regulations for Research Students at Hiroshima University (Excerpt)

(Outline)

Article 1: The Regulations for Research Students at Hiroshima University prescribes necessary items regarding research students who study specific subjects for one semester or one year at Hiroshima University (a faculty, graduate school, attached research institute, or joint education and research facility on campus) or a joint usage facility of national universities (hereafter “faculty or the like”) in pursuant to Article 52-2 of the Hiroshima University General Rules (Rule #2, effective from April 1, 2004) and Article 53-2 of the Regulations of Hiroshima University Graduate Schools (effective from January 15, 2008).

(Omission)

Supplementary Provisions

1. The Regulations for Research Students at Hiroshima University shall be effective from April 1, 2004.
2. Research students who are permitted to remain in their status by the former Regulations for Research Students at Hiroshima University (Rule #1, became effective in 1976) at the time when the new Regulations become effective shall remain in their status pursuant to the new Regulations.
3. Students on the Doctoral Program to Foster Leaders who are admitted to a faculty or the like as a research student during the gap term before the commencement of the Program shall be exempted from the payment of examination fees, enrollment fees, or tuition fees, irrespective of the prescriptions in Articles 3-1, 7, or 8-1.

(Omission)

Supplementary Provisions (Rule #103, effective from May 15, 2012)

The Supplementary Provisions shall be effective from May 15, 2012. The revised prescription of Section 3 of the Supplementary Provision of the Regulations for Research Students at Hiroshima University shall be effective from April 1, 2012.

★Data 5-④-D. A Presentation at an Overseas Language Seminar (Oct 22, 2012)



## Criterion 6. Outcomes of Education

**Point: Does the Program have an appropriate system to evaluate students' achievement levels in terms of their academic performances and credentials, as well as their progress towards the goal of developing abilities required for Phoenix Leaders?**

### [Explanation of the Situation]

The University is currently preparing curriculums and syllabuses for individual courses. In addition, the University is developing a curriculum map, which will function as a yardstick for students to check their own achievement levels in respective subjects in the learning e- portfolio.

The learning e- portfolio records data on students' progress in their studies, reports they have prepared, and progress in their research activities. Based on those data, advisers offer guidance to students.

### [Evaluation and Its Logical Grounds]

Since the progress made by students in their studies is recorded in the learning e- portfolio, both advisers and students can share the data on knowledge and skill levels achieved by individual students. Accordingly, students and advisers can confirm students' achievement levels and discuss their studies in an interactive way.

The University is currently preparing a curriculum map as a yardstick to measure knowledge and skill levels achieved by individual students. This will help clarify students' achievement levels, together with credits earned and reports submitted by individual students.

All these means are effective in revealing the progress made by students towards the goal of developing the abilities required of Phoenix Leaders.

★Data 6-A. Code on the Curriculum Map for the Phoenix Leader Education Program for Renaissance from Radiation Disaster  
See Annex : *Documents Related to Course Completion* (Chap.I p.17-23)

★Data 6-B. Guideline on the Learning e-Portfolio Operations for the Phoenix Leader Education Program for Renaissance from Radiation Disaster  
See Annex: *Documents Related to Course Completion* (Chap.I pp. 24,25)

## Criterion 7. Student Support Systems

**Point 7-① Does the Program offer an ideal environment where excellent students can inspire and compete with each other?**

### **[Explanation of the Situation]**

In February 2012, the first International Symposium of the Program was held at the Hiroshima International Conference Center. This Symposium comprised specialist meetings of the Leading Program in Doctoral Education, sessions on low-dose radiation exposure and risk communication, and presentations on basic research results and their application to nuclear disasters.

In May 2012, Specialist Meetings of the Phoenix Leader Education Program (Hiroshima Initiative) for Renaissance from Radiation Disaster were held at the Rihga Royal Hotel, Hiroshima. Four students who enrolled in the Program in October 2012 participated in the event and joined discussions in English.

At the second International Symposium of the Program to be held in February 2013, students will participate in a panel discussion and organize a poster session. The University plans to continue to hold International Symposiums of the Program to provide students with opportunities to offer presentations on their interdisciplinary research activities.

### **[Evaluation and Its Logical Grounds]**

Since the first International Symposium of the Program was held before the inauguration of the Program, no students participated in the event. In the second event, however, students will participate in the poster session.

In the second Symposium, most of the lectures and presentations will be given by faculty members involved in the Program and other specialists. However, the University plans to gradually shift key organizers and speakers from faculty members to students. The International Symposiums therefore are expected to serve as an essential stage for students to display their leaderships, while they can also inspire and compete with each other.

★Data 7-①-A. A Specialist Meeting of the Phoenix Leader Education Program (May 16, 2012)



★Data 7-①-B. The Poster for the Second International Symposium of the Phoenix Leader Education Program

**Suggestion for the Renaissance from Radiation Disaster**

文部科学省「博士課程教育リーディングプログラム」平成23年度採択事業

**放射線災害復興を推進する  
フェニックスリーダー育成プログラム  
第2回 国際シンポジウム**

**The 2nd  
International Symposium  
ON  
Phoenix Leader Education Program  
(Hiroshima Initiative)  
for  
Renaissance from Radiation Disaster**

**February 10 (Sun) - 11 (Mon, National Holiday), 2013**  
at Hiroshima International Conference Center, Japan

**February 10 (Sun) 12:30 ~ 16:30**

**Keynote Speakers**  
Dr. Shinsuke Shimoi Professor, California Institute of Technology  
Dr. Bethy K. Chhem Director, Division of Human Health, International Atomic Energy Agency (IAEA)

**Synopsists**  
Dr. Jacques Lewhard Chairman of Committee & International Commission on Radiological Protection (ICRP)  
Dr. Taketoshi Ebihara, Insulator Scientist, Chubu Electric Corporation  
Dr. Seichi Nishida Head of Environmental Protection Research Section, National Institute for Environmental Studies  
Dr. Albert Lee Wiley Technical Medical Director at Radiation Emergency Assistance Center/Training Site (REACTS)  
Dr. Tom K. Wolf Professor, Columbia University Medical Center

**February 11 (Mon) 09:00 ~ 12:00**

**Poster Session (Research Presentation)**

**Panel Discussion**  
"How can the science and technology contribute to the social construction for security and safety?"

**Panelists**  
Dr. Shinsuke Shimoi, Dr. Bethy K. Chhem, Prof. Kenji Kamiya, Program students

English & Japanese only

URL (EN) = <http://www.hiroshima-u.ac.jp/ps13/> URL (JP) = <http://www.hiroshima-u.ac.jp/ps13program/>

主催：広島大学フェニックスリーダー育成プログラム 協賛機関：文部科学省 広島国際会議場  
〒730-8521 広島県広島市南区美土町1-1-1 広島国際会議場 1102号室

**Point 7-② Does the Program offer financial support to students to enable them to concentrate their efforts and time on studies and research activities?**

**[Explanation of the Situation]**

To enable students to concentrate their efforts and time on studies and research activities, the University has established scholarships for the Hiroshima University Leading Program in Doctoral Education, and provides monthly scholarships amounting to 180,000 to 250,000 yen to students on the Program who require financial support and who have passed the screening for the scholarship. In the screening, applicants' research plans are examined as basic materials.

Concerning student accommodation, the University has established a Student Life Support Committee, along with Guidelines for Accepting Students from the Leading Program in Doctoral Education at Hiroshima University Dormitories. For students studying on the Higashi-Hiroshima Campus, the University offers dormitory rooms, while for students in Hiroshima City, the University arranges private apartments if the students so desire.

The University does not charge enrollment fees or tuition fees to students to whom scholarships are not provided.

In addition, the University leases notebook PCs to students who require them during their enrollment period, in line with the Code for Leasing PCs to Students on the Program, prepared by the Student Life Support Committee.

**[Evaluation and Its Logical Grounds]**

The University offers monthly scholarships amounting to roughly 200,000 yen to students on the Program to allow them to concentrate their time and efforts on studies and research activities without engaging in part-time jobs.

The University does not charge enrollment fees or tuition fees to students to whom scholarships are not provided.

In addition, the University arranges dormitories and apartments for students, leases notebook PCs, and offers other services to support students financially.

★Data 7-②-A. Guidelines for the Hiroshima University Graduate School Doctoral Course Leader Program Grant  
See Annex: *Documents Related to Provision of Support* (Chap. II. pp. 1-7)

★Data 7-②-B. Code on treatment of Phoenix Leader Education Program Enrollees in Hiroshima University Student Dormitories  
See Annex: *Documents Related to Provision of Support* (Chap. II. pp. 8,9)

★Data 7-②-C. Chart of Tuition, Enrollment Fees, and Student Housing Fees  
See Annex: *Documents Related to Provision of Support* (Chap. II. p. 10)

★Data 7-②-D. Guide to Lending Laptop Computers Phoenix Leader Education Program for Renaissance from Radiation Disaster, Hiroshima University Graduate Schools  
See Annex: *Documents Related to Provision of Support* (Chap. II. pp. 11-14)



**Point 7-③ Does the Program support students in preparing and carrying out their autonomous and original research plans?**

**[Explanation of the Situation]**

To provide students on the Program with accommodation fees and daily allowance during their fieldwork and internship trips, the University has prepared Guidelines for the Payment of Accommodation Fees and Daily Allowance for Students on the Phoenix Leader Education Program (Hiroshima Initiative) for Renaissance from Radiation Disaster .

To encourage students to attend and give presentations at academic meetings held in and outside Japan, the University has prepared the Code on Supporting Participation in Overseas Academic Meetings for Students on the Phoenix Leader Education Program (Hiroshima Initiative) for Renaissance from Radiation Disaster , and the Code on Supporting Participation in Academic Meetings in Japan for Students on the Phoenix Leader Education Program (Hiroshima Initiative) for Renaissance from Radiation Disaster .

**[Evaluation and Its Logical Grounds]**

In addition to attending lectures and participating in seminars within the campuses of the University, students on the Program are encouraged to autonomously prepare and carry out their original research plans in and outside the campus. To support students in such autonomous activities, the Program has established a system to provide students with travel expenses to attend academic meetings in and outside Japan, as well as daily allowances for various activities.

The University should, however, establish a system to provide students with start-up funds to initiate their research activities along with competitive research funds.

★Data 7-③-A. Guidelines for the Payment of Accommodation Fees and Daily Allowance for Students on the Phoenix Leader Education Program  
See Annex: *Documents Related to Administrative Work* (Chap. IV. p.6)

★Data 7-③-B. Code on Supporting Participation in Overseas Academic Meetings for Students of the Phoenix Leader Education Program for Renaissance from Radiation Disaster  
See Annex: *Documents Related to Provision of Support* (Chap. II. pp. 15-17)

★Data 7-③-C. Code on Supporting Participation in Overseas Academic Meetings for Students of the Phoenix Leader Education Program for Renaissance from Radiation Disaster  
See Annex: *Documents Related to Provision of Support* (Chap. II. pp. 18-20)

## Criterion 8. Facilities and Equipment

**Point: Does the University have facilities and equipment sufficient for educational and research activities of the Program, and suitable for providing the curriculums?**

### [Explanation of the Situation]

The University established the Hiroshima Phoenix Training Center (HiPTC). During Academic Year 2011, the University purchased germanium semiconductor detectors for various types of nuclide and imaging plate scanners. These tools are essential for measuring environmental radioactivity and radioactivity in foodstuff, as well as for decontamination drills. For risk management drills, the University also purchased articles for disaster reduction games.

During Academic Year 2012, the University plans to purchase additional germanium semiconductor detectors for various types of nuclide, gamma standard sources, tools essential for fine-tuning the detectors; and analysis systems for radiation-induced chromosome abnormalities, essential for qualifying biological dose assessments using chromosomes that function as markers for radiation-induced genomic instability.

Under its partnership with Fukushima University, Hiroshima University has obtained permission to access Fukushima University's Satellite Office to Support Minamisoma Region, where students will be allowed to conduct fieldwork. The University has also prepared Codes on the Use of Fukushima University's Satellite Office to Support Minamisoma Region.

### [Evaluation and Its Logical Grounds]

To provide training and drills, the University has established the Hiroshima Phoenix Training Center (HiPTC), which will be responsible for such curriculums, as well as management of the equipment and instruments necessary for them. The University purchase equipment and instruments necessary for radiation measurement and decontamination drills, as well as for the coursework to begin during Academic Year 2013.

Under its partnership with Fukushima University, Hiroshima University prepares an ideal environment for advanced, on-site practical training to develop Phoenix Leaders, including training at Fukushima University's Satellite Office to Support Minamisoma Region.

★Data 8-1. Hiroshima Phoenix Training Center for the Phoenix Leader Education Program

See Annex: *Documents Related to the Training Center* (Chap. IX. pp. 1-4)

★Data 8-2. Codes on the Use of Fukushima University's Satellite Office to Support Minamisoma Region for Phoenix Leader Education Program for Renaissance from Radiation Disaster, Hiroshima University Graduate School

See Annex: *Documents Related to Fieldwork* (Chap. V. pp.17-20)

## Criterion 9. System for Quality Enhancement and Improvement of Education

**Point: Does the Program have an appropriate system to evaluate its implementation processes?**

### [Explanation of the Situation]

As an evaluation body, the program has formed an Evaluation Committee, which prepared its first Self-Evaluation Report in December 2012. The Committee will regularly conduct self-evaluation.

Moreover, the program plans to form an external evaluation committee, comprising specialists from industrial, academic, and governmental circles in and outside Japan. External committee members are expected to examine the Self-Evaluation Report and offer suggestions and advice for improvement in February 2013.

### [Evaluation and Its Logical Grounds]

The Program has a double evaluation system: the Evaluation Committee compiles Self-Evaluation Reports and offers data to the External Evaluation Committee, which further evaluates the data. In this way, the Program has an appropriate system to gain suggestions and advice for improvement from specialists both inside and outside of the University.

★Data 9-1 Detailed Regulations for the Evaluation Committee of Phoenix Leader Education Program for Renaissance from Radiation Disaster  
See Annex: *Documents Related to Management & Organization* (see Chap. III. p.40)

★Data 9-2. List of External Committee Members

Name	Title/Post
Tokushi Shibata	Chief research scientist of Chiyoda Technol Oarai, Inc.
Shigenobu Nagataki	Director, Radiation Effects Association
Kiyoshi Miyagawa	Professor at Graduate School of Medicine of the University of Tokyo
Takashi Yamashita	Chairman of Chugoku Electric Power Company
Dr. Albert Lee Wiley	Medical/Technical Director at Radiation Emergency Assistance Center/Training Site (REAC/TS), Oak Ridge
Dr. Jacques Lochard	Chair of Committee 4 of International Commission on Radiological Protection (ICRP)
Dr. Rethy K. Chhem	Director of the Division of Human Health, International Atomic Energy Agency (IAEA)
Dr. Tom K. Hei	Professor and Vice-Chairman of Radiation Oncology, Columbia University Medical Center

★Data 9-3. Application for a Grant for Leading Program in Doctoral Education for the Fiscal Year 2011 (Excerpt)

3) Evaluations by the Evaluation Committee (self-evaluation) and External Evaluation Committee, and reflecting their assessment in the Program

The University will form an External Evaluation Committee, comprising specialists from industrial, academic, and governmental circles in and outside Japan. The Committee will determine items to assess and will evaluate the implementation of the Program. At the same time, the internal Evaluation Committee, involving students, conducts self-evaluation, based on which the University will improve the operation of the Program. The members of the External Evaluation Committee are as follows:  
(Omission)

## Afterword

This Program was adopted by MEXT at the beginning of December 2011 as one of the Leading Programs in Doctoral Education, and was inaugurated in October 2012 with the enrollment of eight students. At that time, it had already been decided that the External Evaluation Committee would evaluate the progress of the Program at the end of the 2012 Academic Year. This meant that we had to prepare a self-evaluation report to provide to the External Evaluation Committee, by reviewing the progress of the Program in only a short period: one year and three months.

To prepare the self-evaluation report for the 2012 Academic Year in such a short time, we decided to evaluate the progress of the Program using the criteria established in Japan for the accreditation of university educational programs. Because of the tight deadline, we did not actually have sufficient data to evaluate. Moreover, since the Program is currently underway, this report evaluates only its processes and current situation.

Despite such restrictions, however, in a relatively short period we were able to prepare the self-evaluation report, which covers progress up to the end of this academic year. This achievement is attributable to the untiring efforts of the faculty members, researchers, and administrative staff involved in carrying out the Program.

The Evaluation Committee would like to express its sincere gratitude to them for their generous cooperation.

Evaluation Committee,

Phoenix Leader Education Program (Hiroshima Initiative)

for Renaissance from Radiation Disaster, Hiroshima University Graduate Schools

Title	Name	Organization	Responsibility
Executive and Vice President	Tetsuji Okamoto	Community Relations, Public Relations and Academic Information & Health Sciences	Program Director Radiation Disaster Medicine Course Member
Professor	Kenji Kamiya	Research Institute for Radiation Biology and Medicine	Program Coordinator Radiation Disaster Medicine Course Member
Professor	Masao Kobayashi	Graduate School of Biomedical & Health Sciences	Radiation Disaster Medicine Course Member
Professor	Toshiyuki Sawa	Graduate School of Engineering	Radioactivity Environmental Protection Course Member
Professor	Makoto Iwanaga	Graduate School of Integrated Arts and Sciences	Radioactivity Social Recovery Course Leader
Professor (Special Appointment)	Shoken Miyama	Office of the President	Radiation Disaster Medicine Course Member
Professor (Special Appointment)	Tamotsu Toshima	Graduate School of Biomedical & Health Sciences	Radioactivity Environmental Protection Course Member



[Inquiries and Submission]

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