

# Report on AY2016 Operational Performance

June 2017

Hiroshima University





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## ○ Overview of Hiroshima University

### (1) Current Profile (as of the end of AY2016)

(i) Name: Hiroshima University

(ii) Location

- Headquarters: Kagamiyama, Higashi-Hiroshima City, Hiroshima Prefecture
- Campus:
 

Higashi-Hiroshima Campus	Kagamiyama, Higashi-Hiroshima City, Hiroshima Prefecture
Kasumi Campus	Kasumi, Minami-ku, Hiroshima City, Hiroshima Prefecture
Higashi-Senda Campus	Higashi-Senda-Cho, Naka-ku, Hiroshima City, Hiroshima Prefecture

(iii) Officers

President: Mitsuo Ochi (from April 1, 2015)  
 Executives: 7  
 Auditors: 2 (including one part-time auditor)

(iv) Schools, departments and other institutions

- Academy of Hiroshima University
- Headquarters for Education
- Schools: 11  
 School of Integrated Arts and Sciences, School of Letters, School of Education, School of Law, School of Economics, School of Science, School of Medicine, School of Dentistry, School of Pharmaceutical Sciences, School of Engineering, School of Applied Biological Science
  - Training and Research Vessel TOYOSHIO MARU (School of Applied Biological Science) \*
- Graduate schools: 11  
 Graduate School of Integrated Arts and Sciences, Graduate School of Letters, Graduate School of Education, Graduate School of Social Sciences, Graduate School of Science, Graduate School of Advanced Sciences of Matter, Graduate School of Biomedical & Health Sciences, Graduate School of Engineering, Graduate School of Biosphere Science, Graduate School for International Development and Cooperation, Hiroshima University Law School
  - Setouchi Field Science Center (Graduate School of Biosphere Science) Saijo Farming Station\*
  - Setouchi Field Science Center (Graduate School of Biosphere Science) Takehara Marine Science Station\*
- Institutes: 2  
 Institute of Biomedical & Health Sciences, Institute of Engineering
- Advanced course: 1  
 Special Course of Special Support Education
- Attached research institute: 1  
 Research Institute for Radiation Biology and Medicine\*

- Hospital
- Library
- National joint usage facilities: 1  
 Hiroshima Synchrotron Radiation Center\*
- Joint usage facilities for national universities in the Chugoku/Shikoku area: 1  
 Saijo Seminar House
- Joint education and research facilities on campus: 23  
 Research Institute for Nanodevice and Bio Systems\*, Research Institute for Higher Education, Information Media Center, Natural Science Center for Basic Research and Development, International Center, Center for Collaborative Research & Community Cooperation, Center for the Study of International Cooperation in Education, Health Service Center, Institute for Peace Science, Environmental Research and Management Center, Hiroshima University Museum, Beijing Research Center, Hiroshima Astrophysical Science Center, Institute for Foreign Language Research and Education, Hiroshima University Archives, Institute for Sport Sciences, HiSIM Research Center, Institute for Advanced Materials Research, Center for Contemporary India Studies at Hiroshima University, Institute for Sustainable Sciences and Development, Research Center for Diversity and Inclusion, Amphibian Research Center, Harassment Consultation Office
- Attached schools: 11  
 Hiroshima University Kindergarten; Hiroshima University Kindergarten, Mihara; Hiroshima University Elementary School; Hiroshima University Elementary School, Shinonome; Hiroshima University Elementary School, Mihara; Hiroshima University Junior High School; Hiroshima University Junior High School, Shinonome; Hiroshima University Junior High School, Mihara; Hiroshima University Junior High School, Fukuyama; Hiroshima University Senior High School; Hiroshima University Senior High School, Fukuyama

\* Facilities with \* are designated by the government as joint usage, joint research or joint education centers.

(v) Students and school staff (as of May 1, 2016)

- Students: Undergraduate students 10,942 (including 66 foreign students)  
 Graduate students 4,350 (including 939 foreign students)  
 (including Hiroshima University Law School and Professional Development Program for Teachers and School Leaders)
- Advanced courses 18
- Attached schools 3,863
- Teachers and administrative staff members:  
 Teachers: 1,949 (including 220 attached schools teachers)  
 Administrative staff members 1,680

## (2) Basic Objectives of Hiroshima University

### 1. Principles

Hiroshima University (hereinafter referred to as “HU”) fulfills its roles as a national university based on its founding principle, “a single unified university, free and pursuing peace”, and the following five guiding principles: Pursuit of Peace, Creation of New Forms of Knowledge, Nurturing of Well-Rounded Human Beings, Collaboration with Local, Regional and International Communities, and Continuous Self-Development.

### 2. Basic Policy

As a comprehensive research university located in Hiroshima, the first city in the world exposed to an atomic bomb, and an international peace and cultural city, Hiroshima University steadily carries out the Global Campus Expansion and Innovation Initiative in accordance with the “Program for Promoting the Enhancement of Research Universities” and the “Top Global University Project” (top type), both sponsored by the Ministry of Education, Culture, Sports, Science and Technology (hereinafter referred to as “MEXT”), aiming to provide education and conduct research of international-class level. Through “innovation” and “internationalization” of the university, HU pursues to become a Top 100 comprehensive research university in the world in ten years.

HU also strives to serve as a national center representing Japan and leading the world and as a regional center for the Chugoku and Shikoku Regions in Japan, by taking advantage of its unique characteristics and strengths, responding to the needs of the times and society, to realize a “University of World-wide Repute and Splendor for Years into the Future.” HU is committed to training highly cultured individuals with a global outlook who will work for peace through its traditional and proven liberal arts educational programs, and at the same time, focuses on developing persons who will play active roles in international and regional societies through world-class specialized education built on top-level research activities in the world.

In the area of research activities, HU continues to focus on establishment of research centers and research environments, which have been implemented in the Second Period of the Medium-Term Plan (hereinafter, the “Second Medium-Term Period”), by utilizing support programs, such as the MEXT Program for Promoting the Enhancement of Research Universities, and pursues free and highly creative research activities to achieve top-level research results in the world. In the academic fields that HU has a great advantage, such as pedagogy, condensed matter physics, space science, creation of functional materials, semiconductors and nano-technology, and biotechnology, HU pursues advanced research activities of high quality. HU also develops research centers for radiation disaster medicine, as a university that has supported the region’s restoration from calamities of the atomic bomb. It also pursues advanced research of high quality in the areas of regenerative medicine, hepatic diseases and brain science.

In the area of educational activities, HU carries out specific activities of the Hiroshima University Global Campus Expansion and Innovation Initiative developed in the Second Medium-Term Period, by utilizing support programs, such as the MEXT Top Global University Project, aiming to provide world-class education to develop educated people who can play active roles globally in solving unforeseeable problems for humankind and in pursuing peace, with their advance knowledge and abilities. To comply with the international standards for education and improve the quality of education, HU improves its educational activities through its internal education evaluation system and also receives outsider evaluations from an international consortium of universities, SERU (Student Experience in the Research University).

In the area of social contribution, HU focuses on activities to promote advanced collaboration with thriving industries in the region, such as transportation equipment and machinery industries, and with regional communities in Hiroshima Prefecture and neighboring prefectures. HU has worked in the Second Medium-Term Period to contribute to enhancement of the international competitiveness of the region and creation of innovation, by utilizing support from the Center of Innovation Stream programs of MEXT and the Building of Consortia for the Development of Human Resources in

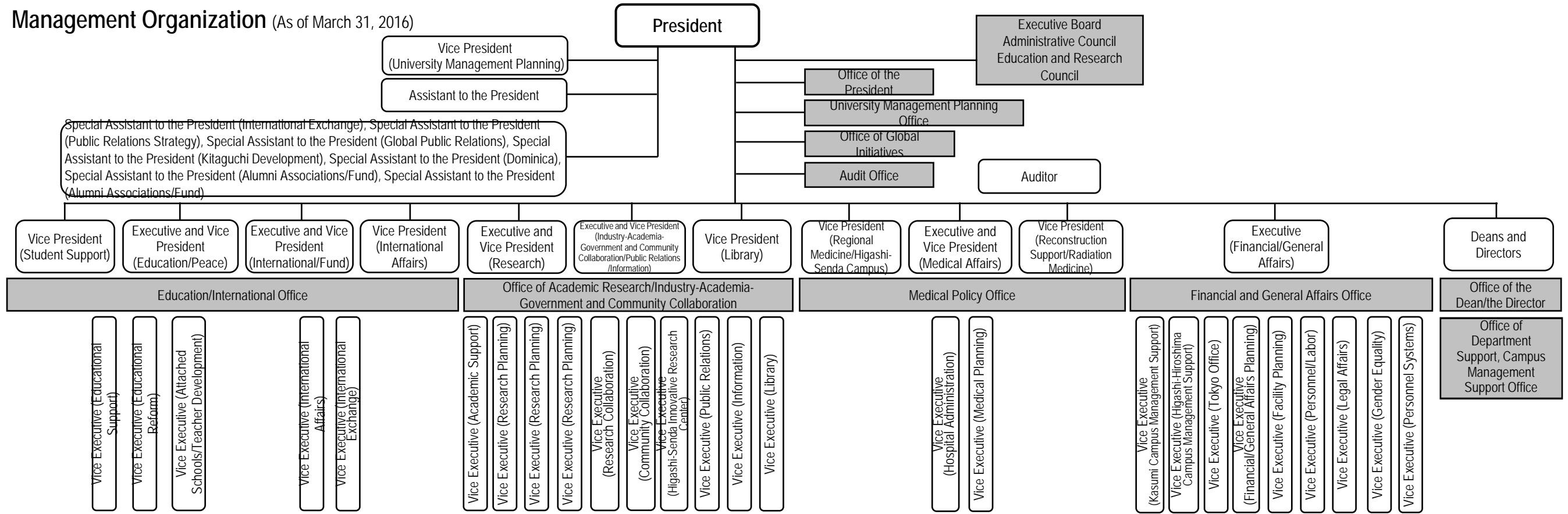
Science and Technology program of the Japan Science and Technology Agency. To contribute to regional vitalization and enlightenment, HU implements region-oriented education and research to develop people who can play active roles globally, responding to needs in areas having strong global orientation within Hiroshima Prefecture, by utilizing support from the MEXT Center of Community Program and the Hiroshima University Regional Contribution Program.

In the area of operation and administration of the university, HU strengthens its management foundation under the leadership of the President, while constantly reviewing and improving its governance system, to maximize its functions in education, research and social contribution. HU monitors the performance of educational and research activities within the university by utilizing its unique achievement-motivated key performance indicators (A-KPIs<sup>®</sup>) and its IR (Institutional Research: a function to gather and analyze information on activities within a university). Based on the analysis obtained from these functions, HU conducts strategic university management, taking advantage of its strengths and characteristics.

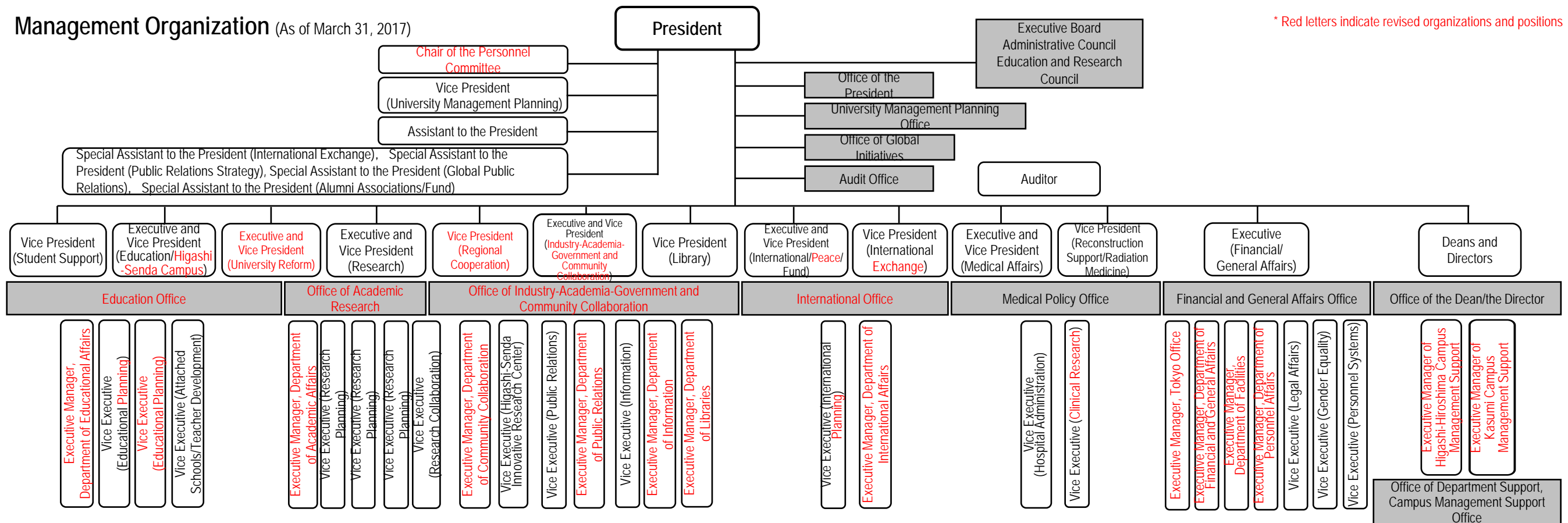
### (3) Organization of Hiroshima University

See Pages 4 and 5.

### Management Organization (As of March 31, 2016)

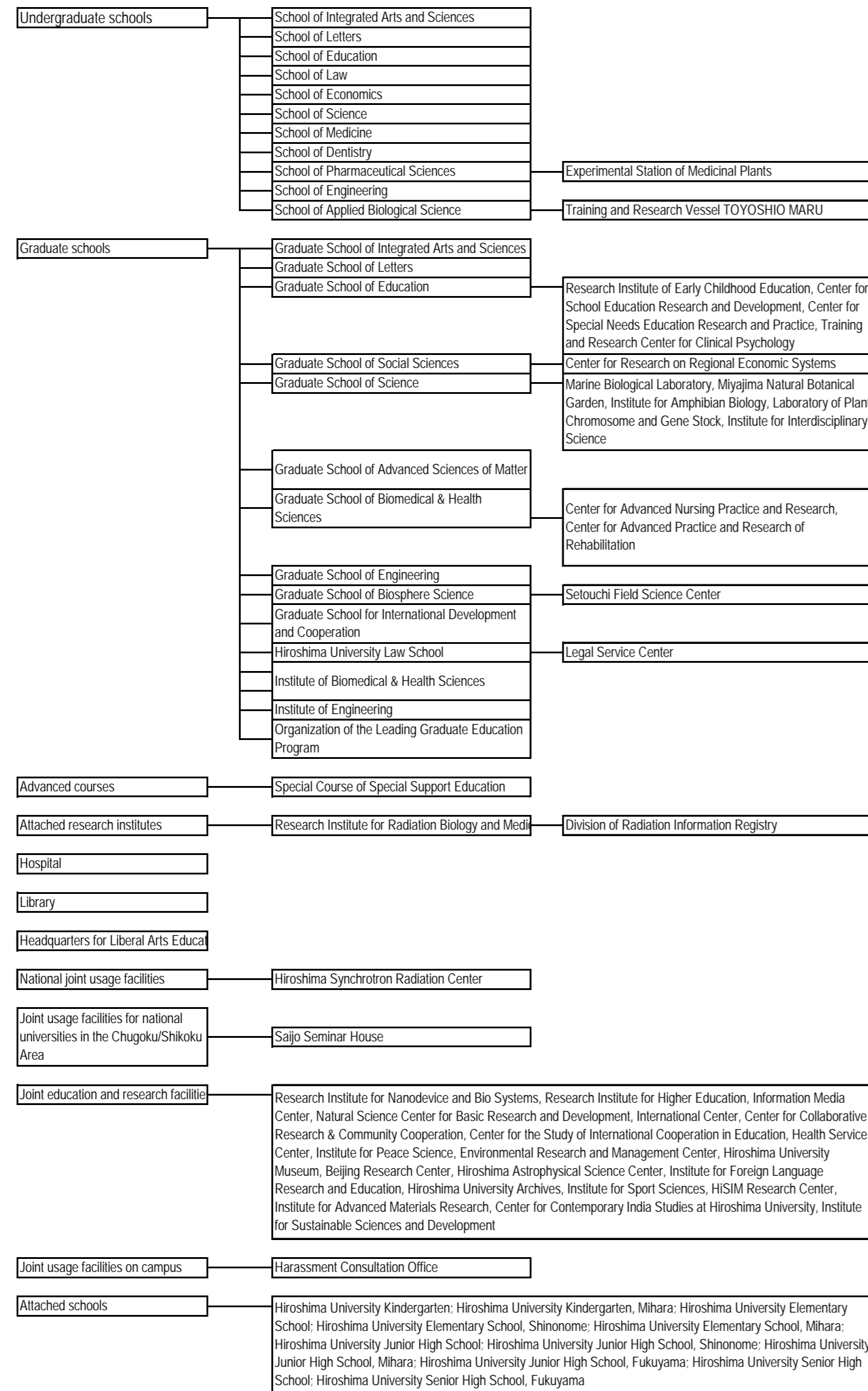


### Management Organization (As of March 31, 2017)



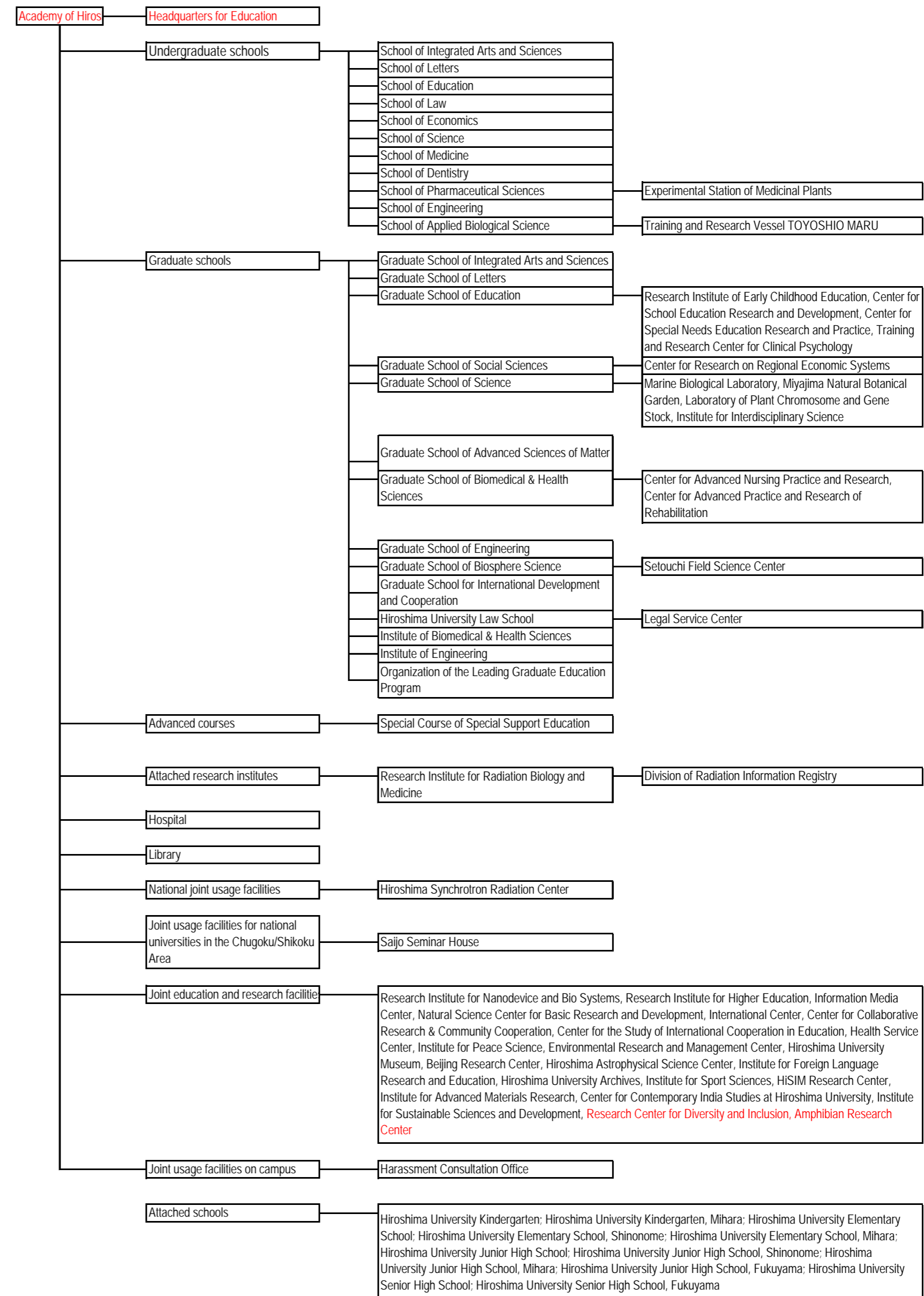
\* Red letters indicate revised organizations and positions

Educational and Research Organizations (As of March 31, 2016)



Educational and Research Organizations (As of March 31, 2017)

\* Red letters indicate revised organizations



○ Overview
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Based on its founding principle “a single unified university,” Hiroshima University conducts its education, research, medical and social activities to nurture people’s diversity and contribute to the development of a free and peaceful international society. In its Academic Year 2016 (AY2016), the first year of the Third Medium-Term Period, Hiroshima University steadily implemented activities to achieve the objectives for the Third Medium-Term Period, to realize a “University of World-wide Repute and Splendor for Years into the Future.” HU also worked on internationalization of education and enhancement of research abilities, under the Program for Promoting the Enhancement of Research Universities (RU) and the Top Global University Project (SGU) of MEXT.

In AY2016, aiming to strengthen HU’s educational and research abilities, and to maximize the performance of activities of teachers, who are important intellectual resources for HU, the organization of teachers was separated from the organization of education and research, and the Academy of Hiroshima University was established, a central organization of teachers. All teachers were transferred from individual departments to the Academy of Hiroshima University.

In connection with this, management of labor costs of teachers was transferred from individual departments to central management by the Academy under the leadership of the President. In this organizational structure, teachers can be effectively assigned to educational programs and research activities of undergraduate and graduate schools where more teachers or researchers are needed, considering the general needs of the entire organization.

The Central Personnel Committee was established as an organization directly supervised by the President to realize efficient central management of teachers throughout the university. This Committee reviews and decides the allocation of teachers, including selection of candidates, subject to prior consultation with and deliberation by the Executive Board.

The Central Personnel Committee uses its unique achievement-motivated key performance indicators (AKPI®), Basic Effort Key Performance Indicators (BKPI®) and other criteria to consider strategic and systematic personnel allocation from a holistic viewpoint for the entire university beyond the borders of educational and research organizations, and to verify whether selected candidates are appropriate.

Some other national universities have also established a central unit of teachers. But Hiroshima University is the first and only university that has established a central personnel committee and conducts strategic personnel management of teachers by using AKPI® and other criteria as references.

## 1. Improvement in the quality of education, research and other academic activities

### (1) Status of educational programs

#### (i) Activities to develop globally competent human resources

- i) Numbering of all courses and English translations of syllabuses [Project No. 1]  
Please refer to “Actions for Strategic and Ambitious Objectives and Plans” on p.21.
- ii) Development of English proficiency of students [Project Nos. 2, 3, 7 and 8]  
Please refer to “Actions for Strategic and Ambitious Objectives and Plans” on pp.21, 22 and 23.
- iii) Execution of the Joint Graduate School Program between Capital Normal University (China) and Hiroshima University [Project No. 6]  
In AY2015, Hiroshima University established the “Joint Graduate School Program of Capital Normal University and Hiroshima University” with Capital Normal University in Beijing, China, where Hiroshima University operates its Beijing Research Center. This campus-wide program supports double degrees for master’s courses. The Graduate School of Integrated Arts and Sciences, Graduate School of Letters, Graduate School of Social Sciences and Graduate School of Science participate in this program. The execution task force, comprised of representatives from these schools, solicited and screened prospective students. Seven students enrolled in the program in AY2016 (nine will enroll in AY2017). The participating graduate schools, the Education Office, the International Office, and departments at the Beijing Research Center, led by the execution task force, engaged in collaboration and coordination in designing and providing curricula for the program students, considering their study years in their respective universities, including credit transfer between the universities, and in providing intensive courses.  
Learning support environments for students were also provided, such as exemption from tuition fees and a scholarship program for eligible students.
- iv) Addition of courses that can be completed only by credits from subjects taught in English [Project Nos. 7 and 8]  
Please refer to “Actions for Strategic and Ambitious Objectives and Plans” on p.22 and 23.
- v) Addition of subjects taught in foreign languages [Project No. 32]  
Please refer to “Actions for Strategic and Ambitious Objectives and Plans” on p.29.



**(ii) Activities to improve the quality of education**

i) Improvement and expansion of an attainment target type education program [Project No. 12]

In the attainment target type education program (HiPROSPECTS) that has been implemented since AY2006, a radar chart function was added to the HU student information website “MOMIJI” in AY2016 to visually display the learning attainment level of each student. This site is used not only by students who can look at their progress but also by teachers as useful information when they teach individual students.

ii) Improvement in the self-check/evaluation system to improve the quality of education [Project No. 12]

Please refer to “Actions for Strategic and Ambitious Objectives and Plans” on p.23 and 24.

iii) Assurance of international-quality level of education (Student survey by SERU) [Project No. 12]

Please refer to “Actions for Strategic and Ambitious Objectives and Plans” on p.23 and 24.

iv) Introduction of three-tier TA system [Project No. 13]

From AY2016, HU introduced the new training assistant (TA) system “HIRODAI TA.” The HIRODAI TA is structured with three layers of TAs depending on the quality and competence required for activities: Phoenix Teaching Assistant (PTA), Qualified Teaching Assistant (QTA) and Teaching Fellow (TF). Assistants provide appropriate range of assistance according to their level. PTAs perform only auxiliary jobs relating to lessons. QTAs provide supplementary teaching during lessons, such as facilitation of discussions and demonstration of experiments, in addition to the assistance provided by PTAs. TFs teach students under the supervision of teachers, in addition to the types of assistance provided by PTAs and QTAs. To become a QTA, a student must take a training program. To become a TF, a student is required to have experience as a QTA and must complete and obtain a credit for the University Teacher Development Course.

In AY2016, ten sessions of the QTA training program were provided and 1,803 students acquired the qualification of QTA. Twenty-two students acquired the qualification of TF. HU employed two TFs for the fourth term of AY2016 on a trial basis. The “HIRODAI TA” system provides graduate school students opportunities to acquire the ability to overview their knowledge of specialized fields, deepen their understanding about education and learn methods to provide learning assistance, through training and performance of assisting jobs. The TA system helps graduate school students to become independent educators and to improve the content and quality of education at the same time.

v) Creation of the Hiroshima University Education Award program [Project No. 13]

Aiming to motivate teachers and improve education methods and techniques, and to promote excellent education, HU created a new award program, “Hiroshima University Education Award”, in AY2016. The selection criteria for the Award include the following: a person who has taught lessons of high educational effect with excellent teaching abilities, a person who has achieved outstanding educational effect by working on inventing or improving an education method, and other criteria. Four teachers were granted this award in AY2016. This award program has enhanced teachers’ motivation for inventing and improving their education methods.

vi) Strengthening the ITC environment by requiring use of laptop computers in classes by all students [Project No. 13]

From AY2015, all students have been required to use laptop computers in classes. The intent of this requirement is to develop students’ abilities to use information and telecommunication technologies and to strengthen the teachers’ abilities to use advanced teaching techniques. In AY2016, Wi-Fi access points on campus were increased from 641 to 992 (1.55 times) so that wireless LAN can be used in all lecture halls and classrooms on campus.

To respond to the need of battery charging, special computer lockers with battery chargers were installed (five lockers on Higashi-Hiroshima Campus, 2 on Kasumi Campus, one on Higashi-Senda Campus, totaling 8 lockers that can accommodate 80 computers in total.

vii) Active utilization of the cross appointment system [Project No. 13]

The cross appointment system was adopted in AY2014. To encourage active use of this system, a leaflet to introduce the system was created. English versions of agreement templates and other documents necessary to use this system with foreign universities were created. And information on this system was published on the campus information sharing portal “IROHA.” As a result of these efforts, two agreements have been concluded under this system (one with an institution in Japan, and one with an overseas institution) as of March 31, 2017, realizing strategic allocation of teachers to improve the quality of education.

These results exceeded the annual plan to examine and consider collaboration with other universities.

In AY2017, two additional agreements are scheduled to be concluded (one with an institution in Japan, and one with an overseas institution) under this system, totaling 4 agreements.

viii) Development and use of the Japanese version of the BEVI test (an attribute test relating to adoption to different cultures) [Project No. 30]

Please refer to “Actions for Strategic and Ambitious Objectives and Plans” on p.26, 27 and 28.

ix) Enhancement of Hiroshima University New Faculty Member Training Program [Project No. 13]

From the viewpoint of assuring the quality of education, to provide new teachers opportunities to acquire basic knowledge and improve their skills, the Hiroshima University New Faculty Member Training Program was designated as a requisite program to be taken by all new teachers from AY2014. The program consists of 4 subjects: University Teacher Basic, Education, Student Support, and Research. New teachers are required to take 20 hours of compulsory sessions and 4 hours of optional sessions. This Hiroshima University New Faculty Member Training Program was recognized as a program that is “expected to further improve” in the Institutional Evaluation and Accreditation conducted by JIHEE in AY2016.

In AY2016, the program was reviewed to update it to respond to the globalization of the university. The “Method to Teach Classes in English” FD was added to the requisite subjects. In AY2015, two sessions of the “Method to Teach Classes in English” FD were provided to teachers who had English proficiency to listen to and understand lessons provided by a native English speaking lecturer. In AY2016, to meet the needs of a diverse audience, FD sessions by Japanese lecturers (lessons were provided in English) were provided, in addition to FD sessions by native English speaking lecturers. Four types of FD sessions were provided five times during AY2016. As a result, the number of participants in this program doubled (from 34 participants in AY2015 to 65 participants in AY2016)

**(iii) Support provided to students**

i) Introduction of a pre-enrollment scholarship program [Project No. 14]

Please refer to “Actions for Strategic and Ambitious Objectives and Plans” on p.24.

ii) Introduction of a new scholarship program for students in the third year [Project No. 14]

In addition to the financial support offered by the Hiroshima University Phoenix Scholarship Program since 2008, it was decided to create a new scholarship program, the “Hiroshima University Splendid Scholarship”, in AY2017. The Hiroshima University Phoenix Scholarship Program exempts enrollment fees and tuition fees for about ten new enrollments every year. These students also receive financial support of 100,000 yen each month. In addition to this scholarship program, a new scholarship program will be offered in the beginning of each academic year to students who get into the third year. The tuition fees are exempted and financial support of 100,000 yen is provided each month to students with excellent character and academic performance who have financial difficulty.

iii) Strengthening the tutor system [Project No. 15]

The “Hiroshima University Student Support System” was reviewed and a new “Hiroshima University Guideline for Tutor System and Student Support System” was established. More than one teacher is assigned to each student as tutors in all schools, in principle, to encourage students to consult tutors more frequently and to strengthen the student support system. This tutor system was recognized as an “excellent” program in the Institutional Evaluation and Accreditation conducted by JIHEE in AY2016.

iv) Reinforcement of accessibility education [Project No. 16]

The following “ubiquitous support” programs were established and implemented, by utilizing ICT and cloud technologies and IoT (Internet of Things), and expanding the accessibility education program for teachers and administrative staff members, to realize accessibility to support “anytime” and “anywhere.”

- Creation of a “(New) Handbook for Accessibility Support for Teachers and Administrative Staff Members 2017”
- “Support activities of 30 hours or more” in the second educational course for accessibility for teachers and administrative staff members
- Commencement of a classroom curriculum and a (new) curriculum of “exercise of 15 hours or more”
- Implementation of the 11th AL (Accessibility Leader) Development Program (exercise x four subjects + exercise x two subjects + one classroom lecture ) (a total of 102 participants)
- Distribution of (revised) Online Accessibility Study Course 2016 (A total of 569 participants).
- Remote transcribers were provided in 47 lessons of 6 subjects as ubiquitous support.

v) Expansion of English library for extensive reading

To strengthen the English abilities of students, the “English Books for Extensive Reading” section, which was opened on the first floor of the Central Library in AY2015, was expanded in AY2016. In AY2016, the size of this section increased to 935 books from 384 books in AY2015. The number of books borrowed from the English Books for Extensive Reading” section increased 2.2 times from 891 books in AY2015 to 2,039 books in AY2016.

vi) Reinforcement of the function of the Writing Center

To help students to improve their academic writing skills, writing consultation by tutors who are graduate students (in Japanese and English) was provided.

Consultation for Japanese writing has been provided since AY2013. The number of consultation sessions increased 1.5 times from 824 in AY2015 to 1,299 in AY2016. About 70% of users were foreign students. Consultation for English writing has been provided since AY2015. The number of consultation sessions for English writing almost doubled from 24 in AY2015 to 45 in AY2016.

In AY2015, online writing consultation using Skype was started on a trial basis. In AY2016, the service was formally started (1,299 users).

According to the responses to the questionnaire of users of the writing consultation (812 users responded out of 1,299 users, response rate 62.5%), users were very satisfied with the service (Could get tips and hints for writing (98.8%), Want to use the service again (99.4%).)

**(iv) Improvement in the method to screen enrollment applicants**

i) Adoption of International Baccalaureate [Project No. 18]

To accelerate the globalization of Hiroshima University, from the admission examination for AY2017 (conducted during AY2016), ten undergraduate schools started admission examinations designed for persons who had a qualification of the International Baccalaureate (IB), a program to develop language skills, communication skills, international understanding, logical thinking, autonomous learning attitude and other abilities. Actual applicants (with the IB qualification) who took the admission examination were one for the School of Medicine, and one for the School of Pharmaceutical Sciences.

ii) Utilization of scores of English proficiency tests conducted by third parties [Project No. 18]

Please refer to “Actions for Strategic and Ambitious Objectives and Plans” on p.25.

iii) Expansion of the online application system [Project No. 19]

Please refer to “Actions for Strategic and Ambitious Objectives and Plans” on p.25.

**(2) Status of research activities**

**(i) Development of global research centers**

i) Continuous creation and development of diverse research centers [Project No. 21]

Since AY2013 HU has established and operated a system to develop global research centers on its campus as core research centers of HU that continuously create diverse research subjects, from basic research to creation of innovation, to promote collaboration and combination between different fields and promote cross-disciplinary research activities through selection and evaluation. This system invites researchers within the university to make proposals to create incubation research centers that can perform world-top-level research activities with clear objectives. Intensive support is provided to selected proposals to assist them in developing into strategic and independent research centers.

In AY2016, four additional incubation research centers were formed, totaling 16 research centers. Two self-sustained research centers were also added, totaling seven centers. Maximizing its characteristics as a comprehensive research university, HU has continuously created and developed diverse research centers in the field of humanities and sociology, medicine, science, engineering and agriculture. To develop them into active world research centers, HU intensively and strategically allocates resources to these research centers.

ii) Expansion of international research network [Project No. 21]

HU has actively worked on conclusion of comprehensive agreements with foreign universities and research institutions. In AY2016, 66 agreements were concluded with universities (totaling 244 agreements), and 33 agreements were concluded with departments of other universities (totaling 375), to expand its international research network to promote international joint research and international collective writing of papers.

HU also hosted events to invite top-class researchers in and outside Japan to provide them opportunities to exchange information, such as “workshops with partner universities overseas” and “Hiroshima University Intellectual Forum” (Lecture by a Nobel prize winner).

iii) Restructuring to form a central teachers’ unit [Project No. 22]

Please refer to “Actions for Strategic and Ambitious Objectives and Plans” on pp.25 and 26.

iv) Increase in international collective writing of papers [Project No. 22]

Please refer to “Actions for Strategic and Ambitious Objectives and Plans” on pp.25 and 26.

v) Strategic focus on research activities by utilizing a new evaluation technique for research activities [Project No. 23]

Please refer to “Actions for Strategic and Ambitious Objectives and Plans” on p.26.

**(ii) Research support and effective use of research resources**

Reinforcement of the research support system [Project No. 24]

From AY2013, to reinforce its research support system, HU has worked to establish a campus-wide URA organization comprised of a senior URA (University Research Administrator), who takes charge of research promotion at the headquarters, URAs and associate URAs, who support research activities in individual departments. To support big projects, experts with an academic career who can understand the contents of research activities have been mainly appointed as the senior URA and URAs. HU has worked to optimize the URA organization to support the enhancement of research abilities, by developing and deploying both URAs with advanced academic knowledge and URAs with administrative abilities to promote collaboration among URAs and integration of their diverse abilities.

In AY2016, HU continued to support vitalization of international research activities in core research fields of the university by assisting in filing of applications for financial aid by third parties, and assisting in active publication of results of international research activities. In particular, in the area of international public relations, HU has employed a foreigner who has experience at the British Broadcasting Corporation (BBC), who is now engaged mainly in public relations relating to international research activities of the University, in collaboration with URAs.

In AY2014, the Writing Center started to provide financial aid for a part of the costs of English proofreading services. In AY2016, aid of 5,245,422 yen was provided for 291 uses of proofreading services. To facilitate writing of papers in English by researchers, HU implemented the English Paper Writing Retreat program in AY2015 on a trial basis, which was started as a formal program in AY2016. The program received favorable comments from participants, as they could “concentrate on writing papers with a fresh feeling in a different environment.”

In addition to conventional consultation on English paper writing given by a teacher dedicated to this duty on a full-time basis, in AY2016 a native English-speaking teacher was hired and has been engaged in consultation.

**(3) Activities to strengthen management and other functions to facilitate industry-academia-government collaboration**

- i) Development of a road map for promoting joint research projects between industry, academia and government [Project No. 28]

Based on the government's Guideline for Promoting Joint Research Projects between Industry, Academia and Government, a round-table meeting of executives was held in January 2017 to exchange opinions on the progress of this project and on problems. In February 2017, the management meeting of the Organization for Promotion of Industry-Academia-Government and Community Collaboration (chaired by the President of HU) created a "Road Map for Promoting Joint Research Projects Between Industry, Academia and Government" to promote industry-academia-government collaboration in joint research activities.

- ii) Establishment of a formal organization to promote joint research projects between industry, academia and government [Project No. 28]

In the management meeting of the Hiroshima University Organization for Promotion of Industry-Academia-Government and Community Collaboration held in February 2017, it was decided that the Office of Industry-Academia-Government and Community Collaboration and the Office of Academic Research would cooperate with each other and that the vice director of each department would be appointed as a person in charge of industry-academia-government and community collaboration. An organization to promote joint research projects between industry, academia and government at all schools of the university was established.

- iii) A program to ensure proper allocation of joint research costs [Project No. 28]

In the management meeting of the Hiroshima University Organization for Promotion of Industry-Academia-Government and Community Collaboration held in February 2017, it was decided to review and revise the cost management system for joint research projects between industry, academia and government to ensure proper allocation of costs. In the revised system, costs of research activities are visualized and the participating company assumes costs necessary for joint research projects (an amount equal to labor costs of teachers of HU supervising the research projects and strategic expenses for collaboration between the company and the university) (a system to calculate indirect costs based on hourly rates). The revision of the system was announced to interested parties at and outside Hiroshima University via the website of Hiroshima University in March 2017. (The "Hiroshima University Joint Research Regulations" and the "Hiroshima University Rules for Handling of Entrusted Research and Joint Research Projects" were revised, which are applicable to joint research contracts that take effect on or after April 1, 2017.) HU worked on securing necessary funds for joint research projects and increasing indirect costs.

**(4) Cooperation with society and contribution to the community**

- i) Implementation and expansion of active industry-academia-government collaboration [Project No. 28]

To stimulate industry-academia-government collaboration by utilizing its knowledge foundation, Hiroshima University implemented the "Hiroshima University Vision for Industry-Academia-Government and Community Collaboration," comprising four action policies and eight strategies, in April 2016. In accordance with this Vision, HU has worked to promote "collaboration between organizations," which resulted in the conclusion of 11 comprehensive collaboration agreements and the addition of three programs to the Joint Research Course.

- ii) Center of Innovation (COI) [Project No. 28]

Hiroshima University plays a core role in the Center of Innovation (COI) Program of the Japan Science and Technology Agency (JST). In September 2016, it received from the JST an interim evaluation of its Center of KANSEI Innovation Nurturing Mental Wealth (published in March 2017). HU was rated "S" (Outstanding progress is observed in activities to realize the vision and in continuously developing innovation centers) for the following points:

- To "visualize KANSEI," HU devised a "KANSEI multiaxis model" that shows a feeling of excitement, in addition to a hypothesis for a "KANSEI brain network" and pleasant and unpleasant feelings.
- HU completed a prototype vehicle.
- HU started verification of the validity of measurement of deep brain activities by functional magnetic resonance imaging (fMRI) and measurement of brain waves by electroencephalographic examination (EEG).
- It has become certain that technologies used by Mazda Motor Corporation for advanced vehicles will expand into other industries and companies.
- An integrated research support structure centered around Hiroshima University, led by project leaders and research leaders, has been established with the participation of many companies and universities. Research activities were efficiently divided between the central base and satellites.

Upon receipt of this evaluation, HU hosted symposiums in Tokyo and the Chugoku/Shikoku Region [Tokyo (November 2016): 115 participants, Hiroshima City (January 2017): 133 participants] to announce these achievements to the public, and accelerated its efforts to deploy these achievements in society.

- iii) Formation of an open joint innovation platform of enterprises, research institutes and universities [Project No. 28]

In the "Program on Open Innovation Platform with Enterprises, Research Institutes and Academia (OPERA) of the Japan Science and Technology Agency (JST), "development of technologies to create innovative useful cells and organisms by genome editing," the subject of a research project of Hiroshima University, was selected as a new research field for AY2016. In connection with this, HU has created a guideline for handling intellectual properties and other achievements and established a new system to employ students for the research project.

In March 2017, HU held a kick-off symposium, with 104 people participating. Centered around the OPERA platform, HU will build a foundation for social deployment of genome editing technologies, which are expected to create innovative values in biotechnology industries and the life science field.

□) Promotion of regional revitalization by playing the role of a center of communities [Project No. 28]

The “Hiroshima Initiative to Nurture a Peaceful Society for All People” project, which was selected by MEXT as a Center for Communities (COC) project in AY2013, was restructured to continue its operation after the last year of the project (AY2018). In the area of human resource development, “Hiroshima Leaders for Peace and Harmony” have been developed in this project. In AY2017, HU started to offer the “Introduction to Hiroshima Leaders for Peace and Harmony” program as one of the liberal arts “Peace Education” subjects. It also started planning of a “Special Program to Develop Hiroshima Leaders for Peace and Harmony” (tentative name) education program to be taught from AY2018.

In December 2016, HU held a symposium to report the results of its COC program (59 participants).

Moreover, to continue this project and strengthen collaboration with the Hiroshima Peace Culture Foundation (Hiroshima Peace Memorial Museum), HU concluded a comprehensive collaboration agreement with the Foundation in December 2016.

v) Expansion of activities of the Hiroshima University Phoenix Cooperation Forum [Project No. 28]

In AY 2016, aiming to further contribute to the community, especially local industries, the following two projects were added to the activities of the Hiroshima University Phoenix Cooperation Forum, which was formed in November 2010.

- “Phoenix Salon” was held every other month for cross-disciplinary free discussion on a specific subject. In AY2016, the Salon discussed matters related to Myanmar, India, Thailand and Indonesia, as a part of the Country series.
- The “Refresh Learning Program” was offered to provide opportunities to participants from industries to review their basic knowledge. In AY2016, material mechanics, fluid mechanics, and product planning were discussed in the program.

The Forum offered a service menu, including training on the premises of member companies and support for recruitment. It also proposed solutions to problems of local companies in collaboration with financial institutions. As a result, the number of member companies increased from 44 (in AY2010) to 157 (in AY2016), and 53 joint research projects with member companies were implemented in AY2016.

vi) Conclusion of comprehensive collaboration agreements and expansion of the Joint Research Course [Project No. 28]

To promote industry-academia collaboration between organizations, HU concluded comprehensive collaboration agreements with outside parties and expanded the “Joint Research Course.” In AY2016, HU concluded eleven additional comprehensive collaboration agreements, including six agreements with companies, which HU actively pursued. With Mazda Motor Corporation, HU established three joint research courses (research laboratories) and one donated course. HU also participated in the “Hiroshima Automobile Industry-Academia-Government Collaboration Promotion Forum.” In this Forum, HU has been engaged in collaborative activities between industry, academia and government, mainly in the automobile area, with the following six member organizations: Mazda Motor Corporation; the Chugoku Bureau of Economy, Trade and Industry; the government of Hiroshima Prefecture; the Hiroshima Industrial Promotion Organization; and the government of Hiroshima City. HU also worked on joint research projects with JFE Steel Corporation under a comprehensive collaboration agreement. In particular, a joint research project for improving the environment by using slag received the “Minister of Agriculture, Forestry and Fisheries Prize” of the “12th Eco Products Prize” in AY2015, and the “Excellence Prize” of the “26th Nikkei Global Environmental Technology Prize” in AY2016. Moreover, HU granted the Hiroshima University President Award to JFE Steel Corporation in AY2016. Under the collaborative agreement, the relationship between HU and the company has been further deepened. In AY2016 three joint research lectures were added, totaling five lectures. Two more lectures were added in AY2017 and seven lectures were given as of May 1, 2017. By establishing industry-academia collaborative research centers within HU for a long term and pursuing large-scale joint research projects between organizations, HU has further promoted its research activities, social deployment of research results and creation of innovations.

□) Establishment of the Hiroshima Research Complex [Project No. 28]

HU established the Council for the Hiroshima Research Complex on February 27, 2017. The purpose of this organization is to fuse activities of universities, research institutions, companies and local governments in Hiroshima Prefecture and neighboring areas in order to unify local research activities of worldwide interest, commercialization of research results and human development. The general meeting of the Council was attended by 26 local organizations, including universities, research institutions, local governments and companies. In the meeting of the Council, it was decided that places for open innovation should be formed and local universities, industries and governments should discuss and work together to develop functions of a research complex.

viii) International industry-academia collaboration [Project No. 28]

The following activities were carried out in order to strengthen the presence of Hiroshima University in international society and to strengthen its international collaborative activities with industries and governments:

- The first “Myanmar Transportation Seminar” was hosted jointly in Myanmar by HU, Fukken Co., Ltd., Yangon Technological University, and the Myanmar Engineering Society (industry-academia-government collaboration), to contribute to the solution of a social problem in Myanmar (chronic traffic congestion) (with 195 participants).
- The Hiroshima University Myanmar Center was opened within the Yangon Office of Fukken Co., Ltd.
- The first “Vietnam Environment Seminar” was hosted jointly in Vietnam by HU, Vietnam National University (Ho Chi Minh School), Fukken Co., Ltd. and the government of Hiroshima Prefecture (industry-academia-government collaboration), to contribute to the solution of a social problem in Vietnam (environmental pollution) (with 105 participants).
- To promote cooperation with Latin America, HU concluded an inter-university agreement with the National Polytechnic Institute (Mexico) in February 2017. Under this agreement, exchanges of researchers and students have been expanded. In March 2017, the Hiroshima University Guanajuato Center was opened on the campus of the University of Guanajuato (Mexico).

□) Support to the Healthcare Program for the Elderly in Disaster Makeshift Housing in Minami-Soma City

As part of the education and research activities under the “Phoenix Leader Education Program (Hiroshima Initiative) for Renaissance from Radiation Disaster” (designated as a MEXT doctor’s course leading program in AY2011), HU has offered lectures on the health benefits of walking and physical exercise sessions four times a year since AY2015 at the request of Minami-Soma City to contribute to the promotion of the health of the elderly living in disaster makeshift housing in Minami Soma City.

x) Investigative research to address environmental contamination by radioactive materials discharged as a result of the accident at Fukushima Daiichi Nuclear Power Station

HU has planned and continued investigative research on the transition of radioactive materials in the forestry ecosystem in Fukushima Prefecture, the transfer of radioactive cesium from soil to rice, and other related activities. The research results were presented at the convention of the Japanese Society of Radiation Safety Management in November 2016 and other meetings.

XI) Dispatch of volunteer students to areas stricken by the Great East Japan Earthquake

Since 2011, HU has dispatched the student volunteer team “OPERATION TSUNAGARI” to areas stricken by the Great East Japan Earthquake. The student volunteer team helped with mud removal, weed removal, cleaning and other restoration activities, conducted supportive activities in finding missing persons, helped fishing operations, provided learning support to children, listened attentively to quake victims, held socializing events, and participated in other types of volunteer activities (participated by a total of 209 students up to the 12th team). In AY2016, the 13th team, comprised of 10 students, was dispatched from July 16 to July 18, 2016.

**(5) Activities for globalization**

i) Addition and expansion of overseas sites [Project No. 30]

Please refer to “Actions for Strategic and Ambitious Objectives and Plans” on pp. 26, 27 and 28.

ii) Short stay program “Study Tour Abroad for Realization and Transformation (START)” [Project No. 30]

Please refer to “Actions for Strategic and Ambitious Objectives and Plans” on pp. 26, 27 and 28.

iii) Medium-term and long-term student exchange program [Project No. 30]

Please refer to “Actions for Strategic and Ambitious Objectives and Plans” on pp. 26, 27 and 28.

□) Creation of the Morito Advanced Education School 3+1 Program [Project No. 30]

Please refer to “Actions for Strategic and Ambitious Objectives and Plans” on pp. 26, 27 and 28.

v) Japanese language and culture training to encourage foreign students to study at HU [Project No. 30]

Please refer to “Actions for Strategic and Ambitious Objectives and Plans” on pp. 26, 27 and 28.

vi) Conclusion of inter-university exchange agreements [Project No. 30]

Please refer to “Actions for Strategic and Ambitious Objectives and Plans” on pp. 26, 27 and 28.

## (6) Activities of the Hospital

### (i) Activities to improve education and research functions of the Hospital

#### i) Active exchange with foreign institutions [Project No. 36]

Hiroshima University Hospital (hereinafter the “Hospital”) implemented active exchange with foreign institutions. It concluded inter-department exchange agreements with Annapurna Neurological Institute and Allied Sciences (Nepal) and the Faculty of Health Sciences of the University of Sydney (Australia). Under these agreements, teachers and administrative staff members visited the other party’s institutions, and trainees were exchanged.

#### ii) Development of a world-top-class radiation therapy team [Project No. 37]

The Hospital strives to develop globally competent human resources (a radiation therapy team) that provide world-top-class radiation therapy and to develop a radiation therapy program for patients in the region and neighboring Asian countries. To achieve these goals, the Hospital dispatched a study group to advanced radiation therapy facilities to study creation of an educational program for standardization of radiation therapy techniques. The Hospital also dispatched a study group to member hospitals of the Tohoku Cancer Network to collect information necessary for establishing a regional collaboration system for radiation therapy.

The Hospital conducted simulations of contrast agent shock to establish a system to share understanding on the work flow of radiation therapy between workers in different job functions and to promote collaboration between different job functions. Oncology meetings and internal study meetings were also held to discuss team medicine for radiation therapy.

#### iii) Development of globally competent medical professionals for the future [Project No. 37]

To develop globally competent medical professionals who are able to practice next-generation medicine by integrating it seamlessly into regional medicine, the Office of Development of Globally Competent Medical Professionals for the Future Program was established in October 2016. Subsequently, in January 2017, the Center for Development of Globally Competent Medical Professionals for the Future Program was established.

In order to establish a network of related medical institutions of HU and foreign medical institutions, and for developing a human resource development program utilizing the network, the Hospital held meetings with related facilities and made preparations for collaboration with foreign medical institutions.

#### □) Development of human resources capable of providing medical care in the event of nuclear disasters [Project No. 37]

As a support center for advanced radiation exposure medicine and as a general medical and support center for nuclear disasters, the Hospital endeavored to develop human resources capable of providing medical care in the event of nuclear disasters. The Hospital had nurses and clinical radiation technologists participate in specialized seminars and other relevant events.

#### v) Support to Paralympic athletes [Project No. 38]

Toward the Olympic and Paralympic Games in 2020, the Hospital strives to provide support to world-top-level athletes with disabilities (para-athletes) mainly via the Sports Medical Center, and to establish a multi-support system to ensure collaboration between different job functions. To achieve these goals, the Hospital expanded its research projects to improve the performance of para-athletes and to prevent injuries of para-athletes. Joint research projects with sports associations for the disabled were also implemented to deploy research results at actual play venues. Results of these research projects were presented in academic meetings and on other occasions.

In October 2016, an agreement for collaboration and coordination in para- sports activities was concluded between four parties: Hiroshima University, the government of Hiroshima Prefecture, the Hiroshima Prefecture Sports Association for the Disabled, and NPO STAND. The purpose of this agreement is to contribute to society and share results obtained from activities intended to create a new inclusive society through promotion of para-sports by industry-academia-government collaboration and mutual cooperation in human resource development.

**(ii) Activities to ensure quality of medicine**

i) Establishment of the General Child Health and Development Center for Cheilognathopalatoschisis [Project No. 35]

In October 2016, the General Child Health and Development Center for Cheilognathopalatoschisis was established to provide medical care of a multidisciplinary team to patients with cleft of the lip or an inborn error in the jaw or facial area, to provide appropriate information to patients and their families, and to form a national network of medical services for patients with cleft of the lip or an inborn error in the jaw or facial area.

ii) Commencement of the operation of “Smart Cyber Operating Theater” [Project No. 35]

Hiroshima University, Tokyo Women’s Medical University and the Japan Agency for Medical Research and Development (AMED) have jointly worked to develop a “Smart Cyber Operating Theater” (a system to integrate and display the progress of an operation and patient data during surgery by utilizing IOT to improve the accuracy and safety of the operation). A prototype of a Smart Cyber Operating Theater was completed and its use at the Hospital started in May 2016.

iii) Addition of operation-assisting robots (two-robot operation) [Project No. 35]

Another unit of the operation-assisting robot “Da Vinci” was added. Hiroshima University Hospital has become the first and only university in the Chugoku/Shikoku Area having two units of operation-assisting robots in the operation room. This two-robot system is expected to bring various benefits. For instance, it helps to reduce the standby time during an operation. In the event of malfunction of one robot, the other robot is able to respond quickly. Robot-assisted operations can be performed simultaneously in various areas.

iv) Reinforcement of the medical safety management system [Project No. 35]

To strengthen the medical safety management system, the Hospital created the position of medical safety supervisor. The Deputy Director of the Hospital in charge of medical safety management was appointed as the medical safety supervisor. The medical safety supervisor supervises the Medical Safety Management Department, the Medical Accident Prevention Committee, the drug safety manager and the medical equipment safety manager.

The Hospital also designated the Director of the Medical Records Control Center as the manager responsible for giving appropriate explanations when medical treatments are provided. The Director of the Medical Records Control Center was also designated as a person responsible for management of medical treatment records and other medical records of the Hospital.

v) Reduction of workload of doctors [Project No. 35]

Division of duties between doctors, medical staff members and administrative staff members was clarified. To reduce the workload of doctors, 39 medical clerks (who assist doctors in processing administrative work) were added, totaling 47 clerks.

vi) Epilepsy awareness activities [Project No. 36]

As a medical center for epilepsy, the Epilepsy Center of the Hospital conducted awareness activities to communicate correct information on epilepsy to the public. Because the image color of epilepsy awareness activities is purple, the Center collaborated with Sanfrece Hiroshima, the local professional soccer team whose team color is purple, in installing an epilepsy awareness booth at its home stadium when official games of the team were played. Awareness buttons were distributed at the booth.

vii) Participation in the Hiroshima Medical Information Network [Project No. 36]

In April 2016, the Hospital participated in the Hiroshima Medical Information Network (HM NET), established and operated by the government of Hiroshima Prefecture and the Hiroshima Prefectural Medical Association, and started sharing of patient information with member medical institutions of the HM NET. By participating in this initiative, the University now is able to provide safe and consistent medical care to patients while mitigating physical, mental and financial burdens on patients.



**(iii) Activities for continuous and stable hospital management**

i) Reinforcement of infection control functions [Project No. 35]

In April 2016, the Infection Control Department was established to reinforce the infection controls in the Hospital. Functions related to infection control were concentrated into this department. An agile risk control system was established and cost effectiveness of infection controls was verified.

ii) Cooperation in establishment of a medical service organization for Futaba Area in Fukushima Prefecture [Project No. 36]

The Hospital received a request from Fukushima Medical University to cooperate in establishing a medical care organization in the Futaba Area, Fukushima Prefecture, in anticipation of the lifting of the evacuation order issued following the accident at the Fukushima Daiichi Nuclear Power Station and the return of citizens to the town in the future. In response to this request, Hiroshima University Hospital established the Fukushima Medical Support Center in April 2016. One physician from Hiroshima University Hospital has been stationed at Fukushima Medical University since October 2016 to cooperate in the restoration of Fukushima Prefecture through medical support.

iii) Medical support activities in areas stricken by the Kumamoto Earthquake [Project No. 36]

The Hospital dispatched two disaster medical assistance teams (DMATs) to areas stricken by the Kumamoto Earthquake. The first team formed an activity headquarters and conducted support activities in quake-stricken areas. The second team conducted investigation of stricken areas, such as cracks and collapsed structures, by using a drone (a small unmanned flying vehicle).

Doctors and nurses of Hiroshima University Hospital boarded the Doctor Helicopter of Hiroshima Prefecture and transported patients from hospitals in Kumamoto Prefecture to hospitals in Fukuoka Prefecture.

iv) Reinforcement of advanced radiation exposure medical care and nuclear disaster medical care organizations [Project No. 36]

As an advanced medical support center for radiation exposure and a general support center for nuclear disaster medical care, the Hospital strove to establish a national organization for nuclear disaster medical care, by creating a network for nuclear disaster prevention, promoting cooperation between prefectures that have nuclear power plants. The Hospital also implemented activities to enhance people's awareness of nuclear disaster medical care.

The Hospital also responded to requests for assistance, as a registered organization of the Response and Assistance Network (RANET) of the International Atomic Energy Agency (IAEA).

v) Improvement of hospital management [Project No. 39]

- The Hospital calculated costs of each treatment department and each function by using the University Hospital Management Accounting System (HOMAS2) to identify departments where operating profit increased or decreased significantly from the same period of the previous year and to analyze factors for these changes.

- For hospitalized and discharged patients treated under the Diagnosis Procedure Combination/Per Diem Payment System (DPC/PDPS), monthly medical treatment fees of each treatment department were analyzed. Surgical technique levels were analyzed by using the draft system proposed by the “Federation of Social Insurance Committees of Surgical Societies (*Gaihoren*).”
- For hospitalized patients who were treated under the DPC/PDPS and discharged during the previous year, “average hospitalized days and distribution of medical unit price,” “difference in hospitalized days from the national average, distribution of differences from average fees,” “percentage of discharges by month and states of differences in fees” and “difference from the national average in hospitalized days and difference from average fees for Top 10 Diagnosis Groups” were analyzed for each treatment department.
- When considering installation of new large medical equipment, the Hospital analyzed running costs arising from a maintenance contract or lease contract for the equipment. Based on the results of the analysis, the Hospital decided the procedures for the installation to reduce costs.
- Based on the results of physical inventory checks, the inventory control conditions of drugs and medical supplies were analyzed. Activities to reduce variances from the book inventory and reduce the inventory size were conducted, such as search for missing items and review of purchase quantities.
- The Hospital continued verification of cost effectiveness of the facility standards relating to the calculation of medical treatment fees, including those scheduled to be reported to the authorities. Impact of the revision of medical treatment fees on each medical service category was estimated. Conformity to the new facility standards that can be used for the calculation was examined and reported to the authorities.
- The Hospital negotiated discounts with suppliers for all drugs. Negotiations were also conducted for contracts for medical supplies of a total value of two million yen. For these negotiations, the average of the four lowest prices offered to national universities in Japan was set as a discount target for each item. As a result, the discount rates were improved.

vi) Division of functions and collaboration with other major hospitals [Project No. 40]

- In June 2016, eight operators of major hospitals in Hiroshima Prefecture (Hiroshima University Hospital, Hiroshima Prefectural Hospital, Hiroshima City Hospital Organization, Hiroshima Red Cross Hospital & Atomic Bomb Survivors Hospital, Hiroshima Prefecture Medical Association, Hiroshima City Medical Association, the government of Hiroshima Prefecture, and the government of Hiroshima City) entered into a collaboration agreement to promote collaboration between major hospitals (Hiroshima University Hospital, Hiroshima Prefectural Hospital, Hiroshima Citizens Hospital, Hiroshima Red Cross Hospital & Atomic Bomb Survivors Hospital, Funairi Citizens Hospital and other hospitals) in establishing an effective and efficient medical service system of high quality in urban areas in Hiroshima Prefecture.
- In promoting collaboration between these major hospitals, to concentrate medical care for intractable and rare diseases in specific hospitals and improve their treatment results, diseases to be concentrated and hospitals in which these diseases should be concentrated were selected. As a result, medical care for “intractable epilepsy” and “diseases requiring cornea grafting” were concentrated in Hiroshima University Hospital, and medical care for “aplastic anemia” was concentrated in Hiroshima University Hospital and Hiroshima Red Cross Hospital & Atomic Bomb Survivors Hospital.

## (7) Activities of schools attached to the University

### (i) Activities to tackle educational tasks

- i) Activities under MEXT Research & Development School Program and other programs [Project Nos. 41, 42, and 43]

Attached schools worked on four projects under the “MEXT Research & Development School Program” and two projects under the “Next-Generation Human Resource Development Program” of the Japan Science and Technology Agency. For these projects, attached schools won various prizes, including the Grand Prize of the “Third Hiroshima Prefecture ESD Prize, High School Section,” the Excellence Prize of the “65th Yomiuri Education Prize” (mathematics teacher), the Gold Prize of the “Japan Biology Olympiad 2016,” and the Gold Prize of the “Hiroshima Prefecture Science Olympiad.”

Hiroshima University Kindergarten was designated by MEXT as the first and only UNESCO school in the Chugoku/Shikoku Region (February 2017). The Kindergarten works on designing a curriculum that develops the abilities and attitudes of young children in the early stages, which will become the basis for them to play important roles in the future in realizing a sustainable society.

- ii) Development of globally competent human resources at attached schools [Project Nos. 41, 42, 43]

- International exchange agreements were concluded with Gymnasium an der Stadtmauer (Federal Republic of Germany) and Gymnasium Vyskov (Czech Republic). On October 6, 2016, a joint training workshop (with 40 students participating (including 20 students from HU)) was held at Mendel University (Czech).
- On July 2 and 3, 2016, presentations and discussions in English were implemented at Shanghai Dadao Junior High School (China) on globalization of local food culture and other subjects (with 20 students participating (including 10 from HU)).
- On December 13, 2016, a joint learning session with Santa Sabina College (Australia) was held at an attached school of HU (with 27 students participating (including 17 from HU)).

### (ii) Collaboration with the University and individual departments

- i) Development of a curriculum necessary for developing the qualities and abilities of globally competent human resources [Project No. 41]

Considering the achievements obtained by AY2015, teachers from the Graduate School of Education were added in AY2016 as members of the research promotion committee to develop a rubric to evaluate the qualities and abilities of students. Curricula of attached schools were reviewed and analyzed by school type and opinions were exchanged in meetings of the committee. While respecting the originality of each school type, common evaluation criteria for kindergarten and elementary schools, and common evaluation criteria for junior and senior high schools, were developed.

- ii) Cooperation in educational and research activities of the University [Project Nos. 41, 42, and 43]

The schools attached to Hiroshima University cooperate in educational and research activities of HU in accordance with the “Procedures for Requesting Cooperation of Attached Schools in Educational and Research Activities of the University.”

In AY2016, attached schools cooperated in five teaching projects of the University, including a project in which students from the School of Science and the Graduate School of Science learn how to teach the safety and treatment of dangerous drugs in chemical experiment lessons at attached

schools.

Attached schools also cooperated in five research projects, including a project in which teachers from the Graduate School of Education read to children in attached schools a picture book about milk, which was created for food education of young children, and teachers of attached schools responded to a questionnaire about the results of these sessions to verify their effectiveness.

- iii) Joint research projects between undergraduate schools and attached schools [Project Nos. 41, 42, and 43]

Joint research projects between undergraduate schools and attached schools have been continued since AY2004 and were also implemented in AY2016. Thirty-eight applications were submitted from departments of the University. Out of these, the University selected 27 joint research projects that covered various fields. The research results of AY2016 were published in a joint research bulletin of the University.

- iv) Teaching practice in international situations [Project Nos. 41, 42 and 43]

To provide teacher trainees opportunities to learn teaching methods in international situations, active learning and other new teaching methods, trainees were coached to create plans for teaching classes in English. When an education delegation from Malawi, Zambia, visited attached schools of HU in a JICA program, open classes were taught by these trainees.

Observations in schools of different types were also implemented to provide University students an opportunity to acquire new insights by observing the teaching of children at different growth stages. School events were added to the teaching experience and involvement experience to make the teaching practice more meaningful. On the Culture Day of attached schools, teacher trainees held poster sessions to introduce Hiroshima University and its research activities.

Attached schools also accepted students under the Action Research On-site Research Project of the Professional Development Program for Teachers and School Leaders, which was started in AY2016.

### (iii) Regional collaboration

Activities as teacher training centers in West Japan [Project No. 43]

To play the role of teacher training centers in West Japan, attached schools of HU accepted teachers from other prefectures and cities under personnel exchange programs. Attached schools have worked on development of systematic training programs for these exchange teachers based on the qualities and abilities of exchange teachers according to their individual career stages. Principals of attached schools had meetings with members from the Hiroshima Prefecture Council of Chairpersons of Municipal Education Boards to promote exchange between public schools and attached schools of HU. In the meetings, methods and approaches for education, research, teacher exchanges and collaboration were discussed.

### (iv) Review of roles and functions

Activities to establish a Hiroshima University version of the “School Connection Admission System” [Project Nos. 41, 42, and 43]

Considering the government’s initiative to reform the connecting system between a national university and attached high schools, and based on school connection systems of other attached schools of national universities, Hiroshima University has considered the establishment of an HU version of the “School Connection Admission System.” HU also reviewed its plan for restructuring of attached schools and workable enhancement of roles and functions of attached schools.

**(8) Joint usage and joint research centers**

**Research Institute for Radiation Biology and Medicine**

(i) Activities and achievements as a joint usage/research center (including activities to strengthen the joint usage/research system and activities conducted in line with the purpose of the Institute) [Project No. 27]

i) The Research Institute for Radiation Biology and Medicine of Hiroshima University has established the “Research Base for Radiation Accidents and Medical Science,” a network of joint research centers with Nagasaki University and Fukushima Medical University, based on the former “Research Base for Radiation Consequence and Medical Science (stand-alone organization, from AY2010 to AY2015). This network of joint research centers carried out 239 joint research projects (total of the three universities) in AY2016, which almost doubled from AY2015, playing a core role in forming an academic center for radiation accidents and medical science.

The Research Base for Radiation Accidents and Medical Science held an international symposium in February 2017 with the theme of “Scientific Underpinning for Restoration from a Radiation Disaster.” Thirteen world-leading experts (including five experts from abroad) were invited as speakers to share information and insights on the latest developments in radiation accident and medical science research activities. The meeting gathered 312 participants, which almost doubled from the previous years.

ii) The Research Base for Radiation Accidents and Medical Science will endeavor to contribute to the advancement of academic research as a network of three research centers, by taking advantage of the strengths and characteristics of individual universities. As a part of this effort, it decided to start the Triangle Project in AY2017, working on “research of consequences and risks of low-dose exposure,” “radiation hazard medical treatment,” and “social impact of radiation disasters and protection from radiation.” To execute 25 research projects, research teams comprising researchers from the three research institutes were formed and execution plans were developed for these projects.

(ii) Unique activities and achievements of the Research Institute for Radiation Biology and Medicine [Project No. 27]

In the Pathological Tissue Strip Preparation Service Section of the Research Institute for Radiation Biology and Medicine, two technicians with specialized knowledge were posted. As a result, requests for the service increased from 220 requests in AY2015 to 332 in AY2016. This service has become one of the major pillars of joint usage/research activities.

i) Peace declaration statements of ex-mayors of Hiroshima City (from 1947 to 2016) were analyzed by statistics experts in the HU Division of Radiation Information Registry of the Research Institute for Radiation Biology and Medicine. Statistics used for the analysis of these peace declaration statements is a basic science that supports “medical care based on reasoning” proposed in modern medical science and medical research. It draws attention as a useful tool for effective use of big data.

To announce the results of this research to the public, the “History of Messages in Peace Declarations” exhibition was held at the Medical Science Resource Center of the Hiroshima University, School of Medicine, from October 4, 2016 to December 22, 2016. A video was created and played to visualize the research results so that non-experts could understand the research results. The event was featured by an NHK TV program, and many other mass media reports.

ii) A joint research group, mainly comprising researchers from Hiroshima University, Kyoto University and the International Medical Center of Japan, engineered mice that acquired and developed a mutant CBL gene isolated from human chronic myelomonocytic leukemia (CMML), and succeeded in reproducing the disease. The Center proved, for the first time in the world, that the mutant CBL gene causes CMML. The Center will work to apply the engineered mice as model mice for human chronic myelomonocytic leukemia for finding out the molecular pathogenesis of the disease and developing molecular target treatment.

iii) A joint research group led by Hiroshima University engineered mice having a polycomb component EED mutant isolated from a human medullocell tumor and found that the mutant is involved in the development of leukemia via impaired expression of genes by histone methylation discontrol. The research group will work to apply this new finding about the mechanism of the development of the tumor in hematopoietic organs towards the development of a new therapeutic method.

### Hiroshima Synchrotron Radiation Center

(i) Activities and achievements as a joint usage/research center (including activities to strengthen the joint usage/research system and activities conducted in line with the purpose of the Center) [Project No. 27]

i) The frequency of public solicitation of proposals for joint research projects was increased from once (January) to twice a year (January and July) to improve the convenience of users. As a result, proposals for joint research projects selected by HU increased from 103 projects in AY2015 (including 23 joint research projects with foreign institutions) to 120 projects (including 26 joint projects with foreign institutions) in AY2016. Users (actual numbers) also increased from 198 to 240 users.

ii) Published papers of the Center with seven or more impact factors (IFs) were four papers in Nature Communications (IF=11.3), and three papers in Phys Rev. Lett. (IF=7.6), in AY2016, which was an increase by three papers from AY2015.

Using a high-efficiency spin resolved photoelectron spectrometer that can detect electron spins with higher efficiency than a conventional spectrometer by 100 times, the Center succeeded in observing that a spin-polarized surface state exists in an ytterbium compound (YbB<sub>12</sub>) known as a Kondo insulant and discovered that this substance is a topological Kondo insulant (announced on August 31, 2016, in a press release).

iii) New international joint research projects with four institutions were added: Diamond Light Source (UK), Shanghai Tech University (China), University of St Andrews (UK), and Institute for Basic Science (Korea). The network of international joint research has expanded to 56 institutions.

iv) To actively enhance the research function of the Center, the organization for research was restructured and teachers were added (two associate professors and two assistant professors; and one professor, one associate professor and one assistant professor in AY2017). The radiation high-frequency power source was renewed by using the President's discretionary budget.

v) In an effort to enhance independence and mobility of young researchers, an assistant professor was transferred to Diamond Light Source (UK), and a beam line manager from Diamond Light Source was invited to the Center for six months, who gave four sessions of lectures in English to HU graduate school students.

The Center accepted visiting researchers from the Indian government to support a research project regarding the effects of magnetic impurities on the state of the surface electrons of topological insulants.

vi) Under the inter-department agreement with the Graduate School of Natural Science and Technology of Okayama University, teachers from both universities collaborated in providing the "Radiation Experiments for Graduate Students" curriculum of the Graduate School of Science of Hiroshima University that used a radiation beam line. Eight students from HU and 10 students from Okayama University took the course.

□) The school tour program under the high school-university collaboration project was participated by about 900 high school students a year, including students from super science high schools and the Global Science Campus Project of Hiroshima University, and foreign students under the Sakura Science Plan.

viii) The website of the Center was renewed extensively. The renewed website significantly improved the Center users' accessibility to information about application for joint research and procedures for visiting the Center.

Web pages in English were expanded to clearly explain the procedures for joint research to foreign researchers, aiming to promote international joint research projects. From October 2016 to March 2017, a total of 8,300 viewers visited these English web pages and 14% were from foreign countries (mainly the US, Russia and the UK).

Web pages for explanation of research results, press coverage and the list of papers were added to clearly communicate the activities of the Center to the public, not only to researchers.

(ii) Unique activities and achievements of the Hiroshima Synchrotron Radiation Center [Project No. 27]

i) Active implementation of cross-field research projects

An associate professor and an assistant professor were added via an international job solicitation to reinforce the organization of the Center and develop cross-field research projects between physical property measurement techniques using radiation and biology as one of its core research areas based on the past achievements of HU. In AY2016, the Center started six cross-field joint research projects with the National Institutes for Quantum and Radiological Science and Technology and other institutions. These projects pursue innovations in the analysis of the steric structure of biological materials to find the substance causing Alzheimer's and to create a drug for Alzheimer's.

ii) Research on spin physicality

The Center implemented an international joint research project with the University of Mainz (Germany) and the Chinese Academy of Sciences to "develop a multi-channel spin detector" that can detect spins with higher efficiency than the current high-efficiency spin resolved photoelectron spectrometer by 1000 times or more.

In AY2016, the Center started development of a concrete device by utilizing financial aid of the Grants-in-Aid for Scientific Research (A).

This project pursues the bringing of innovation in the spin physicality research field by developing a device that can observe states of spin electrons, such as minute crystals, with far higher resolution than conventional devices.

### Research Institute for Nanodevice and Bio Systems

- (i) Activities and achievements as a joint usage/research center (including activities to strengthen the joint usage/research system and activities conducted in line with the purpose of the Institute) [Project No. 27]
- i) In April 2016, the Research Center for Biomedical Engineering was established (AY2016 to AY2021) as a network of joint research centers of four universities: the Research Institute for Nanodevice and Bio Systems of Hiroshima University; the Institute of Biomaterials and Bioengineering of Tokyo Medical and Dental University; Laboratory for Future Interdisciplinary Research of Science and Technology of the Tokyo Institute of Technology; and the Research Institute of Electronics of Shizuoka University (represented by Tokyo Medical and Dental University). This joint research center was established to serve as a national center that promotes practical realization of biomaterials, medical devices and medical systems, by taking advantage of the strengths and characteristics of these four research institutions to strengthen the function of the entire network and by implementing joint research projects with communities of researchers in and outside Japan. In AY2016, 149 joint research projects (the total of the four universities) were implemented.
- ii) In AY2016, more than a quarter of all joint research projects of the Research Center for Biomedical Engineering were conducted at the HU Research Institute for Nanodevice and Bio Systems (41 projects, including two joint research projects with foreign institutions), contributing significantly to the formation of the Center.
- (ii) Unique activities and achievements of the Research Institute for Nanodevice and Bio Systems [Project No. 27]
- i) The research project on “techniques to measure distribution of complex permittivity for breast cancer screening” proposed by the Institute was selected as a “Medical Research Result Deployment (Development of Advanced Measurement and Analysis Techniques and Devices)” program of the Japan Agency for Medical Research and Development (AMED). This project is implemented jointly by the HU Research Institute for Nanodevice and Bio Systems; the HU Research Institute for Radiation Biology and Medicine; HU Hospital, the HU Institute of Biomedical & Health Sciences; the Tokyo Institute of Technology; Sharp Corporation; and other institutions represented by the Institute. In this research program, a new breast cancer screening device that uses electric waves free of X-ray exposure was developed. As it passed the MEXT “Ethical Examination (Clinical) of Medical Research Projects Using Humans as Subjects,” the program started clinical experiments. A system to recognize cancer in the large bowel automatically and in real time from video images captured by a large bowel endoscopy was created and has been used in clinical experiments at Hiroshima University Hospital.
- ii) The Institute concluded inter-department exchange agreements with two institutions: Polytechnic University of Turin (Italy) and National University of Ireland, Galway. Combined with the nine agreements concluded in the past, the Institute now has inter-department exchange agreements for international joint research projects with 11 institutions (12 research departments).

iii) In March 2017, the Institute hosted the International Nano-technology Workshop. World-leading researchers in the semiconductor and biodevice fields (three from the U.S, one each from Italy, Ireland, the University of Tokyo, Ritsumeikan University, and Tokyo Medical and Dental University) were invited to the workshop to have active discussions about development of technologies in the fused field of nanodevices and biodevices.

In November 2016, the Institute held a satellite international workshop on pathological diagnosis of mammary tumors at Hiroshima University Hospital, inviting Professor Ozerdem from the School of Medicine, Yale University in the U.S., to have extensive discussions on pathological diagnosis of mammary tumors.

iv) The Institute exchanges information and implements joint research projects with major member companies of the Bingo Semiconductor Technology Consortium in the Chugoku Region. They include Rorze Corporation (wafer conveying robot), Tazmo Co., Ltd. (semiconductor manufacturing equipment), Phenitech Semiconductor Corp. (semiconductor device manufacturing), Adtech Plasma Technology Co., Ltd. (plasma power unit) and others. In particular, the joint research project with Phenitech Semiconductor Corp. has been working on technologies for mass production of new Sic diodes and transistors, which have attracted attention as future energy-saving devices.

v) The Institute conducted self-evaluation and received a third-party evaluation (in March 2017) of the results it has achieved in educational and research activities during the period from the establishment of the Institute (May 2008) to December 2016. The third-party evaluation committee comprised ten academic experts in relevant fields (seven from universities and companies in Japan and three from foreign universities and companies). The Institute received generally positive evaluations on twelve evaluation items, including social suitability of its mission as a research center, appropriateness of the research strategy, and research achievements. In the overall evaluation, the Institute received the following positive evaluation:

“The Institute has accomplished world-leading achievements in the field of integrated circuit technology. Based on these achievements, it has expanded its research activities into the fields of nano-technology and bionano technology, and into collaboration and combination between medicine and industry. Its activities have responded to the needs of society, and have strong originality as Japanese research and development activities. We appreciate the efforts of persons involved in these activities. We expect that it will continue to expand its research fields and accomplish excellent achievements through networking with other universities.”

### (9) Activities of educational joint usage centers

The Training and Research Vessel “TOYOSHIO MARU” and the Takehara Marine Science Station of the Setouchi Field Science Center were designated by MEXT as educational joint usage centers for five years from AY2012 to AY2016. In AY2017 the designation was renewed upon our request for renewal. The renewed designation will remain effective for five years from AY2017 to AY2021.

The Saijo Farming Station of the Setouchi Field Science Center has been designated as an educational joint usage center for five years from AY2015 to AY2019.

#### Training and Research Vessel TOYOSHIO MARU

Two mix-boarded field work programs were offered to students from non-fishery or marine universities. Twenty-four students from other universities took these programs.

HU also offered TOYOSHIO MARU for use by other universities for their own field work programs. The vessel was used by three programs of other universities: the “Oceanographic Survey Field Work” of the Faculty of Agriculture of Kochi University; the “Ecology Field Exercise” of the Faculty of Life Science and Biotechnology of Fukuyama University; and the “Environmental Science Practical Field Work” of the Faculty of Agriculture of Kagawa University. A total of 57 people used the vessel under these programs of other universities.

In some of HU’s own field work programs, mixed boarding was also offered to students from other universities and outsiders if there were vacancies in programs. A total of 139 people from outside participated in 16 voyages (7 voyages for teaching practice programs, 8 voyages for investigation field work programs and one voyage for a social contribution program). By using a questionnaire, HU asked these students and teachers to evaluate the joint use of the vessel for educational programs. The programs received a good evaluation on many evaluation points, such as “Oceanographic Survey and Analysis” and “General Comments.”

Opinions expressed in the questionnaire were examined to reflect them in the continued improvement of the quality of education, including modification of the schedules of field-work voyages requested by participants. Details of each field work voyage, including joint and shared use of the vessel, are published on the website of the TOYOSHIO MARU to encourage joint use of the vessel.

#### Saijo Farming Station, the Setouchi Field Science Center

The Saijo Farming Station offered five field-work programs for students from other universities and adults, which were participated in by 117 people. Every year, participants expressed very high satisfaction with the programs. In AY2016, the number of applicants to these programs far exceeded the enrollment limits. Students from the Kansai and Kanto areas also took these programs, not only students in the Chugoku/Shikoku areas. The farming station fulfilled its function as a national educational joint use center.

In addition to the five field-work programs mentioned above, the farming station also provided field-work sessions to about 30 students from universities specialized in partner animals and laboratory animals (such as schools for laboratory animal managers, veterinary technicians, trimmers and animal trainers) and students from animal-related vocational schools to provide them opportunities to learn about farm animals they don’t handle in their classes.

As part of the Super Science High School program, the farming station has also continuously given educational guidance to students from Hiroshima Prefectural Saijo Agriculture High School (about ten students each year). The farming station also offered educational tours and work experience to kindergartens, elementary schools, and junior and senior high schools as requested.

The website of the Setouchi Field Science Center (Graduate School of Biosphere Science), in which the webpage of the farming station is included, was renewed and information on the “educational joint use center” was also modified to encourage the use of the farming station.

#### Takehara Marine Science Station, the Setouchi Field Science Center

The Takehara Marine Science Station provided three intensive field-work and lodging programs to a total of 44 students from other universities. The “Coastal Resource Science Field Work” program and the “Comprehensive Field Work to Learn Fishery in Setouchi” program were so popular that we had to select participants from applicants exceeding the enrollment limit. For all programs, many participants, in reply to the questionnaire after the field work, indicated that they were very satisfied on many evaluation points, such as “understanding of agricultural academic field” and “the extensive range of field sciences.” Because of their popularity, the number of applicants has been increasing.

The station was actively offered for joint use and public use by both Japanese and foreign institutions. It was used for field work and exercise programs of both Japanese and foreign educational institutions. It was also used for investigation and research activities of research institutions, aquariums and a wide range of organizations.

It provided a total of nine community awareness programs for a wide range of children, from elementary to senior high school children, comprising field activities, exercises and lectures. In particular, the station has cooperated in the high school-university collaboration program. It has been used for activities of the Super Science High Schools Program since 2012 and activities of the Global Science Campus Program since AY2015. The station provided comprehensive support to their activities, including field research, collection of natural life forms, sorting of data, and presentation practice.

### 2. Operations and financial conditions

#### (1) Objectives relating to improvement of operation and efficiency

Please refer to the special notes on pp 37 and 38.

#### (2) Objectives relating to improvement of financial conditions

Please refer to the special notes on pp 42 and 43.

#### (3) Objectives relating to self-check/evaluation and provision of information

Please refer to the special notes on pp 46 and 47.

#### (4) Objectives relating to other operation-related matters

Please refer to the special notes on pp 51 and 52.

## 3. Actions for “Strategic and Ambitious Objectives and Plans”

Medium-Term Objectives [1]	Develop educated people who can play active roles globally in identifying and solving unforeseeable problems for humankind and in pursuing peace, with their advanced knowledge and abilities.
Medium-Term Plan [1]	The numbering of curricular subjects and English translation of syllabuses, which started in the Second Medium-Term Period, should be further expanded to all subjects in order to establish an internationalized education system.
AY2016 Plan [1]	Assign ID numbers to all curricular subjects and create English translations of all syllabuses.
Progress	<ul style="list-style-type: none"> <li>• <u>HU completed the numbering of all curricular subjects and the English translation of all syllabuses in AY2016.</u></li> </ul> As for the numbering that started in AY2015, to organize curricular subjects into a campus-wide systematic structure, their categorization into specialty fields and courses was reviewed and revised. The revised categorization was applied to syllabuses in AY2017. The basis for a world-class education system was established.
Medium-Term Plan [2]	To realize globalized education, all undergraduate schools should introduce degree courses all taught in English by AY2019 and verify their effectiveness for the globalization of students.
Plan for AY2016 [2]	Deliberate on and make preparations for the start of degree courses all taught in English in some undergraduate schools in AY2018.
Progress	<ul style="list-style-type: none"> <li>• In accordance with the idea of “Pursuit of Peace,” one of its guiding principles, HU has continued since AY2015 to deliberate on the creation of the “Global Study Special Program” (tentative name), an educational program designed to develop well-educated people with the ability to play active roles in international society, while cultivating the spirit to pursue peace. In AY2017, HU started the “Global Peace Leadership Program” and formed a committee of program teachers chaired by the Vice Executive in charge of educational planning.</li> </ul> “Global Issue Towards Peace,” a peace education subject in English that characterizes this program, will be offered to students in other bachelor degree programs. <ul style="list-style-type: none"> <li>• Preparation is in progress in the School of Integrated Arts and Sciences to create a new program, “Integrated Global Studies” (tentative name), in AY2018. The program will use English as the common language and classes will be taught mainly in English.</li> </ul>
Medium-Term Plan [3]	Train students to acquire the communication and presentation skills required in a globalized society. To achieve this objective, HU should add and expand subjects taught in English and special training programs for developing professionals with English skills. In addition, periodic English proficiency measurements should be conducted, aiming to bring about 25% of all undergraduate school students up to the level of TOEFL® i BT80.
Plan for AY2016 [3]	Add and expand subjects taught in English and special training programs for developing professionals with English skills. In addition, develop and implement a method to periodically measure the English proficiency of students, aiming to bring about 13% of all undergraduate school students up to the level of TOEFL® i BT80.

	Progress	<p>• In AY2016, 6.3% of the students in undergraduate schools achieved the targeted English proficiency level (TOEFL® iBT80 or TOEIC® score 730 equivalent). Although the target of 13% could not be achieved, <u>the attainment level was almost the same as 6.2% in the previous year.</u> HU administers the campus-wide TOEIC® L&amp;R IP test in May and November every year. Students are required to take the test at least twice until they graduate from the undergraduate school. HU exempted test fees for students who met the qualifications, and 1,443 undergraduate and graduate students took tests free of charge. <u>As the volume of score data will increase in the future, by conducting accurate analysis, effective measures to improve students' English abilities can be considered.</u></p> <p>• <u>Setting of "expected English attainment levels"</u> Starting from undergraduate students enrolled in AY2016, "expected English attainment levels" are set for each student, aiming to encourage students to continuously study English and acquire the English proficiency necessary for studying abroad, a future career or study in a graduate school. Based on the English level of each student at the time of enrollment (determined based on the higher of the TOEIC® score in May of the enrollment year or the result of the National Center Test (English) converted to the TOEIC® score), and assuming that the student studies English by him/herself for 30 minutes every day in addition to English classes at the University, "expected increases in the TOEIC® score" at several stages until graduation are set as the expected English attainment levels for the student. <u>The Hiroshima University student information website "MOMIJI" was established so that each student can access and view his/her attainment level on the website at any time.</u></p> <p>• <u>Provision of learning environment to acquire English skills</u> To develop globally competent people who can play active roles in international situations, HU has offered the "TOEIC® Skill Up Class" as a non-curricular program from June 2016. A total of 169 students took the program to improve their skills in English communication and to improve their TOEIC® scores. To verify the effectiveness of the "TOEIC® Skill Up Class," the TOEIC® scores of the students before taking the program and their TOEIC® L&amp;R IP test scores in November were compared. Scores of students with higher attendance rates increased. It was proven that the program was effective for improving students' English skills. HU will add an intensive program and other improvements to further enhance the "TOEIC® Skill Up Class" program.</p> <p>In AY2016, 5,813 students took TOEIC® L&amp;R IP tests for which test fees were borne by HU. In November 2016, the English conversation training application "MyET" was introduced and 842 students used the application. In March 2017, HU conducted the "Short Study Abroad Experience on Campus" program (three-day intensive English lessons), in which a total of 44 students participated.</p> <p>• <u>Commencement of the "Global Peace Leadership Program" in AY2017</u> HU has continued since AY2015 to deliberate on the creation of the "Global Study Special Program" (tentative name), an educational program designed to develop well-educated people with the ability to play active roles in international society, while cultivating the spirit of "Pursuit of Peace," one of its guiding principles. In AY2017, HU started the "Global Peace Leadership Program." Some characteristic subjects in this program include a requisite subject to study in a foreign country and "Global Issues Towards Peace," a peace education subject taught in English. "Global Issues Towards Peace" will be also offered to students in other bachelor degree programs.</p> <p>• <u>Creation of "Communication Seminar I, II" in AY2017</u> In AY2017, HU started "Communication Seminar I, II." These subjects are designed to develop the abilities of students so that they can fluently communicate in English in daily and international situations and improve their TOEIC scores, focusing on listening to and reading English. They are designated as compulsory subjects for students in the Department of Medicine of the School of Medicine, Department of Dentistry of the School of Dentistry, and Department of Pharmaceutical Sciences and Department of Medicinal Sciences of the School of Pharmaceutical Sciences.</p> <p>• <u>Expansion of subjects taught in English</u> As a result of an increase in participants in the "How to Teach in English" FD (from 34 participants in AY2015 to 65 in AY2016) and other efforts, <u>the percentage of subjects taught in foreign languages had reached 13.4%</u> of all subjects as of the closing of the subject enrollment period for the fourth term of AY2016.</p>
Medium-Term Objectives [2]	<p>Develop experts who can play active roles globally in identifying and solving unforeseeable problems for humankind and in pursuing peace, by creating values based on their advanced knowledge.</p>	
Medium-Term Plan [7]	<p>Introduce degree courses all taught in English in all graduate schools, targeting an increase to 66 courses by AY2019, to develop experts with advanced knowledge who can play active roles in modern society, by providing globalized graduate school education. Results of these programs should be verified.</p>	
Plan for AY2016 [7]	<p>Create 49 degree courses all taught in English and consider the addition of courses in all graduate schools.</p>	
Progress	<p>• <u>In graduate schools, more degree courses all taught in English were added. In AY2016, 24 courses were added, totaling 57 courses. This far exceeded the target of 49 courses for the year.</u></p>	



Medium-Term Plan [8]	Develop researchers and experts who can work independently with the communication and presentation skills required in a globalized society. To achieve this objective, HU should encourage students to make presentations at international academic conferences. HU should also add and expand degree courses all taught in English. By these programs, HU should bring about 30% of all graduate school students up to the level of TOEFL® i BT86.
Plan for AY2016 [8]	HU should consider and implement measures to encourage students to make presentations at international academic conferences. It should also add and expand degree courses all taught in English. By these programs, HU should bring about 25% of all graduate school students up to the level of TOEFL® i BT86.
Progress	<ul style="list-style-type: none"> <li>• The Hiroshima University Curriculum Committee urged the provision of support to graduate students who make presentations at conferences of international academic societies and expand degree courses all taught in English.</li> <li>• The Writing Center has offered “English Rhetoric &amp; Writing Scientific Papers” (First Semester, two credits) as a common subject that any student in any graduate school can take. In AY2016, the Center added new subjects: “English Academic Writing for Publication” (Intensive program in the First Semester, one credit) and “Advanced Seminar on English Rhetoric &amp; Writing for Scientific Papers” (Second Semester, two credits). A total of 34 graduate students took these programs to improve their writing and presentation skills in English.</li> <li>• In the Graduate School of Education, Graduate School of Science, Graduate School of Engineering and Graduate School of Biomedical &amp; Health Sciences, “Global Commons” were created as forums where students from undergraduate and graduate schools can regularly have discussions in foreign languages. The forums play an important role as places for promoting communication between Japanese students, foreign teachers and foreign students and for developing an understanding of different cultures.</li> <li>• <u>In graduate schools, 24 degree courses all taught in English were added in AY2016, totaling 57 courses. This far exceeded the target (49) for the year. Participants in the “How to Teach in English” FD increased from 34 participants in AY2015 to 65 in AY2016. By these efforts, the percentage of subjects taught in foreign languages had reached 27.7% of all subjects as of the closing of the subject enrollment period for the fourth term of AY2016.</u></li> <li>• In November 2016, the English conversation training application “MyET” was introduced and 441 students used the application. In March 2017, HU conducted the “Short Study Abroad Experience on Campus” program (three-day intensive English lessons), in which a total of 20 students participated.</li> <li>• To consider measures to improve the linguistic abilities of graduate school students, research on the English proficiency level of graduate school students was conducted in early February 2017. The results of the research will be analyzed in AY2017 and reflected in the measures to be taken.</li> </ul>
Medium-Term Objectives [5]	Promote global standardization of education in collaboration with other universities to improve the quality of education, and reinforce the campus-wide system for global standardization.
Medium-Term Plan [12]	Based on the attainment-target-type education program implemented in the Second Medium-Term Period, to pursue global standardization of education and improve the quality of education, HU should improve its internal education evaluation systems for undergraduate and graduate schools under the supervision of the Education Promotion Organization, and improve the internationality of the education system based on the evaluation. It should also receive international evaluation of its educational quality assurance systems by SERU (Student Experience in the Research University), an international consortium of universities.
Plan for AY2016 [12]	Conduct self-check and evaluation of education in undergraduate and graduate schools. At the same time, under the supervision of the Education Promotion Organization, the effectiveness of its internal educational quality assurance system should be verified. Problems should be identified and measures for improvement should be considered.

Progress		<ul style="list-style-type: none"> <li>• Aiming to further improve the quality of education in undergraduate and graduate schools, <u>HU established the Headquarters for Education, led by the Executive and Vice President in charge of education/Higashi-Senda Campus in July 2016. In the Headquarters for Education, the Committee of Educational Quality Assurance was established, which worked on creation of an educational quality assurance system.</u></li> <li>• In the internal educational quality assurance system of Hiroshima University, undergraduate and graduate schools conduct self-check and evaluation as a part of the preparation of an annual report. The Committee of Educational Quality Assurance verifies the appropriateness of their self-check and evaluation and reports the results of the verification to individual undergraduate and graduate schools. Then, based on the results of the verification, undergraduate and graduate schools make improvements to their educational programs and systems and report the results of the improvement activities to the Committee of Educational Quality Assurance in an improvement report. Finally, the Committee of Educational Quality Assurance checks the improvement reports to confirm the results of improvements.</li> </ul> <p>These activities have the following characteristics: (1) the criteria for evaluation by an annual report is in compliance with the criteria used in the Institutional Evaluation and Accreditation conducted by JIHEE, (2) undergraduate and graduate schools may submit counter opinions for evaluation results stated in the evaluation report of the Committee of Educational Quality Assurance, (3) the Committee of Educational Quality Assurance creates common data for each school (such as enrollment rates for individual schools and enrollment rates for individual subjects). Individual schools can use these data as evidence for their self-check and evaluation, and (4) the Committee of Educational Quality Assurance instructs undergraduate and graduate schools to conduct a questionnaire survey of graduating students about the education in the school, learning results, campus life and their career after graduation. Undergraduate and graduate schools can use the results of the survey as evidence in their self-check and evaluation.</p> <ul style="list-style-type: none"> <li>• In AY2016, undergraduate and graduate schools conducted self-check and evaluation of their education during AY2015. The Committee of Educational Quality Assurance created a report of the evaluation results.</li> </ul> <p>In the past, only undergraduate schools could submit counter opinions for evaluation results stated in the evaluation report of the Committee of Educational Quality Assurance. Based on the examination of the method of self-check and evaluation, <u>the Committee improved the system so that graduate schools may submit counter opinions.</u></p> <ul style="list-style-type: none"> <li>• In the past, the questionnaire survey was not conducted for some subjects because the form of teaching was not suitable to survey by questionnaire. <u>From the third term of AY2016, a survey by questionnaire was conducted for all subjects</u> to ensure that improvements are made in the teaching methods and contents of all subjects based on student opinions.</li> </ul> <p>To clarify that the purpose of the survey is improvement of the teaching methods and contents and to increase the awareness of teachers and students, <u>the questionnaire was named expressly as “Teaching Improvement Questionnaire.”</u></p> <ul style="list-style-type: none"> <li>• On May 20, 2016 and September 29, 2016, Working Group (WG) sessions were conducted to prepare for the international evaluation of educational quality assurance by SERU (Student Experience in the Research University). The WG discussed how the SERU student survey should be conducted. <u>An all-campus SERU survey for undergraduate students was conducted from December 14, 2016 to February 3, 2017.</u> A total of 761 students responded to the survey (about 7%).</li> </ul> <p>HU also made preparations for the “SERU Peer Review,” which is to be introduced in AY2017, (including selection of reviewers and preparation of materials), to further strengthen its activities to assure the international quality of its education.</p>
Medium-Term Objectives [6]		Expand support to students with various needs (including foreign students, adult students and students with disabilities) and create and improve learning environments for these students.
Medium-Term Plan [14]		Introduce a new “pre-enrollment scholarship program” by AY2019. In this program, scholarship students are selected based on the results of admission examinations conducted at overseas satellite centers of the University. The results of the scholarship screening will be notified to foreign students before they come to Japan. Expansion of financial support to students should be considered, including the number of students who receive scholarships and the amount and the duration of the scholarships.
Plan for AY2016 [14]		In developing a new “pre-enrollment scholarship program,” in which the results of the screening for the scholarships are notified to foreign students before they come to Japan, HU should plan the details of the program, including the number of students who receive scholarships and the amount of the scholarships.
Progress		<ul style="list-style-type: none"> <li>• To mitigate financial concerns of foreign students before coming to Japan and after admission to the University, and to enhance the learning of foreign students, <u>it was decided to start the Hiroshima University Pre-Enrollment Scholarship Program in AY2017. In this program, foreign students who will receive scholarships are selected and notified before they come to Japan.</u> Each graduate school that adopts the “Pre-Arrival Admission” system (eight graduate schools as of March 2017) grants a scholarship to one foreign student every year. Tuition fees for the first year after arrival are fully exempted. In addition, a life support allowance of 50,000 yen is provided every month. By this program, admission of foreign students has been stimulated. <u>The system was established for introduction in AY2017. It was faster than the original schedule for AY2016 (i.e. plan the detail of the program).</u></li> </ul>
Medium-Term Objectives [7]		Introduce a new screening system to accept excellent Japanese and foreign students with diverse backgrounds from within and outside Japan.

<p>Medium-Term Plan [18]</p>	<p>For the AO admission examination, all undergraduate schools should use internationally recognized English qualification/proficiency tests that measure 4 English skills (reading, listening, writing and speaking) to evaluate applicants' abilities by the time of the admission screening for AY2017. In addition, these English tests should be used for the regular admission screening of all undergraduate schools by the time of the admission screening for AY2019 to promote admission of globally competent students.</p>
<p>Plan for AY2016 [18]</p>	<p>For the AO admission examination, all undergraduate schools should use internationally recognized English qualification/proficiency tests that measure the 4 skills in the English language to evaluate applicants' abilities. In addition, a method to utilize these English tests in the regular admission examination should be determined.</p>
<p>Progress</p>	<ul style="list-style-type: none"> <li>• Individual undergraduate schools decided which English qualification/proficiency test that measures the 4 skills (reading, listening, writing and speaking skills) they would use in the admission screening for AY2017. All undergraduate schools used scores of one of these English tests for AO admission screening for AY2017 (the screening was conducted in AY2016). Applicable English qualification/proficiency tests increased from four tests designated by HU in AY2015 (EIKEN test, TOEIC® open tests, TOEFL®(iBT) and IELTS) to eight tests in accordance with the CEFR created by MEXT (Cambridge English, EIKEN, GTEC CBT, IELTS, TEAP, TOEFL iBT®, TOEFL Junior®, TOEIC®L&amp;R and TOEIC®S&amp;W).</li> <li>• To actively admit globally competent students, HU decided to use scores of eight English proficiency tests of third parties which measure the four skills in the English language in all tests of the National Center for University Entrance Examinations, including regular admission examinations, from the admission screening for AY2019.</li> </ul>
<p>Medium-Term Plan [19]</p>	<p>Develop an online application system in English which includes the functions to upload an application, organize a portfolio and process applications seamlessly from submission of application documents to admission to the University, in order to solicit excellent students from other countries. By AY2020, the developed online system should be introduced in all graduate schools. In addition, all graduate schools should conduct admission examinations at overseas satellite centers of Hiroshima University.</p>
<p>Plan for AY2016 [19]</p>	<p>Develop an online application system in English which includes an upload function by which an applicant can register, and save and submit to the University his/her application form and other related document data. The developed system should be used in some graduate schools. In addition, admission examinations for some graduate schools should also be conducted at overseas satellite centers of Hiroshima University.</p>
<p>Progress</p>	<ul style="list-style-type: none"> <li>• The online application system was introduced by undergraduate schools from the admission screening for AY2015 (the screening was conducted in AY2014). In the admission screening for AY2017 (the screening was conducted in AY2016), excluding examinations for transfer from one school to another school of the University, all 8,326 applicants to undergraduate schools used the online system (all foreign applicants for privately financed admission also used the online application system).</li> <li>In graduate schools that offered the online application system, out of all applicants (312 applicants), 46.2% applied via the online application system (34% of which were applicants from foreign countries).</li> <li>The online application system was upgraded to include an English interface and an upload function by which each applicant can register, and save and submit to the University an application form and other related document data. The updated system was used for application procedures for the “Taoyaka Program for Creating a Flexible, Enduring, Peaceful Society,” which was a leading program in the doctoral course, and for Japanese and foreign applicants to the Graduate Schools of Letters. <u>Because the cost of sending application documents by postal mail could be eliminated, the convenience for applicants in foreign countries has improved. As a result, the number of foreign applicants who used the online application system increased from 53 applicants in the previous year to 106 applicants.</u></li> <li>• On May 14, 2016, at the Beijing Research Center, which is a satellite center of Hiroshima University in China, the “Study in Hiroshima University” Fair was conducted to encourage Chinese students to study at Hiroshima University. About 120 students visited the Fair. Subsequently, <u>pre-screening was conducted by the Graduate School of Letters, the Graduate School of Science and the Graduate School of Social Sciences at the Beijing Research Center. The number of applicants increased from 61 applicants (total of three graduate schools) in AY2015 to 75 in AY2016.</u></li> </ul>
<p>Medium-Term Objectives [8]</p>	<p>Promote free and highly creative research activities, strengthen the ability to make presentations of HU's characteristic research activities in international society, and collaborate with other research institutions in and outside Japan, to achieve top-level research results in the world.</p>
<p>Medium-Term Plan [22]</p>	<p>Strive to become a world Top 100 comprehensive research university. To achieve this goal, good environments for research activities should be created, including deployment of University Research Administrators (URAs), technical staff members and other research management staff members who provide administrative support for research activities so that researchers can concentrate on research activities. The number of published papers should be increased by about 1.5 times from the number as of the end of the Second Medium-Term Period, by retaining excellent researchers. Increase the number of Top 1% and Top 10% cited papers. In the humanities and social science fields, books and papers deserving of important academic prizes should be published. Strengthen international research activities through joint research activities and researcher exchanges with foreign institutions. The number of papers authored jointly with foreign researchers should be double the number as of the end of the Second Medium-Term Period.</p>
<p>Plan for AY2016 [22]</p>	<p>In striving to become a World Top 100 comprehensive research university, conduct activities to enhance the research ability of the University, which will result in improvement in the number of published papers and other research result indicators. Self-check and evaluation of these activities for research ability enhancement should be also conducted.</p>

	Progress	<ul style="list-style-type: none"> <li>• HU continued activities to strengthen its research abilities, in accordance with MEXT’s four policies for research ability enhancement, “establishment of an organization and environment for promoting research activities, including URAs,” “on-going creation of international research centers,” “establishment of a competitive environment to retain and develop excellent researchers,” and “active international research activities,” set in the MEXT Program for Promoting the Enhancement of Research Universities.</li> <li>• In AY2016, aiming to strengthen HU’s educational and research abilities, and to maximize the performance of activities of teachers, who are important intellectual resources for HU within the limited resources, <u>the organization of teachers was separated from the organization of education and research, and the Academy of Hiroshima University was established as a central organization of teachers. All teachers were transferred from individual departments to the Academy of Hiroshima University.</u></li> <li>• In connection with this, <u>management of labor costs of teachers was transferred from individual departments to central management by the Academy under the leadership of the President. In this organizational structure, teachers can be effectively assigned to educational programs and research activities of undergraduate and graduate schools where more teachers or researchers are needed, considering the general needs of the entire organization.</u></li> <li>• In October 2016, as a part of restructuring, the Institute for Amphibian Biology (the Graduate School of Science) was re-positioned as a research center for all schools of the University. As an international joint research center, it will vigorously conduct international research activities to generate more results, such as papers co-authored with foreign researchers.</li> <li>• Since AY2013, HU has continued activities to support researchers. URAs have provided assistance in acquiring funds from outside sources. <u>The Writing Center has assisted researchers in writing papers in English and publishing them internationally. Science communicator interns were employed to support international science-related public relation activities. HU actively concluded exchange agreements with foreign universities. As a result of these activities, HU ranked 297th place in the QS World University Ranking (a rise of 51 places from AY2015).</u></li> <li>• <u>The number and percentage of papers co-authored with foreign researchers increased significantly from 538 papers (27.8%) in AY2015 to 649 papers (32.5%) in AY2016.</u></li> <li>• Based on the findings expressed in the third party evaluation under the MEXT “Program for Promoting the Enhancement of Research Universities” implemented at the end of AY2015, improvements were made to these activities in AY2016.</li> <li>• In the follow-up evaluation under the “Program for Promoting the Enhancement of Research Universities” in AY2016, <u>HU received a high evaluation (“Steadily progressing”), in particular, for the addition of URAs and their utilization and the campus-wide evaluation system for individual teachers.</u></li> </ul>
Medium-Term Objectives [9]		Strengthen the research management function to properly evaluate research activities and provide efficient support to research activities in key fields.
	Medium-Term Plan [23]	By using its unique achievement-motivated key performance indicators (AKPI®) that evaluate personal performance of teachers and monitor the performance of the educational and research activities at the University, HU should conduct proper evaluation of its research activities. It should decide key research fields it will focus on and should strategically allocate researchers and staff members to these research fields.
	Plan for AY2016 [23]	Use its unique achievement-motivated key performance indicators (AKPI®) and other methods that evaluate personal performance of teachers and monitor the performance of the educational and research activities at the University to properly evaluate and select key research fields HU should focus on. HU should also establish research evaluation methods that fit the characteristics of individual research fields, including creation of new evaluation indicators.
	Progress	<ul style="list-style-type: none"> <li>• HU conducted interim and final evaluation of research activities of research centers by using AKPI® and other evaluation methods (evaluation of published papers, financing from outside sources and others).</li> <li>• To strengthen its ability to internationally publish its activities in the humanities and social science fields, HU selected and listed magazines relating to humanities and social science fields. Specifically, they include the following: (1) magazines issued by national academic organizations, (2) leading commercial magazines, and (3) leading academic magazines in foreign countries and other publicly recognized leading academic magazines. This list of “humanity and social science magazines” is utilized as a motivation and target (as new evaluation criteria) to encourage posting of articles to these internationally or domestically recognized academic magazines.</li> </ul>
Medium-Term Objectives [12]		Pursue complete “globalization” of the entire University to realize world-class quality education and strengthen its world competitiveness, aiming to become a TOP 100 university in the World University Ranking.
	Medium-Term Plan [30]	Implement internationalization of degree programs and active recruitment of foreign students, aiming to increase the percentage of foreign students to over 12% of all students. Increase the percentage of Japanese students with study abroad experience to over 8% of all students. To achieve this objective, HU should encourage students who participated in the START program (a short-stay abroad program for students in the first year) and other short-stay programs to participate in longer-period study abroad programs.
	Plan for AY2016 [30]	Develop and conduct measures to increase foreign students, including meetings at overseas satellite centers of HU to explain HU’s study abroad programs for foreign students. By these measures, the percentage of foreign students should be increased to 8.9% of all students or higher. Increase the percentage of Japanese students with study abroad experience to 4.1% of all students or higher by reviewing and improving the study abroad programs for Japanese students to fit the various needs of students.

<p>Progress</p>	<ul style="list-style-type: none"> <li>• HU expanded the study abroad programs quantitatively while maintaining their quality. HU started the “Morito Advanced Education School 3+1 Program.” This program accepts students in the fourth year of foreign undergraduate schools for three terms. HU also sent 266 Japanese students (more than 10% of all Japanese students in the first year) to foreign universities in 10 courses under “START,” a short-stay abroad program for Japanese students in the first year of undergraduate schools, the largest number since the program started. <u>As a result of these programs, the percentage of foreign students among all students had reached 9.4% (as of May 1, 2017), and the percentage of Japanese students sent to foreign universities totaled 4.1% (during AY2016).</u></li> <li>• Development and utilization of a Japanese version of the BEVI test (an attribute test measuring adaptability to different cultures) <ul style="list-style-type: none"> <li>To objectively evaluate achievements of students who participated in study abroad programs, <u>HU developed a Japanese version of the BEVI test (BEVI-j), jointly with the developer of the BEVI test in AY2016,</u> which is widely used by about 60 advanced education institutions mainly in the U.S. and other countries around the world. As a result, the BEVI-j could be implemented in advanced education institutions in Japan. <u>In AY2017, three other universities decided to adopt the BEVI-j: the University of the Ryukyus, Ryukoku University and Prefectural University of Hiroshima.</u> This test made it possible to objectively measure and evaluate the effectiveness of study abroad programs for cultivating an international sense, enhancing the learning attitude and developing globally competent people.</li> <li>In AY2016, HU had about 300 Japanese students take the BEVI-j test before and after their participation in study abroad programs. HU used statistical techniques to analyze the test results and evaluate the effectiveness of individual study abroad programs and compared the test results of the participants in study abroad programs to those of other students. These results were reported at the international symposium hosted by HU in December 2016 (co-hosted by JASSO, backed by MEXT, with participation of about 100 people) to communicate HU’s activities to ensure effective implementation of study abroad programs and assurance of their quality.</li> </ul> </li> <li>• Reinforcement and expansion of overseas satellite centers <ul style="list-style-type: none"> <li>By AY2015, HU had established 11 satellite centers in nine countries and regions. These overseas satellite centers have been effectively used for activities to recruit excellent foreign students, and promote academic exchanges and international collaboration with industry and academia in foreign countries. In AY2016, <u>three satellite centers were added in three new countries and regions to further expand these activities. In May 2016, the Hiroshima University Myanmar Center was opened within the Yangon Office of Fukken Co., Ltd. in Myanmar. In March 2017, the Hiroshima University Guanajuato Center was opened on the campus of the University of Guanajuato (Mexico) as a center to recruit students and promote industry-academia-government collaboration in Latin America.</u></li> <li><u>In March 2017, HU opened the “Hiroshima University-Cambodia Collaborative Center for Education, Youth and Sports” within the Ministry of Education, Youth and Sports of the Kingdom of Cambodia. This center offers the “PEACE” student exchange program as a part of the MEXT “Project to Promote Globalization of Universities” adopted in AY2016.</u></li> </ul> </li> <li>• Expansion of the START short-stay abroad program <ul style="list-style-type: none"> <li>Since AY2010, HU has continued the “START” short-stay abroad program for students in the first year. <u>In AY2016, the program added a new course to enable study experience at a Spanish university, and now totals 10 courses, the largest number ever. HU also provided financial support to qualified students. As a result, 266 students in the first year (more than 10% of all students in the first year), out of 428 applicants, participated in this short-stay abroad program in eight countries.</u> To verify the effectiveness of this program, HU conducted a follow-up English examination and <u>found that it had a great positive impact on students. The English ability of the participants improved after the program (TOEIC® scores improved by more than 30 points). Applicants to longer-period study abroad programs increased (43% of applicants to the HUSA (Hiroshima University Study Abroad) program in AY2016 were students who had participated in the START program, a significant increase compared to 7% in AY2010.</u></li> <li>To encourage students to participate in longer period study abroad programs, in AY2017 HU started a step-up program, the “START + (plus)” for students in the second and third years, which is more focused on development of linguistic abilities of students.</li> </ul> </li> <li>• Expansion of medium and long-term student exchange programs <ul style="list-style-type: none"> <li>In AY2016, HU was selected as a MEXT “Project to Promote Globalization of Universities” and started the “PEACE” student exchange program. The program exchanged about 50 students a year with universities in Cambodia, Myanmar, Laos, Vietnam and Thailand.</li> </ul> </li> </ul>
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<p>Medium-Term Plan [31]</p>	<p>To respond to the globalization of education, HU should increase the percentage of teachers with foreign nationalities or teaching or research experience in foreign countries to 47% of all teachers. In addition, the percentage of administrative staff members with foreign nationalities or with working experience in foreign countries should be increased to 8% of all administrative staff members.</p>
<p>Plan for AY2016 [31]</p>	<p>To respond to the globalization of education, HU should increase the percentage of teachers with foreign nationalities or with teaching or research experience in foreign countries to 34.5% of all teachers, by personnel plans in accordance with the Teacher Deployment Policy. In addition, the percentage of administrative staff members with foreign nationalities or with working experience in foreign countries should be increased to 4.8% of all administrative staff members, by recruiting foreign staff members and sending Japanese staff members abroad for training.</p>

Progress	<ul style="list-style-type: none"> <li>The following personnel plans were implemented to respond to the globalization of education at HU and to strengthen the function of the educational departments. As a result, <u>the percentage of foreign teachers and teachers with teaching or research experience in foreign countries as of May 1, 2017, was 40.3% (an increase of 5.5 percentage points from the previous year), significantly exceeding the target of 34.5%.</u> <ol style="list-style-type: none"> <li><u>International recruitment was completely implemented</u> to hire globally competent teachers with excellent educational and research abilities from and outside Japan.</li> <li>Seven posts for foreign teachers were created (short-term) (teacher deployment in AY2017).</li> <li>Four foreign teachers were hired under the “Support Foreign Teacher Employment” program and three foreign teachers (Top type) were hired on a <u>short-term basis to strengthen the research abilities of HU.</u></li> <li>To put priority on recruitment of globally competent teachers in its personnel deployment plan, <u>HU set a quota for “recruitment of foreign and globalized teachers” when it submitted a personnel request.</u></li> </ol> </li> <li>Since AY2014, HU has continued to add foreign administrative staff members. In AY2016, one foreigner was employed as an administrative staff member (one was hired in AY2015). To increase administrative staff members with working experience in foreign countries, HU has sent one employee to the Long-term Educational Administrative Training Program (LEAP) of MEXT and one employee to the International Academic Exchange Training Program of the Japan Society for the Promotion of Science. After they return from the training program, two other employees will be sent to these programs next year. As a result of these programs, <u>the percentage of administrative staff members with foreign nationalities or with working experience in foreign countries had reached 6.4% as of May 1, 2017 (an increase by 1.2 percentage points from the previous year), significantly exceeding the target of 4.8%.</u></li> </ul>
Medium-Term Plan [32]	To promote global standardization of education, HU should increase subjects taught in foreign languages to about 30% of all subjects both in undergraduate and graduate schools. HU should also improve the Japanese language study program for foreign students. It should be redesigned and divided into classes according to the level of Japanese language skills to effectively improve the Japanese language skills of foreign students and deepen their understanding of Japanese culture.
Plan for AY2016 [32]	In connection with the introduction of degree courses taught in English, HU should increase subjects taught in foreign languages to about 10% of all subjects both in undergraduate and graduate schools. HU should also create a proposal for redesigning the Japanese language study program for foreign students and dividing it into classes by level of Japanese proficiency.
Progress	<ul style="list-style-type: none"> <li>The Hiroshima University Curriculum Committee urged the expansion of graduate courses all taught in English. As a result, 24 courses taught in English were added in AY2016. Participants in the “How to Teach in English” FD increased from 34 participants in AY2015 to 65 in AY2016. <u>By these efforts, the percentage of subjects taught in foreign languages had reached 21.6% of all subjects of undergraduate and graduate schools as of the closing of the subject enrollment period for the fourth term of AY2016, significantly exceeding the target of 10% for the year.</u> HU will further add subjects taught in foreign languages, including “Global Issues Towards Peace,” a peace education subject taught in English in the “Global Peace Leadership Program” to be started in AY2017.</li> <li>In redesigning the Japanese language study program for foreign students offered by the International Center, HU developed a proposal to divide the program into classes by level of Japanese proficiency. In AY2017, the Special Assistant to the President (in charge of Japanese language education) was newly appointed, who is responsible for supervising the redesigning of the Japanese language study program for foreign students from a holistic viewpoint.</li> </ul>
Medium-Term Plan [34]	By AY2019, encourage Japanese students (about 12% of all Japanese students at HU) to live in boarding houses with foreign students to promote cultural exchange in daily life and to nurture the internationality of Japanese and foreign students.
Plan for AY2016 [34]	Use university-leased housing as mixed-boarding student houses to encourage socializing between Japanese and foreign students. It should be also considered to utilize sub-lease services for mixed-boarding student houses.
Progress	<ul style="list-style-type: none"> <li>Since October 2014, the University has leased housing complexes to offer them as boarding houses for students. In AY2016, the International House was changed to a mixed-boarding student house. The system to designate apartment houses as international boarding houses system was also started to add mixed boarding houses for Japanese and foreign students. <u>Now all student houses have been changed to mixed boarding for Japanese and foreign students. As a result, foreign students living in these mixed boarding houses has increased to 538 students from 142 students before university-leased housing was offered. The percentage of Japanese students living in mixed boarding houses exceeded 10% of all Japanese students.</u></li> <li>HU improved the housing support systems for students, to make it easier for foreign students to lease rooms. In October AY2016, the tenant surety system was revised to use the service of a surety service company in place of the sub-lease service. By using the surety service, no joint surety is necessary when a student leases a room. Moreover, foreign language support is available for executing or renewing a lease contract.</li> <li>These results exceeded the original plan for the year to add mixed boarding houses and to consider use of a sub-lease service for mixed boarding houses.</li> </ul>

Medium-Term Objectives [20]	Improve the environment for stronger leadership by the President and allocate internal resources strategically by utilizing IR.
Medium-Term Plan [46]	Transfer the management of labor costs of teachers from individual departments to central management in order to strengthen education and research abilities. Teachers and researchers should be strategically allocated, by using HU's unique achievement-motivated key performance indicators (AKPI®) and other methods that evaluate personal performance of teachers in educational and research activities.
Plan for AY2016 [46]	Transfer the management of labor costs of teachers from individual departments to central management by the President. Teachers and researchers should be strategically allocated, by using HU's unique achievement-motivated key performance indicators (AKPI®) and other methods that evaluate personal performance of teachers in educational and research activities.
Progress	<p>• <u>HU used achievement-motivated key performance indicators (AKPI®) for allocating teachers (personnel allocation) from a holistic viewpoint to areas where more teachers or researchers were needed, in accordance with the Hiroshima University Teacher Deployment Policy for AY2017 and AY2018.</u>  <u>To retain and develop excellent researchers and to promote active educational and research projects, HU's personnel deployment focused on increasing young teachers, female teachers and foreign teachers in all departments. The age structure of teachers was also improved by deploying more Associate Professors, Lecturers, and Assistant Professors.</u></p> <p>• For personnel deployment in AY2017, HU had received 116 personnel requests as of March 31, 2017, from individual departments due to resignation of existing teachers or in accordance with their future personnel plans. HU strategically deployed teachers in responding to 71 requests.</p> <p>• For personnel deployment in AY2018, HU had received 154 personnel requests as of March 31, 2017, from individual departments due to resignation of existing teachers or in accordance with their future personnel plans. HU strategically deployed teachers in responding to 63 requests.</p>
Medium-Term Objectives [21]	Enhance the international competence of teachers and staff members capable of conducting excellent education and research activities in the international competitive environment.
Medium-Term Plan [47]	To recruit and retain excellent teachers and administrative staff members from within and outside Japan, HU should establish more flexible personnel and compensation systems, including an annual compensation system and a mixed compensation system. The percentage of teachers who work under the annual compensation system should be increased to about 21% of all teachers.
Plan for AY2016 [47]	To recruit and retain excellent teachers and administrative staff members from within and outside Japan, HU should establish more flexible personnel and compensation systems, including an annual compensation system and a mixed compensation system. The percentage of teachers who work under the annual compensation system should be increased to about 14.9% of all teachers.
Progress	<p>• <u>To retain teachers who work under the annual compensation system, the Regulations for Salaries Paid Under Annual Compensation System were revised (payment of annual compensation (based on the job class) in four installments, payment of the performance-based compensation at the time of bonus payment, and other rules) and communicated the revision to teachers.</u> As a result, the percentage of teachers who work under the annual compensation system (including specially appointed teachers) had reached 20.1% of all teachers as of March 31, 2017 (an increase of 9.2 percentage points from the previous year), significantly exceeding the target of 14.9%. The percentage of succeeding teachers (i.e. teachers who were employed by the University before it was incorporated) who work under the annual compensation system increased to 16.3% (an increase of 8.5 percentage points from the previous year). To further increase the number of teachers working under the annual compensation system and increase the awareness of teachers of the system, it was decided to create and distribute an awareness leaflet within the University in April 2017.</p> <p>• <u>The cross appointment system was adopted in AY2014. To encourage active use of this system, a leaflet to introduce the system was created. English versions of agreement formats and other documents necessary to use this system with foreign universities were created. And information of this system was published on the campus information sharing portal "IROHA."</u> As a result of these efforts, <u>two agreements had been concluded under this system (one with an institution in Japan, and one with an overseas institution) as of March 31, 2017.</u></p> <p>In AY2017, two additional agreements are scheduled to be concluded (one with an institution in Japan, and one with an overseas institution) under this system, totaling 4 agreements.</p>
Medium-Term Plan [48]	To provide more opportunities to excellent young teachers (under 40) and to vitalize educational and research activities throughout the University, the percentage of young teachers (under 40) should be increased to about 34% of all teachers, by recruiting tenure-track teachers in accordance with an employment plan.
Plan for AY2016 [48]	To provide more opportunities to excellent young teachers (under 40) and to vitalize educational and research activities throughout the University, the percentage of young teachers (under 40) should be increased to about 27% of all teachers, by recruiting tenure-track teachers in accordance with an employment plan.



Progress	<ul style="list-style-type: none"> <li>• In AY2016, the governance system was revised for personnel matters relating to teachers. The organization of teachers was separated from the organization of education and research, and the Academy of Hiroshima University was established as a central organization of teachers. The management of labor costs of teachers was transferred from individual departments to central management by the Academy under the leadership of the President. The Central Personnel Committee was established as an organization directly supervised by the President. This Committee manages teacher labor costs, and reviews the allocation of teachers, including selection of candidates. The President gives final approval on personnel matters relating to teachers, based on the Committee’s review and prior deliberation by the Executive Board. The Central Personnel Committee uses its unique achievement-motivated key performance indicators (AKPI®) and other criteria to consider strategic and systematic personnel allocation from a holistic viewpoint for the entire university beyond the borders of educational and research organizations.</li> <li>• To increase young teachers as a part of an effort to recruit diverse human resources, a strategic quota for “young researchers (under 36)” was created and 31 posts were offered to young researchers.</li> <li>• To improve the age structure of teachers and to vitalize educational and research activities by recruiting and retaining excellent researchers, in AY2015 HU adopted the MEXT “Building of Consortia for the Development of Human Resources in Science and Technology” project (known as the “Tenure-Track”). Under this system, recruitment of young teachers was accelerated. Seven young teachers were deployed in AY2015 and nine were deployed in AY2016 as a part of a campus-wide support program.</li> <li>• The tenure track system has been applied to Associate Professors, Lecturers and Assistant Professors since April 2013. Before the expiration of their contract term, they receive a stringent examination to evaluate their achievements in research and educational activities during the term. Upon passing the examination, they will be given tenure posts in the University. HU also implements international teacher recruitment. Common models for teacher recruitment documents were created in English and posted on job offer websites, such as JREC-IN, Research Gate, and AMERICAN ECONOMIC ASSOCIATION, to actively recruit foreign teachers with rich international experience. By these programs, as of March 31, 2017, the percentage of tenure track teachers among all full-time teachers had increased to 6.5% (an increase by 1.2 percentage points from the previous year).</li> <li>• By these programs, as of March 31, 2017, <u>the percentage of young teachers (under 40) among all full-time teachers had increased to 24.3% (an increase by 1.1 percentage points from the previous year). Because fewer researchers over 40 years old resigned, the target of 27% could not be attained.</u></li> <li>• <u>HU will conduct the following activities to achieve the objective of the Medium-Term Plan:</u> <ol style="list-style-type: none"> <li>(1) Under the central management of personnel affairs of teachers, each department sets a quantitative target for recruiting young teachers. In the Hiroshima University Teacher Deployment Policy, it should be stipulated that a request to replace a post with a young teacher will be preferentially satisfied. All departments should offer the tenure track system (with a contract term of five to eight years) to young researchers who are newly hired by the University to promote medium- and long-term employment of young researchers.</li> <li>(2) Apply for MEXT subsidies under the “Building of Consortia for the Development of Human Resources in Science and Technology” program, the “Leading Initiative for Excellent Young Researchers” program and the “National University Reform Subsidies” program (National University Young Researcher Support Program). In addition, all departments should expand their budgets for labor costs to accelerate employment of young teachers, in order to achieve the objective of the Medium Term Plan.</li> <li>(3) To motivate young researchers, HU will establish a new research aid program (maximum of two million yen, for five projects, for two years) in AY2017, in addition to its existing support programs for young researchers : the Hiroshima University Embryonic Research Project Aid (maximum of 500,000 yen, for 10 to 20 projects), the Female Researcher Incentive (200,000 - 1,000,000 yen, for 4 to 6 projects), and the Research Aid for Doctors (for outstanding young teachers) (300,000 - 1,000,000 yen, for about 15 projects).</li> <li>(4) To support and promote active education and research activities by young teachers, HU should secure the independence of young teachers (such as deployment of mentors, and provision of start-up funds), establish and strengthen the basic infrastructure for research (such as common use of expensive research facilities and equipment in the University, dispatch to overseas research institutions by active use of the Sabbatical leave system, and inviting excellent foreign researchers to promote exchange between researchers), expand their participation in student education (lectures, student deployment and coaching) and offer attractive posts for young teachers.</li> </ol> </li> </ul>
Medium-Term Objectives [23]	Encourage teachers and administrative staff members to keep a Work-Life Balance. Actively post female teachers and employees to decision-maker positions relating to the management of the University.
Medium-Term Plan [51]	To promote active participation of female teachers and administrative staff members in the activities of the University, the percentage of female teachers and female managers should be increased to about 20%.
Plan for AY2016 [51]	To promote active participation of female teachers and administrative staff members in the activities of the University, the percentage of female teachers should be increased to about 16% of all teachers and female managers should be increased to about 13.5% of all managers, by implementing personnel deployment in accordance with the Teacher Deployment Policy.

		<p>Progress</p>	<ul style="list-style-type: none"> <li>• Under the central management of personnel affairs of teachers, female teaches were strategically added. Three female teachers were deployed to satisfy the female teacher quota as a part of the campus-wide support program. Individual departments also set a “female teacher quota” in the personnel deployment request for reinforcement of the functions of the department.</li> <li>• In AY2016, HU continued the Positive Action (choose a female teacher preferentially if the achievement and other evaluation results are on the same level) program in recruiting teachers. HU also <u>continued open teacher recruitment targeting women only</u> as a part of the MEXT “Building of Consortia for the Development of Human Resources in Science and Technology” program. <u>As a result, the percentage of female teachers as of March 31, 2017, was 15.9% of all teachers (a decrease by 0.4 percentage points from the previous year).</u></li> <li>• HU endeavored to encourage female employees to participate in the decision-making process relating to the management of the University, including the Education and Research Council. As part of these efforts, a female employee was appointed as the Director of the Research Center for Diversity and Inclusion (Councilor) in AY2016. As a result of these efforts, <u>the percentage of female managers as of March 31, 2017, was 12.8% of all managers (an increase by 2.5 percentage points from the previous year).</u></li> <li>• In the meetings of the Education and Research Council, the actual numbers of female managers and the target numbers were reported, and the necessity of female managers was communicated from time to time. The Vice Executive in Charge of Gender Equality visited several departments to exchange opinions with Deans and Directors and <u>confirmed the policy to actively post women to the positions of vice Deans and Directors or members of major committees to encourage their active participation in the decision-making process at the University.</u></li> </ul>
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○Attainment status of each objective

**I. Operations and financial conditions**

**(1) Objectives relating to improvement of operation and efficiency**

**(i) Improvement of operation of the organization**

Medium-Term Objectives	<p>[19] Establish an effective and transparent operation system to maximize the educational and research functions, by taking advantage of the strengths and characteristics of the University.</p> <p>[20] Improve the environment for stronger leadership by the President and allocate internal resources strategically by utilizing IR.</p> <p>[21] Enhance the international competence of teachers and staff members capable of providing excellent education and conducting research activities in the competitive international environment.</p> <p>[22] Develop administrative staff members having knowledge on specialty fields who can provide stronger support to educational and research activities.</p> <p>[23] Encourage teachers and administrative staff members to keep a Work-Life Balance and actively post female teachers and employees to decision-maker positions relating to the management of the University.</p>
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Medium-Term Plan	Annual Plan	Progress
[44] To realize independent operation with a wide range of perspectives, opinions from external members of the Administrative Council (including foreign members) should be collected and reflected in the operation of the University as a corporation via interviews between the President and Deans/Directors of departments.	[44] Collect opinions of external members of the Administrative Council (including foreign members) and make improvements as necessary based on these opinions via interviews between the President and Deans/Directors of departments.	III
[45] To strengthen its governance system, HU should review and revise its decision-making processes. The President and Auditors should hold regular meetings to keep close communication with each other, and to monitor the independence of auditors and effectiveness of the support to auditors, to strengthen the functions of auditors.	[45] Authority given to the President, Executives, Vice Presidents and other officers should be reviewed and modified. Campus-wide regulations and regulations established by individual departments should be checked to confirm their consistency. Additional regulations should be established as necessary. The President and auditors should hold regular meetings to discuss the results of audits by auditors, and these results should be reflected in the operation of the University as a corporation. The independence and effectiveness of the support to auditors should be monitored.	IV
[46] Transfer the management of labor costs of teachers from individual departments to central management in order to strengthen education and research abilities. Teachers and researchers should be strategically allocated, by using HU's unique achievement-motivated key performance indicators (AKPI®) and other methods that evaluate personal performance of teachers in educational and research activities.	[46] Transfer the management of labor costs of teachers from individual departments to central management by the President. Teachers and researchers should be strategically allocated, by using HU's unique achievement-motivated key performance indicators (AKPI®) and other methods that evaluate personal performance of teachers in educational and research activities.	IV
[47] To recruit and retain excellent teachers and administrative staff members from within and outside Japan, HU should establish more flexible personnel and compensation systems, including an annual compensation system and a mixed compensation system. The percentage of teachers who work under the annual compensation system should be increased to about 21% of all teachers.	[47] To recruit and retain excellent teachers and administrative staff members from within and outside Japan, HU should establish more flexible personnel and compensation systems, including an annual compensation system and a mixed compensation system. The percentage of teachers who work under the annual compensation system should be increased to about 14.9% of all teachers.	IV
[48] To provide more opportunities to excellent young teachers (under 40) and to vitalize educational and research activities throughout the University, the percentage of young teachers (under 40) should be increased to about 34%, by	[48] To provide more opportunities to excellent young teachers (under 40) and to vitalize educational and research activities throughout the University, the percentage of young teachers (under 40) should be increased to about 27%, by recruiting tenure-track teachers in accordance with an employment plan.	III

<p>recruiting tenure-track teachers in accordance with an employment plan.</p>		
<p>[49] Retain and develop excellent administrative staff members by recruitment, transfer, promotion, training and other activities in accordance with the administrative personnel development plan, by “clarifying the knowledge and skills necessary for the operation of each department and improving the abilities of employees by using this knowledge and these skills,” “enhancing the motivation of employees by clarifying the career paths and the promotion criteria,” and “improving the productivity of all employees by creating and providing opportunities to engage in challenging tasks.”</p>	<p>[49] In accordance with the administrative personnel development plan, HU should retain and develop excellent administrative staff members by recruitment, transfer, promotion, training and other activities and programs.</p>	<p>III</p>
<p>[50] Environments that encourage teachers and administrative staff members to use programs designed for keeping a Work-Life Balance should be created, including communication and holding seminars about these programs. By AY2019, HU should strive to receive accreditation for compliance with the “General Employer Action Plan” (third period) of the Ministry of Health, Labor and Welfare under the Act on Advancement of Measures to Support Raising Next-Generation Children.</p>	<p>[50] Based on the “General Employer Action Plan” (third period) for the period from AY2014 to AY2019, HU should promote use of Work-Life Balance support programs for employees by communicating and holding seminars about these programs and by other activities.</p>	<p>III</p>
<p>[51] To promote active participation of female teachers and administrative staff members in the activities of the University, the percentage of female teachers and female managers should be increased to about 20%.</p>	<p>[51] To promote active participation of female teachers and administrative staff members in the activities of the University, the percentage of female teachers should be increased to about 16% of all teachers and female managers should be increased to about 13.5% of all managers, by implementing personnel deployment in accordance with the Teacher Deployment Policy.</p>	<p>III</p>

**I. Operations and financial conditions**  
**(1) Objectives relating to improvement of operation and efficiency**  
**(ii) Objective relating to restructuring of the education and research organizations**

Medium-Term Objectives	[24] From the viewpoint of strengthening functions of all departments in the University, based on the population of students of 18 years old, social needs and other factors, HU should restructure and establish flexible and optimized educational and research organizations, taking advantage of its strengths and characteristics.
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Medium-Term Plan	Annual Plan	Progress
<p>[52]            Conduct active educational and research activities, taking advantage of the strengths and characteristics of the University, by redefining its missions and identifying social needs. Separate teachers from the education and research organizations to build a flexible teacher organization that enables allocation of teachers to strategic educational and research fields. Educational and research organizations should also be reorganized and their enrollment quotas should be reviewed.</p>	<p>[52]            The enrollment quotas for the School of Education, the Graduate School of Education and Hiroshima University Law School should be reviewed and modified. The Academy of Hiroshima University should be created as an organization of teachers. Teachers should be separated from educational and research organizations and transferred to this Academy of Hiroshima University. HU should also consider reorganizing the educational and research organizations to strengthen the functions of the humanity and social science fields and interdisciplinary fields. Enrollment quotas of individual departments should be reviewed and modified.</p>	IV
<p>[53]            HU should establish educational and research organizations that take advantage of the characteristics and proven educational and research resources in the fields of life and biological sciences.</p>	<p>[53]            Consider establishing educational and research organizations of the life and biological science fields that lead to enhancement of the functions of the fields, based on field surveys of precursor universities in and outside Japan.</p>	III
<p>[54]            To develop teachers who can provide excellent education in a new era and to cope with various educational problems, including diverse needs in personnel development, in AY2016, the Graduate School of Education should be reorganized and the Professional Development Program for Teachers and School Leaders should be newly established. After completion of grade progression, the curriculum, human resources to be developed, employment rates and other items should be verified, comparing them to the original purposes of the establishment of the course.</p>	<p>[54]            The Master's course in the Graduate School of Education should be reorganized from the current eight courses into seven courses. The Professional Development Program for Teachers and School Leaders should be established (admission quota: 20 students).</p>	III

**I. Operations and financial conditions**  
**(1) Objectives relating to improvement of operation and efficiency**  
**(iii) Objectives relating to rationalization and improvement of efficiency of administrative operations**

Medium-Term Objectives	[25] To rationalize and improve the efficiency of administrative operations, the administrative organizations and operations should be reviewed and restructured. The abilities of administrative staff members should also be improved.
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Medium-Term Plan	Annual Plan	Progress
[55] Ongoing inspection and review of organizations and overall operations should be conducted. Administrative operations should be rationalized to improve their efficiency, by transferring management of information currently conducted by different systems to a central management system, expanding the on-line application system, establishing an ICT system, and improving the abilities of administrative staff members by practical job training and training programs by ability level.	[55] Ongoing inspection and review of organizations and overall operations should be conducted. An ICT system should be established and expanded. Information currently managed by different systems should be transferred to and managed by a central management system. To enhance the abilities of administrative staff members, various types of practical job training and training programs by ability level should be provided.	III

**(I) Notes relating to improvement of operation and efficiency**

**Strengthening of governance**

i) Efficient school operation [Project No. 45]

Under the leadership of the President, HU implemented school reforms mainly in the area of reinforcement of its educational and research abilities. The operation systems of HU were redesigned to further improve the efficiency of its operation.

- One female Executive was added to strengthen the organization of Executives and Vice Presidents. HU now has seven Executives, including two female Executives.
- To clarify the functions, authority and responsibilities of the Executive Offices, and to ensure efficient operation of the University, the Education and International Office was divided into the “Education Office” and the “International Office,” and the Office of Academic Research and Industry-Academia-Government and Community Collaboration was divided into the “Office of Academic Research” and the “Office of Industry-Academia-Government and Community Collaboration.”

ii) Revision of the selection method for Deans and Directors as a part of governance reform [Project No. 45]

As a part of governance reform, the Hiroshima University Regulations for Department Operation were revised in October 2016 in order to appoint Deans and Directors who share the vision of the President and the management policy of the University in performing their important roles. By AY2015, the regulations were revised so that the President can interview each Dean/Director candidate. In AY2016, the Regulations were further revised so that each department can recommend more than one Dean/Director candidate, in principle. In accordance with this new rule, Deans and Directors of the School of Law, the Graduate School of Science, the Graduate School of Advanced Study of Quantum Matters, the Graduate School of Engineering, the Research Institute for Radiation Biology and Medicine, and Hiroshima University Hospital were appointed.

iii) Establishing places to share information and exchange opinions relating to university operations [Project No. 45]

In AY2015, a round-table meeting of executives was established to share information and exchange opinions relating to university operations between Executives and other officers of Hiroshima University. Lunch meetings of officers were also held twice a month, in principle, to share information between officers. An opinion meeting of Deans and Directors is also held once a month to share understanding regarding the operation policy of the University. In addition, the President endeavors to share information and exchange opinions with related persons by publishing the “President’s Message,” attending the Faculty Meeting of individual departments, interviewing Deans and Directors, and holding opinion meetings with students.

By providing these opportunities for information sharing and opinion exchange, HU endeavors to improve the efficiency of the operation of the University.

The President and auditors meet every week, in principle, to exchange opinions and to keep close communication between them. In these meetings, they discuss the findings of audits by auditors and reflect them in the operation of the University.

- ) Strategic personnel deployment under the central personnel management [Project No. 46]  
Please refer to “Actions for Strategic and Ambitious Objectives and Plans” on p. 30.

- v) Increase in teachers working under the annual compensation system [Project No. 47]  
Please refer to “Actions for Strategic and Ambitious Objectives and Plans” on p. 30.

- vi) Providing more career opportunities to young excellent teachers in all departments [Project No. 48]  
Please refer to “Actions for Strategic and Ambitious Objectives and Plans” on pp. 30 and 31.

- vii) Global competency of administrative staff members [Project No. 49]  
As for global competency of administrative staff members, HU set a goal of increasing the percentage of administrative staff members with a TOEIC® score of 800 points or higher to 20% by March 1, 2023, under the Top Global University Project adopted by MEXT in AY2014. To achieve this goal, HU hired foreign administrative staff members, sent Japanese administrative staff members to overseas training programs, provided skill development training (on-line English conversation lessons) and conducted other activities. As a result, as of March 31, 2017, the percentage had increased to 7.5%.

- viii) Activities in accordance with the administrative personnel development plan [Project Nos. 49 and 55]
- To recruit persons who enthusiastically wish to work at HU and to retain employees with diverse ambitions, since AY2013, HU has conducted its original employment examination, in addition to the uniform government employment examinations. In AY2016, HU employed eight administrative staff members by this original employment test, including foreigners and persons with TOEIC® scores of 700 points or higher (two were hired prior to the end of AY2016, and six had been hired as of April 1, 2017).
  - HU conducted a questionnaire survey about the revision of the administrative group leader promotion system. The survey was conducted of employees who took the promotion examination and other related parties. Based on an analysis of the survey results, it was decided to revise the promotion system from the examination in AY2017.
  - As for the revision of the performance evaluation system for administrative staff members, HU has operated the system on a trial basis. Based on the evaluation of the results of the trial operation, it was decided to continue it on a trial basis in AY2017 by making some modifications, because problems were found in the setting of objectives and some other areas. By the end of AY2017, the system will be revised.
  - To enhance the linguistic abilities and understanding of different cultures of administrative staff members, HU sent 12 employees to overseas training programs in seven countries, and conducted a TOEIC® IP test skill development training program (a total of 120 employees took the test), skill development training by on-line English conversation lessons (with the participation of 29 employees) and a TOEIC® English training program (with the participation of 14 employees). In collaboration with the Education Office, myET, an English conversation training application, was introduced in December 2016 on a trial basis (with the participation of 267 administrative staff members). It was decided to continue the use of the application in AY2017.
  - At the request of specific employees, HU provides information about on-line training programs available to employees on childcare leave. Some employees on childcare leave took programs, such as the skill development training program (on-line English conversation lessons) and the skill development training program (e-learning library).

- ix) Activities to realize Work-Life Balance and gender equality [Project No. 50]
- To promote a Work-Life Balance by reducing working hours, interviews with working hour controllers were conducted in December 2016 to understand the actual working conditions, including overtime hours. Based on the facts revealed by these interviews, HU took measures to reduce overtime hours, such as adoption of an earlier or later work start time or the flex-time work system, and encouraged employees to take annual paid leave.
  - From April to June, 2016, the website of the Gender Equality Promotion Office was redesigned to improve its user accessibility. Information on childcare support programs and resources, such as information on childcare centers and after-school childcare programs, was moved to the top page so that working parents can easily find necessary information. Contents of the website were enhanced. The link to the Childcare Guidebook created by the government of Higashi-Hiroshima City (in English) was also placed on the website.
  - In December 2016, the payment method for the fees for the campus after-school childcare centers was changed from bank remittance to direct deduction from salaries, to increase the convenience of users.
  - To encourage male teachers and administrative staff members to be involved in childcare, information about the “Guide for Father’s Childcare” booklet published by the government of Hiroshima Prefecture was communicated and copies of the booklet were distributed to employees at their request. Useful information to support childcare by fathers, such as childcare seminars, was published on the website of the Office and the “IROHA” campus information sharing system from time to time.
  - HU participated in the creation of the “Recommendations from Iku-Boss Alliance in Hiroshima” (hosted by the government of Hiroshima Prefecture) to publicly declare its policy to take actions to create encouraging working environments for working parents. (“Iku-Boss” is a word coined from the Japanese word “*ikuji*” meaning childcare and the English word “boss.”) The participation of HU in the Iku-Boss Alliance was widely communicated within the University, and HU will take these actions in accordance with this Recommendation.
  - In January 2017, HU improved its childcare support programs. It expanded the range of children to whom the childcare leave, partial leave and child sick leave programs are applicable.
  - In AY2017, the use of internal childcare centers, which had been offered only to teachers and administrative staff members of the University, was also offered to foreign and Japanese students. In connection with this, the relevant internal regulations were revised.

- x) Activities to promote appointment of female managers [Project No. 51]  
Please refer to “Actions for Strategic and Ambitious Objectives and Plans” on pp. 31 and 32.

#### **Restructuring of the educational and research organizations**

- i) Establishment of new undergraduate schools and new courses [Project No. 52]  
Undergraduate schools reviewed and revised enrollment quotas, based on their redefined missions and social needs. Aiming to establish in April 2018 the School of Information Science (tentative name) (enrollment quota: 80 students) and the “Integrated Global Studies” program (tentative name) (enrollment quota: 40) in the School of Integrated Arts and Sciences, HU consulted MEXT.

As a result of the consultation, HU submitted an establishment plan for the School of Information Science (tentative name) in March 2017 and an establishment plan for the “Integrated Global Studies” program (tentative name) in the School of Integrated Arts and Sciences in April 2017.

- ii) Consideration of reinforcement of the functions of graduate schools in the humanity and social science fields [Project No. 52]  
Following AY2015, a “working group to consider restructuring of graduate schools in the humanity and social science fields and interdisciplinary fields” continued to consider reinforcement of functions of these graduate schools. In May 2017, the working group developed a recommendation that will contribute to reinforcement of the functions of the humanity and social science fields and interdisciplinary fields.
- iii) Consideration of reinforcement of the functions of graduate schools in the science and engineering fields [Project No. 52]  
Following AY2015, a “working group to consider restructuring of graduate schools in the science and engineering fields” continued to consider reinforcement of the functions of these graduate schools. In March 2017, the working group developed a recommendation that will contribute to reinforcement of the functions of the science and engineering fields.
- iv) Development of a proposal to create a graduate school that will contribute to reinforcement of the functions of the life and biological science fields [Project No. 53]  
To consider reinforcement of the functions of graduate schools in the life and biological science fields, on August 9, 2016, a “working group to consider restructuring of graduate schools in the life and biological science fields” was formed under the supervision of the President. After deliberation, the working group developed a recommendation that will contribute to reinforcement of the functions of the life and biological science fields in March 2017.

#### **Actions to address problems pointed out in the AY2015 evaluation**

Actions to address the enrollment rate not exceeding 90% of the quota (at the Hiroshima University Law School)

To acquire more applicants and enrollments, the pass rate for the bar examination of HU students should be improved. HU should aim to rank within the top 10 in the top pass rates for the bar examination for the year. Since AY2014, the teaching methods have been improved to develop a legal way of thinking in students. Coaching was provided to students by combining the integrated educational program that provides a study plan corresponding to the learning ability of each student with the learning coaching system. As a result, the pass rate of HU students in AY2016 came near to the national average (2.6% lower than the average). The pass rate of students who completed the two-year course exceeded the national average by more than 15%. HU should continue to make further improvement to realize educational achievements exceeding the national average. To increase the number of examinees from the School of Law of the University, in AY2017, two special lecture programs for students in the third and fourth years were added. Explanation meetings and special seminars relating to the bar examination were implemented. HU has worked to increase the number of applicants to and enrollments in the University while establishing personal networks. HU has also continued since AY2015 to take actions to prevent declination of admission by successful applicants to Hiroshima University Law School, including provision of learning guidance.



**I. Operations and financial conditions**  
**(2) Objectives relating to improvement of financial conditions**  
**(i) Objectives relating to expansion of external research funds, donations and internal revenues**

Medium-Term Objectives	[26] HU should improve and strengthen its financial structure in order to conduct world-level educational and research activities as a comprehensive research university.
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Medium-Term Plan	Annual Plan	Progress
[56] Conduct an investigation of the movement of competitive research funds in and outside Japan. Based on an analysis of the investigation, a more efficient funding strategy should be developed, aiming to increase the amount of external funding per teacher by about 1.5 times the amount as of the end of the Second Medium-Term Period.	[56] Conduct an investigation of the movement of competitive research funds in and outside Japan. Based on an analysis of the investigation, the current Strategy for Acquiring Competitive Research Funds should be reviewed and a new funding strategy should be developed.	III
[57] To expand the Hiroshima University Fund, the effectiveness of the donation methods and the advertisements should be continuously verified, and the solicitation strategy should be modified.	[57] To expand the Hiroshima University Fund, a method to periodically verify the effectiveness of solicitation strategies, such as the donation methods and the advertising, should be developed.	IV

**I. Operations and financial conditions**  
**(2) Objectives relating to improvement of financial conditions**  
**(ii) Objectives relating to cost reduction**

Medium-Term Objectives	[27] Visualize the financial indicators to efficiently use and manage expenses.
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Medium-Term Plan	Annual Plan	Progress
[58] To hold down the percentage of general administrative expenses, HU should conduct financial analysis of expenses of each segment, set the cost reduction target for consumables and other items in administrative departments at -2% from the previous year, and work to continuously reduce general administrative expenses.	[58] To hold down the percentage of general administrative expenses, HU should conduct financial analysis of expenses of each segment, set the cost reduction target for consumables and other items in administrative departments at -2% from the previous year, and work to reduce general administrative expenses.	IV

**I. Operations and financial conditions**  
**(2) Objectives relating to improvement of financial conditions**  
**(iii) Objectives relating to improvement of asset investment and management**

Medium-Term Objectives	[28] Effectively use assets (facilities and equipment) of the University from a holistic viewpoint and continuously review how they should be used.
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Medium-Term Plan	Annual Plan	Progress
[59] Continue the collection and verification of information regarding the use statuses of assets (facilities and equipment), and promote their joint and shared use. Make these joint-use assets available to outside parties to promote their effective use.	[59] In cooperation with the organization responsible for research facility management, continue the collection and verification of information regarding the use statuses of assets (facilities and equipment), and promote their joint and shared use. Make these joint-use assets available to outside parties to promote their effective use.	III

**Objectives relating to expansion of external research funds and internal revenues**

## i) Development of an “External Funding Strategy” [Project No. 56]

The “Strategy for Acquiring Competitive Research Funds,” which had been revised in AY2014, was further expanded into a more comprehensive strategy, “External Funding Strategy,” aiming to increase funding from various external sources, including joint research projects and donations. Specifically, this Strategy includes the following objectives:

An internal system to strengthen the financial structure of the University should be established and measures to increase revenues from each external source should be developed, based on the movement of research funding sources in and outside Japan, as stated in the 5th Science and Technology Basic Plan, and on strategies and objectives set by each Executive Office regarding funding from external sources. The target for external funding per full-time teacher as of the end of the Third Medium-Term Plan Period should be set at 8.5 million yen.

## ii) Investment of extra funds [Project No. 56]

Because the interest rate was very low, revenues from investments had continued declining. However, as the yield rates of the national bonds have been improving since July 2016, HU purchased national bonds and secured financial revenues of 18 million yen a year in and after AY2017.

## iii) Cost reduction [Project No. 58]

• The electricity service contract of the Higashi-Hiroshima Campus was reviewed and analyzed, by comparing it with contracts of other universities and their actual costs. Based on this review and analysis, HU changed the contract term to a multiple-year term from three to five years. It is expected that the electricity cost will be reduced by about 26 million yen a year as a result of this change in and after AY2017. Attached schools in four areas also changed the contract watt amount by a maximum of 14.8% in order to reduce the expected power consumption. As a result of this change, electric charges paid by these attached schools have decreased by about 3.7 million yen per year since AY2016. To reduce costs related to facsimile machines, the models and specifications of machines were reviewed and changed according to the actual use status in individual workplaces. As a result of these changes, the facsimile-related costs are expected to decrease by about 1,688,000 yen per year despite that the number of machines increased by 32 units from the last contract renewal time (AY2012). The management of the North Energy Center had been outsourced to an outside service provider. In July 2016 HU terminated the management service contract with this service provider. After the termination of the service, the management of the Center has been administered by internal staff members. As a result, the costs relating to the Center decreased by 1,659,000 yen for the year.

• HU changed the management of labor costs of administrative staff members from a head count basis to a total amount basis in AY2013. As a result, the labor costs for administrative staff members in AY2016 decreased by 1% from AY2015. The management of teacher labor costs was transferred from individual educational and research organizations to central management by the University. In addition, HU reduced the “labor cost point” by 1% in AY2016.

• The ratio of general administrative expenses to operating costs during the Second Medium-Term Plan Period was calculated for each segment and causes for increase/decrease from the previous year were analyzed. The results of the analysis were reported in the financial operation communication meeting to strengthen the awareness of interested departments and persons regarding the budget allocation and use of the budget to achieve reduction of the general administrative expense ratio.

In addition to these activities, HU also reduced the initial budget for administrative expenses for AY2016 by 2.5% from AY2015 to reduce the ratio of general administrative expenses to operating costs. As a result, the general administrative expense ratio decreased to 1.8% in AY2016 from 2% in AY2015.

In the initial budget for AY2017 that was created in March 2017, the budgets for administrative expenses and common operating expenses for the entire University (such as utilities, cleaning, security, and building maintenance expenses) were reduced by 2.5% from the budget for AY2016 (4% reduction at the Corporate Headquarters)(reduction by 98,548,000 yen for the year).

## iv) Improvement in asset investment and management [Project No. 59]

• In July 2012, the land possessed by HU in Hatsukaichi City (the land for the boathouse of the yacht club of the former Department of Medicine) ceased to be used. Its disposition has been considered and in December 2016, HU sold the land at a higher price (20,000,000 yen) than its book value (16,670,000 yen). The proceeds from the sale after deducting the payment to the National Institution for Academic Degrees and Quality Enhancement of Higher Education (about 10,790,000 yen) were appropriated to cover a part of the costs of the improvement project for the Health Service Center on the Kasumi Campus.

• In AY2016, revenues from lending spaces on land and within buildings for installing vending machines increased from AY2015 by 2,722,000 yen to 24,838,000 yen. This increase was due to the installment of 11 additional vending machines and the contingent rents for these additional machines, which vary according to the sales amount generated by these vending machines. These revenues were appropriated to cover a part of the costs of the START short overseas stay program for students in the first year who did not have much overseas experience.

## v) Effective use of owned assets [Project No. 59]

• To increase revenues from effective use of the owned assets of the University, the basic policy for budgeting for AY2017 was established in January 2017. This policy stipulates that 60% of the revenues received for temporary use of University facilities (about 7,295,000 yen) should be allocated as an incentive budget for the units that administer these facilities. In AY2015, in order to help teachers and citizens in the neighborhood looking for a childcare center, HU concluded a commercial term-lease contract with a childcare service provider to lease a land lot on the campus as a site for operating a certified childcare center. Under this contract, HU receives rent revenues of 7,500,000 yen each year.

• To understand how research facilities have been used and their operating rates, an investigation was conducted on 901 research facilities (worth 10 million yen or higher, in principle). Based on the results of the investigation, data materials for developing a research facility improvement plan were created.

- In response to the adoption of the MEXT Project for Sharing Advanced Research Platform 2016, a system to share research facilities between departments and courses was established. Shared use of 50 facilities of three research units in the Graduate School of Biomedical & Health Sciences and the Graduate School of Engineering has started.
- To further promote shared use of the Chugoku Region Bio Network Analysis Service between universities, which started in AY2014 (at Hiroshima University, no use in AY2014, one case of use in AY2015 and three cases of use in AY2016), a leaflet was created and 1,200 copies of the leaflet were distributed within the University and to four partner universities (Tottori University, Shimane University, Okayama University and Yamaguchi University).

#### Activities to solicit donations

- i) Promotion of organizational solicitation of donations in accordance with the Hiroshima University Donation Strategy [Project No. 57]

To encourage donations to the Hiroshima University Title Sponsor Fund, the Student Support Fund and the Hiroshima University Fund, HU continued examination of the donation methods and effectiveness of advertisements. Based on an analysis of the examination, improvements were made to these donation programs. In AY2016, the leaflets of the Hiroshima University Title Sponsor Fund and the Hiroshima University Fund were distributed at the class reunion of the School of Medicine, and at the joint general session of the class reunions of the Schools of Politics and Economy, Law, Economics, and the Graduate School of Social Sciences. The leaflets were also attached to the Alumni Bulletin sent to graduates of the School of Dentistry. As a result, three donations (1,100,000 yen) were received by the Title Sponsor Fund and 57 donations (7,870,000 yen) were received by the Hiroshima University Fund. The leaflet of the Hiroshima University Fund was attached to the invitation letter for Hiroshima University Homecoming Day (36,000 letters) to solicit donations. As a result, a total of 152 donations (3,980,000 yen) were received from members of Alumni Associations and other graduates. In addition, the Special Assistant to the President in charge of Alumni Associations/Funds visited presidents and officers of 16 companies within Hiroshima Prefecture to solicit donations. As a result, the Hiroshima University Title Sponsor Fund received one donation (350,000 yen), and the Hiroshima University Fund received nine donations (6,300,000 yen).

- ii) Simpler procedure and use of credit card for donations to Hiroshima University Fund [Project No. 57]

To simplify the procedure to make donations to Hiroshima University, an official website for donation application was created in AY2014. Donors may also choose payment by credit card. In AY2016, HU received 13 donation applications (5,160,000 yen) via the official website. A total of 17 donors used credit cards (145,000 yen) for payment of their donations.

- iii) Creation of the “Hiroshima University Student Support Fund” [Project No. 57]

In AY2016, HU established and solicited donations to the Hiroshima University Student Support Fund. Donors may receive a tax credit for donations to this Fund as a result of the revision of the taxation system. Donations to this Fund are used to provide financial support to students in financial difficulty. In AY2016, the Fund received 299 donations (6,215,000 yen).

#### Results of solicitation for donations (AY2015 and AY2016)

	AY2015	AY2016	Increase
Hiroshima University Fund	69,978,146 yen	132,718,537 yen	62,740,391 yen
Hiroshima University Student Support Fund (new)	0 yen	6,215,500 yen	6,215,500 yen
Hiroshima University Title Sponsor Fund	5,850,000 yen	21,950,000 yen	16,100,000 yen
Total	75,828,146 yen	160,884,037 yen	85,055,891 yen

**I. Operations and financial conditions**  
**(3) Objectives relating to self-check/evaluation and provision of information**  
**(i) Objectives relating to improvement of the evaluation system**

Medium-Term Objectives	[29] To vitalize its educational and research activities as a comprehensive research university, HU should receive an evaluation of its organization by a third party, based on its self-check and evaluation.
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Medium-Term Plan	Annual Plan	Progress
<p>[60]            To maintain and improve the quality of its educational and research activities, common evaluation items for the entire University should be established. Individual departments should perform an annual self-check and evaluation by using their own unique evaluation items which are established according to the characteristics of individual departments. An external evaluation should also be performed by the external members of the Administrative Council (including foreign members). HU should also receive an international evaluation of its educational quality assurance systems by SERU (Student Experience in the Research University), an international consortium of universities in which HU participates as a member.</p>	<p>[60]            Individual departments should perform a self-check and evaluation. An evaluation should also be performed by the external members of the Administrative Council (including foreign members). To maintain and improve the quality of its educational and research activities, HU should establish common evaluation items for the entire University, and individual departments should establish their own unique evaluation items according to their characteristics.</p>	III

**I. Operations and financial conditions**  
**(3) Objectives relating to self-check/evaluation and provision of information**  
**(ii) Objectives relating to disclosure and distribution of information**

Medium-Term Objectives	<p>[30] To achieve its accountability to society, HU should actively disclose correct and accurate information relating to the self-check and evaluation of its activities.</p> <p>[31] Implement publicity activities that contribute to enhancement of the recognition and reputation of HU in and outside Japan.</p>
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Medium-Term Plan	Annual Plan	Progress
<p>[61] To achieve its accountability to society, HU should actively disclose the results of the self-check and evaluation of its activities in an easy-to-understand manner via the HU website, the “Japanese College and University Portraits” website and other media.</p>	<p>[61] To achieve their accountability to society, individual departments should actively disclose the results of the self-check and evaluation of their activities in an easy-to-understand manner via the HU website and the “Japanese College and University Portraits” website.</p>	III
<p>[62] To enhance the recognition and reputation of HU in and outside Japan, HU should publish information relating to its educational, research and medical activities, and social activities, and their excellent achievements via its website and social media, focusing on communication from a user viewpoint.</p>	<p>[62] Optimal methods for information distribution should be considered. The multilingual interface of the HU website should be expanded. Information should be organized by stakeholder type so that different types of stakeholders can easily access necessary information. To promote publication of the research results of HU, the functions of the Hiroshima University Institutional Repository should be expanded. Publication of books by the Hiroshima University Publication Business should also be promoted.</p>	IV
<p>[63] Enhance the reputation of HU, by actively posting articles in foreign academic magazines and educational and research information magazines, and releasing information to foreign media.</p>	<p>[63] Establish a system to effectively post articles and release information relating to excellent research results of HU in foreign academic magazines and foreign media.</p>	III

**(3) Objectives relating to self-check/evaluation and provision of information**

**Self-check and evaluation**

i) Improvement in the self-check/evaluation system to improve the quality of education [Project No. 12]

Please refer to “Actions for Strategic and Ambitious Objectives and Plans “on pp. 23 and 24.

ii) Activities to ensure international quality of education (student survey by SERU) [Project Nos. 12 and 60]

Please refer to “Actions for Strategic and Ambitious Objectives and Plans “on p. 24.

iii) Self-check and evaluation from a holistic viewpoint for the entire University [Project No. 60]

In September 2016, individual departments in HU received external evaluations by external members of the Administrative Council (including foreign members) regarding their self-check and evaluation for the Second Medium-Term Period. In these evaluations focusing on unique characteristics of education and research activities of individual departments, 184 items that need improvement were pointed out and requests and advice were given to further enhance their characteristics. Based on the requests and advice stated in the evaluation report, individual departments developed and implemented improvement plans. Improvement actions taken by departments were checked by the all-campus Evaluation Committee. In addition, from December 2016 to January 2017, the President interviewed Deans and Directors of individual departments to check the progress of the improvement actions, made requests, and gave advice on improvement of problems to enhance the characteristics of individual departments. The results of the self-check and evaluation of individual departments, the results of the external evaluations of individual departments, improvement actions taken, and requests and advice given by the President at the interviews with Deans/Directors were shared at the opinion exchange meeting of the Administrative Council held in March 2017, which was attended by all officers, Deans and Directors of the University and external members. For example, the President requested to a certain department that it should create a program to develop people who can play active roles in the United Nations and other international organizations that seek persons with practical career experience. In response to this request, the department developed an educational program to develop practical experts in international cooperation. Individual departments firmly followed the PDCA cycle to maintain and improve the quality of their educational and research activities.

iv) External evaluation of the SGU project and advice by the Advisory Board [Project No. 60]

In November 2016, activities of Hiroshima University under the MEXT Super Global University Project (“SGU Project”) received an external evaluation by a professor of the Beijing Normal University and the Assistant to the President of Nagoya University. In December 2016, HU also received an external evaluation by the Deputy Vice-Chancellor of the University of Western Australia and the Counselor of the National Institution for Academic Degrees and Quality Enhancement of Higher Education. From November to December 2016, HU received advice from the Advisory Board, comprised of a former professor of the Chinese University of Hong Kong, a professor of Cairo University, a representative from the Oxford University Japan Office, the President of James Madison University, and the Provost and Senior Vice President of James Madison University.

When the former professor of the Chinese University of Hong Kong visited HU in February, an opinion exchange meeting was also conducted. Based on these evaluations and advice given by these evaluators, HU will implement activities under the SGU Project more effectively.

v) On-going evaluation of educational and research activities of teachers [Project No. 60]

In accordance with the “Basic Policy for Personal Evaluation of Teachers” (established by the Education and Research Council), HU implemented on-going evaluation of activities of individual teachers by expressing the performance of each individual teacher by individual scores. Aiming to stimulate and improve the quality of educational and research activities, the Policy stipulates that all teachers should recognize their research abilities and that the University should correctly and fairly evaluate and treat excellent researchers and urge under-performing teachers to improve their performance by understanding their problems.

Engagement and achievements of each teacher in educational and research activities, social activities and university management during the previous year are evaluated for items designated by the department and expressed by individual scores. The results of the evaluation are reflected in the compensation for the teacher.

vi) Creation of the “Hiroshima University Procedures for Departmental Evaluation” and the “Departmental Objective Evaluation Report Creation Manual” [Project No. 60]

In March 2017, HU established the “Hiroshima University Procedures for Departmental Evaluation.” and the “Departmental Objective Evaluation Report Creation Manual.” which describes common evaluation items for the departmental evaluation. The purposes of these documents are to identify the current statuses of activities and problems in individual departments, to enhance the characteristics of individual departments defined in the “Re-defining of Missions,” and to further improve the quality of educational and research activities by implementing measures to improve and eliminate identified problems.

It was decided that, in addition to the self-check and evaluation performed by individual departments, they should receive an evaluation by external reviewers (including one or more external members of the Administrative Council) from the viewpoint of third parties, as one of the external evaluations. This external evaluation should be conducted every year starting from AY2017. Information relating to the results of the external evaluation and measures taken to improve the problems pointed out in the evaluation should be shared via interviews with the President (to be held in December) and at an opinion exchange meeting (to be held in March), including characteristics and problems of individual departments, to maintain and improve the quality of education and research from a holistic viewpoint for the entire University.



### Provision of information

#### i) Official website for smart phones [Project No. 62]

Considering the fact that more than 90% of high school students use smart phones, HU changed the operation system for its official website to a system compatible with smart phones and tablet devices in December 2016. In connection with this system change, the procedures to post and edit contents were also simplified so that a person without special knowledge about the web design can operate the system. This change enabled frequent and fast updating of information on the website. Data were organized to make it easier to find necessary data when data must be transferred to other sources. As a result of these activities, accessing of the website has increased. (The average bounce rate (the percentage of visitors to a particular website who leave the site after viewing only one page) of websites of undergraduate schools decreased from 46% in February 2015 to 36% in February 2017.) The percentage of visitors who accessed the official website from smart phones or tablet devices increased to 51% in March 2017 from 37% in February 2015, before redesigning the website for smart phones.

#### ii) Video letters from foreign alumni and alumnae who play active roles in international society [Project No. 62]

Message videos from foreign alumni and alumnae who play active roles in international society were placed on the HU websites. In AY2016, video letters from six graduates were created, which were played 2,670 times from April 2016 to March 2017.

#### iii) Multilingual interface of the official website [Project No. 62]

Languages, viewers and contents of web pages were reviewed. As a result of this review, Spanish pages were added in September 2016, in addition to Japanese, English, Chinese and Arabic pages.

To increase the volume of information provided in foreign languages, HU updated the English pages at least once a week, and the Chinese pages about twice a month.

Arabic pages and Spanish pages mainly provide information on academic courses offered by Hiroshima University, support programs for foreign students and campus life to students who are interested in studying at Hiroshima University.

From April 2016 to March 2017, Arabic pages were accessed 5,295 times and Spanish pages were accessed 3,843 times.

#### iv) Re-categorization of information by stakeholder type

HU held two opinion exchange meetings with foreign students regarding the categorization of information on its website. Based on the opinions heard from foreign students, the information for foreigners interested in studying at HU was re-categorized and the menu for them was redesigned by types of students.

HU also conducted questionnaire surveys of high school teachers three times to hear their opinions regarding information for students preparing for admission examinations. Based on the collected opinions, the information for these students was re-categorized and the menu for them was redesigned by types of students.

#### v) International public relations [Project No. 62]

HU strove to enhance its international reputation by posting English press release articles about its research activities and their achievements (such as academic papers) on EurekAlert! (based in North America) and AlphaGalileo (based in the U.K.), leading on-line platforms for international scientific news service. (Posting during AY2016: 19 articles in EurekAlert! and 25 articles in AlphaGalileo)

#### vi) Use of social networking services [Project No. 62]

HU used Twitter and Facebook (in Japanese and English) to distribute information to various users. In January 2017, followers on Twitter had reached 10,000.

As of the end of AY2016, HU had 10,692 followers on Twitter (an increase of 2,218 followers from the end of AY2015), 6,765 followers on Facebook (in Japanese) (an increase of 1,576 from the end of AY2015), and 776 followers on Facebook (in English) (an increase of 201 from the end of AY2015).

#### vii) Use of “Hiroshima University - Can It Become a World Top 100 University?” (PHP Shinsho Publication) [Project No. 62]

This book introduces the excellent research ability and educational ability of Hiroshima University in concise and easy-to-understand words. The book was sold to visitors to the open campus and graduates at class reunions, aiming to enhance the reputation of the University. (22,000 copies had been published as of the end of March 2017.)

#### viii) Issuance of a new public relations magazine [Project No. 62]

To widely distribute information about the “current Hiroshima University” to the public and members of the University, “HU-style” (house magazine for HU students) and “News from Hiroshima University” (house magazine for parents of HU students) were consolidated into the new public relations magazine “HU-plus” (first issue in November 2016, with a circulation of 31,000 copies).

This public relations magazine aims to deliver information about exciting activities conducted by Hiroshima University in a manner that readers can quickly understand current issues at HU, such as what academic areas it puts emphasis on, what educational and research projects it is engaged in to become a World Top 100 university, what will change by these activities, the relationship of HU with society, its globalization, and its unique peace education as a university in an atomic-bomb suffered region.

In addition, a reader survey using a questionnaire was implemented to hear the opinions of readers and reflect them in the improvement of the contents of the magazine. HU worked to enhance the interaction between the readers of the magazine and the University.

This public relations magazine was distributed to various stakeholders: 963 copies to donors to University funds; 14,146 copies to payers of schooling expenses; 9,888 copies to teachers, administrative staff members and students; 350 copies to alumni associations (Senda Juku, and Shoushi-kai); 600 copies to municipal governments in Hiroshima Prefecture (Higashi-Hiroshima City, Fukuyama City, Mihara City, Onomichi City, Miyoshi City and Sera Town); 1,663 copies to high schools and other educational institutions, and 200 copies to an antenna shop in Tokyo. The magazine was also delivered to graduates in the format of an e-book via the electronic newsletter “Kanto Tsushin” sent by the Tokyo Office of Hiroshima University.

**I. Operations and financial conditions**  
**(4) Objectives relating to other operation-related matters**  
**(i) Objectives relating to the improvement and use of facilities**

Medium-Term Objectives	[32] To create an appealing campus, facilities should be improved in accordance with the Campus Master Facility Plan and total facility management.
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Medium-Term Plan	Annual Plan	Progress
[64] Create spaces for socializing and active learning for students, teachers and administrative staff members. Old facilities should be renovated by using the government's funding. Energy-saving measures should be taken. Facilities should be properly maintained to secure safe environments for educational and research activities.	[64] In accordance with the action plan under the Campus Master Facility Plan, HU should create spaces for socializing and active learning for students, teachers and administrative staff members. In accordance with the annual plan for facility management, old facilities should be renovated, energy-saving measures should be taken, and facilities should be properly maintained to secure safe environments for educational and research activities.	IV
[65] To effectively use existing facilities, the allocation of space for education activities and research activities should be rearranged. The number of spaces for shared use by all departments should be increased by about 1.5 times the current number of spaces.	[65] Allocate the space properly for educational activities and research activities, based on teachers' requests for research space and an examination of the actual use statuses of facilities. As the former medical service building on the Kasumi Campus will be renovated, a shared space for all departments should be provided within the building.	III

**I. Operations and financial conditions**  
**(4) Objectives relating to other operation-related matters**  
**(ii) Objectives relating to safety management**

Medium-Term Objectives	[33] To strengthen the safety management system and nurture a safety culture, enhance the awareness of teachers and administrative staff members of risk management, safety and health.
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Medium-Term Plan	Annual Plan	Progress
[66] Conduct inspection and evaluation of the safety management system of HU. Enhance awareness of risk management, safety and health by offering regular training and lecture sessions about safety to all teachers and administrative staff members every year.	[66] Strengthen the safety and health management system by conducting inspection and evaluation of safety and health management activities and by ensuring compliance with applicable laws. Provide enhanced safety education to teachers, administrative staff members, and students to strengthen their awareness of risk management, safety and health.	III

**I. Operations and financial conditions**  
**(4) Objectives relating to other operation-related matters**  
**(iii) Objectives relating to compliance**

Medium-Term Objectives	[34] To achieve its accountability to society, HU should implement reliable, transparent, sound and fair operation of the organization and ensure compliance with laws and regulations.
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Medium-Term Plan	Annual Plan	Progress
<p>[67]                      HU has established a system to prevent dishonest acts in research activities and measures to prevent abuse of research expenses. Persons engaged in research activities should use this system and these measures to prevent dishonest acts relating to research activities. Such measures include requiring persons who use research expenses to participate in educational programs relating to researcher ethics and compliance with laws and regulations related to research activities, to participate in educational programs relating to prevention of abuse of research expenses, and to submit acknowledgment letters each year.</p>	<p>[67]                      In accordance with its system to prevent dishonest acts in research activities and measures to prevent abuse of research expenses, HU should provide educational programs relating to researcher ethics and compliance. Collect from each person who uses research expenses an acknowledgment letter to confirm that the person acknowledges that he/she is legally responsible for observing applicable laws and regulations and is subject to disciplinary disposition in the event of non-compliance.</p>	III
<p>[68]                      To perform the operation of the University lawfully and properly and gain social trust, HU should continue to provide training and education on handling of personal information. It should also conduct regular awareness activities for students, teachers and administrative staff members about compliance with laws and regulations.</p>	<p>[68]                      To secure proper management of personal information, HU should conduct internal audits. HU should also provide training and education on management of personal information to students, teachers and administrative staff members. The effectiveness of the audit and the awareness activities should be verified. The MY NUMBER system should be correctly operated to properly manage personal information that contains “MY NUMBER” information.</p>	III
<p>[69]                      Complete the transfer of the main server for administrative operations to cloud computing, as a measure to mitigate vulnerability during normal operation and to secure continuity of the operation in the event of an emergency. HU should manage the security of information by following its Information Security Policy, which was revised during the Second Medium-Term Period, and the Guideline for Using the Cloud Service of Hiroshima University.</p>	<p>[69]                      As a part of the transfer of the main server for administrative operations to cloud computing, the Uniform ID Management System for the entire University should be transferred to cloud computing. Risks relating to the information system should be assessed and analyzed in accordance with the Information Security Policy, the Procedures for Information Security Management and the Guideline for Using the Cloud Service of Hiroshima University.</p>	III

**(4) Notes relating to other operation-related matters**

**Activities relating to facility management**

HU endeavors to conduct effective facility management by its cross-sectional management system, working beyond the borders of departments, through deliberations by the Facility Management Committee (chaired by the Executive in charge of Financial/General Affairs) and based on decisions made by the Executive Board.

- i) Effective use, maintenance and management of facilities (including preventive maintenance) [Project Nos. 64 and 65]
- HU introduced the research space request/registration system, in order to improve the balance of areas allocated to teachers for their activities and to respond to the need for areas for new activities. In AY2016, the Higashi-Hiroshima Campus created a list of areas allocated to individual teachers for their activities.
  - HU investigated the actual use statuses of the library and the facilities of the Graduate School of Biosphere Science to identify problems. HU requested the administrators of these facilities to improve the identified problems.
  - As the Kasumi Campus was re-developed, the former medical service building was designated as an area for flexible use. As a result, additional new areas of 3,667 m<sup>2</sup> were obtained.
  - HU had considered introduction of a space charge system applicable to all departments in order to secure financial sources necessary for future facility management and maintenance. HU decided to partially introduce the system from AY2017 and expand it in several phases.
- ii) Development of Hiroshima University Infrastructure Prolongation Plan (Action Plan) [Project No. 64]
- HU developed the Hiroshima University Infrastructure Prolongation Plan (Action Plan) to set policies for actions to maintain and prolong the lives of its facilities within a limited budget, in order to properly manage the maintenance criteria and scale of its facilities.
- HU had considered introduction of a space charge system applicable to all departments in order to secure financial sources necessary for future facility management and maintenance. It decided to partially introduce the system from AY2017 and expand it in several phases.
- iii) Facility improvement in accordance with the Campus Master Plan [Project No. 64]
- In accordance with the action plan under the Campus Master Plan, the following facility improvement projects were implemented to respond to the needs of more advanced and diversified education and research activities and to secure the safety of people by renovating old facilities:
- Improvement of the infrastructure on the Kasumi Campus (renovation of disaster control facilities); renovation of the power receiving and transforming facilities on the Higashi-Hiroshima Campus; renovation of the roofing of the East and West Gymnasiums on the Higashi-Hiroshima Campus; renovation of the external walls of the laboratory/research building on the Takehara Campus; renovation of the administrative office on the first floor of Building A of the Central Buildings on the Higashi-Senda Campus; renovation of classrooms of the junior high school in Mihara; and renovation of the men's lavatory on the 6th floor of the Research Building in the Graduate School of Science on the Higashi-Hiroshima Campus.

- iv) Improvement of facilities by utilizing diverse funding sources [Project No. 64]

HU used the contracted research & development expenses (borne by the Japan Science and Technology Agency (JST)) as the fund for the renovation of the common use building (the COI research center of 321 m<sup>2</sup>) on the Kasumi Campus.

- v) Activities for environmental preservation and active energy management [Project No. 64]

HU changed the 28 outdoor lights of 200 W on the Higashi-Hiroshima Campus to 60 W LED lights. It also changed the 33 air-conditioning units to the newest energy-saving models. By these activities, HU managed to save about 56,400 kWh of energy.

**Enhancement of the safety and health management system**

Disaster prevention activities [Project No. 66]

The government of Hiroshima Prefecture advocates its “Hiroshima Prefecture All Citizen Involvement in Disaster Mitigation” Campaign, aiming to make the prefecture resistant to disasters by promoting integrated and systematic disaster preventive activities. The President of Hiroshima University participates in the campaign promotion committee as a member to discuss an action plan for the campaign, hear reports and examine the statuses of activities conducted under the campaign.

Safety and health education was provided to students, teachers and administrative staff members to enhance their awareness of risk management, safety and health. In addition, during the regular visit by the industry doctor to workplaces within the University, the safety statuses of the workplaces were checked to prevent accidents.

**Activities relating to compliance**

- i) Activities to prevent abuse of research expenses [Project No. 67]

On October 3, 2016, HU established and announced the “Hiroshima University Plan for Preventing Abuse of Research Expenses” (the 5th Action Plan). In accordance with this Plan, HU conducted questionnaire surveys of officers and administrative staff members to confirm the extent of their awareness regarding prevention of research expense abuse (response rate: 51.2% in AY2015 and 52.4% in AY2016). Based on the results of these surveys, focusing on items with low awareness, compliance managers in individual departments worked to enhance the awareness of employees.

HU also incorporated the education on “proper use of research expenses” as a part of the initial training of new teachers and administrative staff members (implemented in April and October) and as a part of the accounting standard study meeting held for employees who would take the National University Financial Accounting Training in the Chugoku/Shikoku Region (Introductory Course).

Moreover, the President frequently attends the faculty meetings of each department to remind the attendees that abuse of research expenses should be prevented.

ii) Training on protection of personal information [Project No. 68]

The following training sessions regarding protection of personal information were provided to teachers and administrative staff members: as a part of the basic training sessions for new employees in April and October, 254 participants; training session on the Higashi-Hiroshima Campus in February, 112 participants; and training session on the Kasumi Campus in December, 65 participants. Questionnaire surveys of the participants at these sessions were also implemented. The results of the survey were reflected in the planning of the contents and methods of the training programs for AY2017.

Moreover, before the QTA (Qualified Teaching Assistant) Qualification Training session, a video lecture regarding protection of personal information was given to attending students.

The President attends the faculty meetings of each department to remind the attendees of proper management and protection of personal information.

iii) Audit of documents containing personal information and corporate documents [Project No. 68]

The Audit Office conducted an audit, in cooperation with relevant organizations, to confirm the statuses of management of documents containing personal information and corporate documents in individual departments (from January to February, in 17 departments). Departments where improper management of personal information and corporate documents was found by this audit promptly made improvements, responding to the instructions given by the auditors.

Interviews with persons in two departments in charge of handling personal information containing “MY NUMBER” were conducted in March 2017 to provide instructions for proper management of the information.

**Activities to enhance information security**

Activities under the Basic Plan for Information Security Measures [Project No. 69]

- In February 2016, it was clearly announced that the Information Security Promotion Organization of Hiroshima University is the CSIRT (computer security incident response team) of the University. In AY2016, two CSIRT education and training sessions (internal training on actions for incidents) were held. HU also sent two administrative staff members to the information security technology enhancement training hosted by MEXT.
- HU strove to protect its information assets in accordance with the Hiroshima University Information Security Regulations. In AY2016, HU revised the Information Security Policy and the Procedures for Information Security Management. The “Common” Part that stipulates rules applicable to all departments in the University and the “Departmental Part” that stipulates additional rules applicable to individual departments were created to clarify matters to be observed by individual members of the University.

- The following “Information Security Compliance Education” sessions for all students were provided: the Freshman program at the time of enrollment (class room lecture), 3,180 participants; and the Follow-Up program for students in higher grades (on-line lecture), 10,803 participants.

In addition, since AY2012, HU has provided a total of ten information security training sessions to enhance the awareness and knowledge of teachers and administrative staff members. A total of 694 people have taken this training program.

- All employees of HU are required to complete information security compliance education each year, which are comprised of a self-check, the Follow-Up program and a knowledge test, to renew their personal accounts at the University in their second year and each subsequent service year. The Information Media Center of HU has already acquired ISO/IEC 27001 certification for its information security management system. In performing the information security audit, HU applied the standards used for this certified information security management system to the audit of the uniform ID management system for the entire University. In addition, HU has acquired certification for cloud security (ISO/IEC 27017: service customer) as the first Japanese university.
- In the “Network Use Request Service” provided by the Information Media Center, each information device was assigned a global IP accessible from outside the University. Each device is managed by associating it with the assigned IP address, MAC address and administrator ID. HU also introduced a system that allows the administrator to set network access control to such device. Users of this service must complete the designated annual renewal process to continue to use the service. By these measures, HU ensures the proper management of information security.

**II. Budgeting (including estimation of labor costs), revenue plan and funding plan**

\* Please refer to the financial statements and the financial report.

**III. Limit for short-term borrowings**

Medium-Term Plan	Annual Plan	Actual Results
1. Limit for short-term borrowings 6,222,074,000 yen 2. Potential reasons Short-term borrowings may become necessary due to a delay in receipt of government subsidies or because unexpected disbursement of cash becomes necessary in order to handle an accident.	1. Limit for short-term borrowings 6,222,074,000 yen 2. Potential reasons Short-term borrowings may become necessary due to a delay in receipt of government subsidies or because unexpected disbursement of cash becomes necessary in order to handle an accident.	No transaction

**IV. Plan to assign or provide as collateral important assets**

Medium-Term Plan	Annual Plan	Actual Results
1. Plan to assign or provide as collateral important assets (1) A part of the land for the Amazuyama Apartment Complex (226-101 Ushida Shin-machi 4-chome, Higashi Ward, Hiroshima City, Hiroshima, 117.63 m <sup>2</sup> ) should be assigned. (2) The land for the Hatsukaichi Apartment Complex (2585-9, Jigozen 5-chome, Hatsukaichi City, Hiroshima, 332.73 m <sup>2</sup> ) should be assigned 2. Plan to provide important assets as collateral In connection with the long-term borrowing of funds used for improvement works of the facilities and equipment at Hiroshima University Hospital, certain land and buildings owned by HU should be provided as collateral for the borrowing.	(1) A part of the land for the Amazuyama Apartment Complex (226-101 Ushida Shin-machi 4-chome, Higashi Ward, Hiroshima City, Hiroshima, 117.63 m <sup>2</sup> ) should be assigned. (2) The land for the Hatsukaichi Apartment Complex (2585-9, Jigozen 5-chome, Hatsukaichi City, Hiroshima, 332.73 m <sup>2</sup> ) should be assigned	(1) A part of the land for the Amazuyama Apartment Complex (226-101 Ushida Shin-machi 4-chome, Higashi Ward, Hiroshima City, Hiroshima, 117.63 m <sup>2</sup> ) was assigned. (2) The land for the Hatsukaichi Apartment Complex (2585-9, Jigozen 5-chome, Hatsukaichi City, Hiroshima, 332.73 m <sup>2</sup> ) was assigned

**V. Appropriation of surpluses**

Medium-Term Plan	Annual Plan	Actual Results
Any surpluses recorded in the annual account settlement should be appropriated to activities to improve the quality of educational and research activities and improve the operation of the organization of the University, subject to prior approval of the Minister of Education, Culture, Sports, Science and Technology.	Any surpluses recorded in the account settlement should be appropriated to activities to improve the quality of educational and research activities and improve the operation of the organization of the University, subject to prior approval of the Minister of Education, Culture, Sports, Science and Technology	Not applicable



**VI. Others 1. Facility and equipment plan**

Medium-Term Plan			Annual Plan			Actual Results		
Description of facility/equipment	Expected amount (millions of yen)	Funding source	Description of facility/equipment	Expected amount (millions of yen)	Funding source	Description of facility/equipment	Expected amount (millions of yen)	Funding source
<ul style="list-style-type: none"> <li>• (Higashi-Hiroshima) Renovation of life-supporting facilities (including electric facilities)</li> <li>• (Kasumi) Renovation of life-supporting facilities (disaster control facilities)</li> <li>• (Medical) Improvement of the infrastructure and environment (renewal of disaster control systems)</li> <li>• Minor repairs</li> </ul>	Total 923	MEXT Facility Improvement Subsidy (191)  Long-term borrowings (72)  Facility Expense Subsidy of the National Institution for Academic Degrees and Quality Enhancement of Higher Education (660)	<ul style="list-style-type: none"> <li>• (Higashi-Hiroshima) Renovation of life-supporting facilities (including electric facilities)</li> <li>• (Kasumi) Renovation of life-supporting facilities (disaster control facilities)</li> <li>• (Medical) Improvement of the infrastructure and environment (renewal of disaster control systems)</li> <li>• Minor repairs</li> </ul>	Total 373	MEXT Facility Improvement Subsidy (191)  Long-term borrowings (72)  Facility Expense Subsidy of the National Institution for Academic Degrees and Quality Enhancement of Higher Education (110)	<ul style="list-style-type: none"> <li>• (Higashi-Hiroshima) Renovation of life-supporting facilities (including electric facilities)</li> <li>• (Kasumi) Renovation of life-supporting facilities (disaster control facilities)</li> <li>• (Medical) Improvement of the infrastructure and environment (renewal of disaster control systems)</li> <li>• Minor repairs</li> </ul>	Total 332	MEXT Facility Improvement Subsidy (188)  Long-term borrowings (72)  Facility Expense Subsidy of the National Institution for Academic Degrees and Quality Enhancement of Higher Education (72)
<p>(Note 1) The descriptions and values of facilities and equipment are estimations. Additional improvement or renovation works may become necessary, considering the progress of the projects necessary to achieve the Medium Term Objectives or the deterioration degree of aged facilities.</p> <p>(Note 2) Expenditures for minor repairs in and after AY2016 are estimated to remain the same as those in AY2015. It is expected that the amounts of the MEXT Facility Improvement Subsidy, the Facility Expense Subsidy of the National Institution for Academic Degrees and Quality Enhancement of Higher Education, and long-term borrowings for each year will vary depending on the progress of the business of the University. Therefore, concrete amounts will be determined in the budgeting for each academic year.</p>			<p>(Note) The values are estimations. Additional improvement or renovation works may become necessary, considering the progress of projects or the deterioration degree of aged facilities.</p>					

**○ Progress of the Plan**

- (Higashi-Hiroshima) Renovation of life-supporting facilities (including electric facilities): The actual costs were lower than the planned costs by 2,672,000 yen as a result of bid tendering.
- (Kasumi) Renovation of life-supporting facilities (disaster control facilities): The actual costs were lower than the planned costs by 30,000 yen because the scheduled associated administrative expenses were not necessary.
- (Medical) Improvement of the infrastructure and environment (renewal of disaster control

systems): The actual costs were lower than the planned costs by 50,000 yen because the scheduled associated administrative expenses were not necessary.

- Minor repair works were planned to be implemented by using the Facility Expense Subsidy of the National Institution for Academic Degrees and Quality Enhancement of Higher Education. In the annual plan for AY 2017, HU estimated that it would receive a subsidy of 110,000,000 yen. However, the actual amount of the subsidy was lower than the planned amount by 38,000,000 yen.

**VI. Others      2. Personnel plan**

Medium-Term Plan	Annual Plan	Actual Results
<p>[Project No. 46] Transfer the management of labor costs of teachers from individual departments to central management in order to strengthen education and research abilities. Teachers and researchers should be strategically allocated, by using HU's unique achievement-motivated key performance indicators (AKPI®) and other methods that evaluate personal performance of teachers in educational and research activities.</p> <p>[Project No. 47] To recruit and retain excellent teachers and administrative staff members from within and outside Japan, HU should establish more flexible personnel and compensation systems, including an annual compensation system and a mixed compensation system. The percentage of teachers who work under the annual compensation system should be increased to about 21% of all teachers.</p> <p>[Project No. 48] To provide more opportunities to excellent young teachers (under 40) and to vitalize educational and research activities throughout the University, the percentage of young teachers (under 40) should be increased to about 34%, by recruiting tenure-track teachers in accordance with an employment plan.</p> <p>[Project No. 49] Retain and develop excellent administrative staff members by recruitment, transfer, promotion, training and other activities in accordance with the administrative personnel development plan, by "clarifying the knowledge and skills necessary for the operation of each department, and improve the abilities of employees by using this knowledge and these skills," "enhancing the motivation of employees by clarifying the career paths and the promotion criteria," and "improving the productivity of all employees by creating and providing opportunities to engage in challenging tasks."</p> <p>[Project No. 50] Environments that encourage teachers and administrative staff members to use programs designed for keeping a Work-Life Balance should be created, including communication and holding seminars about these programs. By AY2019, HU should strive to receive accreditation for compliance</p>	<p>[Project No. 46] Transfer the management of labor costs of teachers from individual departments to central management by the President. Teachers and researchers should be strategically allocated, by using HU's unique achievement-motivated key performance indicators (AKPI®) and other methods that evaluate personal performance of teachers in educational and research activities.</p> <p>[Project No. 47] To recruit and retain excellent teachers and administrative staff members from within and outside Japan, HU should establish more flexible personnel and compensation systems, including an annual compensation system and a mixed compensation system. The percentage of teachers who work under the annual compensation system should be increased to about 14.9% of all teachers.</p> <p>[Project No. 48] To provide more opportunities to excellent young teachers (under 40) and to vitalize educational and research activities throughout the University, the percentage of young teachers (under 40) should be increased to about 27%, by recruiting tenure-track teachers in accordance with an employment plan.</p> <p>[Project No. 49] In accordance with the administrative personnel development plan, HU should retain and develop excellent administrative staff members by recruitment, transfer, promotion, training and other activities and programs.</p> <p>[Project No. 50] Based on the "General Employer Action Plan" (third period) for the period from AY2014 to AY2019, HU should promote use of Work-Life Balance support programs by employees by communicating and holding seminars about these programs and by other activities.</p>	<p>[Project No. 46] Please refer to "3. Actions for Strategic and Ambitious Objectives and Plans" on p. 30.</p> <p>[Project No. 47] Please refer to "3. Actions for Strategic and Ambitious Objectives and Plans" on p. 30.</p> <p>[Project No. 48] Please refer to "3. Actions for Strategic and Ambitious Objectives and Plans" on pp. 30 and 31.</p> <p>[Project No. 49] Please refer to "(1) Notes relating to improvement of operation and efficiency" on p. 37.</p> <p>[Project No. 50] Please refer to "(1) Notes relating to improvement of operation and efficiency" on p. 38.</p>

with the “General Employer Action Plan” (third period) of the Ministry of Health, Labor and Welfare under the Act on Advancement of Measures to Support Raising Next-Generation Children.

[Project No. 51]

To promote active participation of female teachers and administrative staff members in the activities of the University, the percentage of female teachers and female managers should be increased to about 20%.

[Project No. 51]

To promote active participation of female teachers and administrative staff members in the activities of the University, the percentage of female teachers should be increased to about 16% of all teachers and female managers should be increased to about 13.5% of all managers, by implementing personnel deployment in accordance with the Teacher Deployment Policy.

[Project No. 51]

Please refer to “3. Actions for Strategic and Ambitious Objectives and Plans” on pp. 31 and 32.

○ Attached Table 1 (Enrollments in Courses of Undergraduate and Graduate Schools)

Name of Course of Undergraduate or Graduate School	Enrollment Quota	Actual Enrollment	Enrollment Rate
(a)	(b)	(b)/(a)×100	(%)
[Bachelor's Course]	(students)	(students)	(%)
School of Integrated Arts and Sciences, Integrated Arts and Sciences	520	584	112.3
School of Letters, Humanities	580	649	111.8
School of Education, Cluster 1 (School Education)	700	737	105.2
Cluster 2 (Science, Technology and Society Education)	352	385	109.3
Cluster 3 (Language and Culture Education)	336	358	106.5
Cluster 4 ( Life-long Activities Education)	352	383	108.8
Cluster 5 (Fundamentals for Education and Human Development)	220	238	108.1
Total	1,960	2,101	107.1
School of Law, Law Day Program	580	625	107.7
Evening Main Program	180	209	116.1
Total	760	834	109.7
School of Economics, Economics Day Program	620	675	108.8
Evening Main Program	260	286	110.0
Total	880	961	109.2
School of Science, Mathematics	188	218	115.9
Physical Science	264	306	115.9
Chemistry	236	268	113.5
Bioscience	136	148	108.8
Earth and Planet Systems Science	96	102	106.2
Transfer in the third year within the Department	20	13	65.0
Total	940	1,055	112.2
School of Medicine, Medicine	714	736	103.0
Health Sciences	480	517	107.7
Total	1,194	1,253	104.9
School of Dentistry, Dentistry	318	328	103.1
Oral Health Sciences	160	173	108.1
Total	478	501	104.8
School of Pharmaceutical Sciences, Pharmaceutical Sciences	228	232	101.7
Medicinal Sciences	88	94	106.8
Total	316	326	103.1

Name of Course of Undergraduate or Graduate School	Enrollment Quota	Actual Enrollment	Enrollment Rate
(a)	(b)	(b)/(a)×100	(%)
[Bachelor's Course]	(students)	(students)	(%)
School of Engineering, Cluster I (Mechanical System Engineering)	420	485	115.4
Cluster II (Electrical, Computer and Systems Engineering)	540	597	110.5
Cluster 3 (Chemistry, Biotechnology and Process Engineering)	460	605	131.5
Cluster 4 (Social and Environmental Engineering)	540	508	94.0
Transfer in the third year within the Department	20	35	175.0
Total	1,980	2,230	112.6
School of Applied Biological Science, Applied Biological Science	380	448	117.8
<b>Bachelor's Course Total</b>	<b>9,988</b>	<b>10,942</b>	<b>109.5</b>
[Master's Course]			
Graduate School of Integrated Arts and Sciences, Integrated Arts and Sciences	120	150	125.0
Graduate School of Letters, Humanities	128	171	133.5
Graduate School of Education, Learning and Curriculum Development	20	25	125.0
Curriculum and Instruction Sciences	80	92	115.0
Teaching Japanese as a Second Language	14	14	100.0
Educational Studies	29	30	103.4
Psychology	38	44	115.7
Higher Education	5	5	100.0
Learning Science	(Note 1) 19	28	147.3
Special Support Education	(Note 1) 5	9	180.0
Scientific and Cultural Educational Studies	(Note 1) 35	41	117.1
Language Culture Education	(Note 1) 34	39	114.7
Life-long Activities Education	(Note 1) 25	32	128.0
Higher Education Development	(Note 1) 5	7	140.0
Total	309	366	118.4
Graduate School of Social Sciences, Law and Politics	48	51	106.2
Economics	56	48	85.7
Management Studies	56	52	92.8
Total	160	151	94.3

Name of Course of Undergraduate or Graduate School	Enrollment Quota	Actual Enrollment	Enrollment Rate
	(a)	(b)	(b)/(a)×100
	(students)	(students)	(%)
Graduate School of Science, Mathematics	44	52	118.1
Physical Science	60	67	111.6
Chemistry	46	87	189.1
Bioscience	48	35	72.9
Earth and Planet Systems Science	20	26	130.0
Mathematical and Life Science	46	59	128.2
Total	264	326	123.4
Graduate School of Advanced Study of Matter, Quantum Matters	50	60	120.0
Advanced Study of Molecular Biotechnology	48	58	120.8
Advanced Study in Semiconductor Electronics and Integration Science	30	35	116.6
Total	128	153	119.5
Graduate School of Biomedical & Health Sciences, Oral Health Sciences	24	29	120.8
Medicinal Sciences	36	42	116.6
Health Sciences	68	63	92.6
Medical and Dental Sciences	24	27	112.5
Total	152	161	105.9
Graduate School of Engineering, Mechanical Systems Engineering	56	77	137.5
Mechanical Science	60	88	146.6
System Cybernetics	68	96	141.1
Information Engineering	74	70	94.5
Chemical Engineering	48	70	145.8
Applied Chemistry	52	73	140.3
Civil and Environmental Engineering	40	45	112.5
Transportation and Environmental Systems	40	55	137.5
Architecture	42	63	150.0
Total	480	637	132.7
Graduate School of Biosphere Science, Bioresource Science	60	66	110.0
Biofunctional Science and Technology	48	98	204.1
Environmental Dynamics and Management	38	33	86.8
Total	146	197	134.9
Graduate School for International Development and Cooperation,			
Development Science	86	138	160.4
Educational Development and Cultural and Regional Studies	56	73	130.3
Total	142	211	148.5
<b>Master's Course Total</b>	<b>2,029</b>	<b>2,523</b>	<b>124.3</b>

Name of Course of Undergraduate or Graduate School	Enrollment Quota	Actual Enrollment	Enrollment Rate
	(a)	(b)	(b)/(a)×100
	(students)	(students)	(%)
<b>[Doctoral Course]</b>			
Graduate School of Integrated Arts and Sciences, Integrated Arts and Sciences	60	100	166.6
Graduate School of Letters, Humanities	96	96	100.0
Graduate School of Education, Education and Learning Science	49	55	112.2
Learning Development	(Note 2) 18	23	127.7
Cultural Education Development	(Note 2) 44	96	218.1
Educational Human Science	(Note 2) 36	62	172.2
Total	147	236	160.5
Graduate School of Social Sciences, Law and Politics	15	17	113.3
Economics	24	6	25.0
Management Studies	42	55	130.9
Total	81	78	96.2
Graduate School of Science, Mathematics	33	12	36.3
Physical Science	39	28	71.7
Chemistry	33	24	72.7
Bioscience	36	12	33.3
Earth and Planet Systems Science	15	13	86.6
Mathematical and Life Science	33	13	39.3
Total	189	102	53.9
Graduate School of Advanced Study of Matter, Quantum Matters	36	17	47.2
Advanced Study of Molecular Biotechnology	33	18	54.5
Advanced Study in Semiconductor Electronics and Integration Science	21	16	76.1
Total	90	51	56.6
Graduate School of Health Sciences, Health Sciences	(Note 3)	25	
Graduate School of Biomedical & Health Sciences, Biomedical Sciences	388	491	126.5
Oral Health Sciences	12	4	33.3
Medicinal Sciences	9	13	144.4
Health Sciences	45	101	224.4
Total	454	609	134.1
Graduate School of Engineering, Mechanical Systems Engineering	27	22	81.4
Mechanical Science	30	23	76.6
System Cybernetics	33	32	96.9
Information Engineering	39	27	69.2
Chemical Engineering	24	19	79.1

Name of Course of Undergraduate or Graduate School	Enrollment Quota	Actual Enrollment	Enrollment Rate
	(a)	(b)	(b)/(a)×100
	(students)	(students)	(%)
Graduate School of Engineering, Applied Chemistry	27	10	37.0
Civil and Environmental Engineering	21	24	114.2
Transportation and Environmental Systems	21	18	85.7
Architecture	21	9	42.8
Social Environmental Systems	(Note 3)	2	
Total	243	186	76.5
Graduate School of Biosphere Science, Bioresource Science	36	45	125.0
Biofunctional Science and Technology	36	27	75.0
Environmental Dynamics and Management	27	20	74.0
Total	99	92	92.9
Graduate School of Biomedical Sciences and Graduate School of			
Health Sciences, Biomedical Research	(Note 3)	59	
Applied Biomedicine	(Note 3)	40	
Pharmaceutical Sciences	(Note 3)	1	
Oral Health Sciences	(Note 3)	2	
Total		102	
Graduate School for International Development and Cooperation,			
Development Science	66	43	65.1
Educational Development and Cultural and Regional Studies	42	27	64.2
Total	108	70	64.8
<b>Doctoral Course Total</b>	<b>1,567</b>	<b>1,747</b>	<b>111.4</b>
<b>[Expert Degree Course]</b>			
Hiroshima University Law School, Law	104	60	57.6
Graduate School of Education, Professional Development Program for Teachers and School Leaders	20	20	100.0
<b>Expert Degree Course Total</b>	<b>124</b>	<b>80</b>	<b>64.5</b>
<b>[Special Course]</b>			
Special Course on Special Support Education	30	18	60.0
<b>Special Course</b>	<b>30</b>	<b>18</b>	<b>60</b>

Name of Course of Undergraduate or Graduate School	Enrollment Quota	Actual Enrollment	Enrollment Rate
	(a)	(b)	(b)/(a)×100
	(students)	(students)	(%)
<b>[Attached School]</b>			
Hiroshima University Elementary School --- 12 classes	400	397	99.2
Hiroshima University Elementary School, Shinonome --- 18 classes	472	453	95.9
Hiroshima University Elementary School, Mihara--- 12 classes	400	387	96.7
Hiroshima University Junior High School --- 9 classes	360	385	106.9
Hiroshima University Junior High School, Shinonome --- 9 classes	264	250	94.6
Hiroshima University Junior High School, Mihara --- 6 classes	240	237	98.7
Hiroshima University Junior High School, Fukuyama --- 9 classes	360	366	101.6
Hiroshima University Senior High School --- 15 classes	600	622	103.6
Hiroshima University Senior High School, Fukuyama --- 15 classes	600	604	100.6
Hiroshima University Kindergarten --- 3 classes	80	79	98.7
Hiroshima University Kindergarten, Mihara --- 3 classes	80	83	103.7
<b>Attached School Total</b>	<b>3,856</b>	<b>3,863</b>	<b>100.1</b>

(Note 1) Enrollments were no longer solicited for these courses, because in AY2016, Education and Learning Science, Special Support Education, Scientific and Cultural Educational Studies, Language Culture Education, Life-long Activities Education, and Higher Education Development (master courses, Graduate School of Education) were respectively reorganized into Learning and Curriculum Development, Curriculum and Instruction Sciences, Teaching Japanese as a Second Language, and Higher Education (master courses).

(Note 2) Enrollments were no longer solicited for these courses, because in AY2016, Learning Development, Cultural Education Development, and Educational Human Science (doctor courses, Graduate School of Education) were reorganized into Education and Learning Science (doctor course, Graduate School of Education).

(Note 3) Courses for which quotas are not indicated no longer solicit enrollments because they were reorganized or of some other reason.

#### ○ Progress of the Plan

##### (1) Progress of the plan relating to enrollment quotas (as of May 1)

The overall enrollment rate of bachelor's courses was generally good at 109.5%.

The overall enrollment rate of master's courses was generally good at 124.3%.

The overall enrollment rate of doctor courses was generally good at 111.4%.

The enrollment rate of expert degree courses was 64.5%, far below the quota.

The enrollment rate of the special course was 60.0%, far below the quota.

##### (2) Major reason for enrollment rates not exceeding 90%

###### [Expert Degree Courses]

###### Hiroshima University Law School Law

(Reasons for under-enrollment) In the previous academic year, only 13 students enrolled in this Course. The enrollment rate dropped to 36% of the quota. Therefore, the enrollment quota for the current year was reduced to 20 students. In addition, the course strove to improve its position in the Law School Ranking in the area of determination of the basic support amount of the MEXT "Reinforcement and Addition of Public Support to Law Schools" Program. While the total number of students applying

admission to law schools declined more than 20% from the previous year, a total of 47 applicants took the admission examination to this course (the same number as the previous year) and 20 applicants passed the examination. However, seven successful applicants declined admission (a decrease of five applicants from the previous year). Eventually, thirteen students enrolled in the course, and the enrollment rate was 65%. Because it failed to achieve an enrollment rate of 70%, which is the criteria for the above-mentioned law school ranking, the course could not rise to an upper place in the ranking.

To acquire more applicants and enrollments, the pass rate for the bar examination of HU students should be improved. HU should aim to rank within the top 10 in the pass rates for the bar examination for the year. Since AY2014, the teaching method has been improved to develop a legal way of thinking in students. Coaching was provided to students by combining the integrated educational program that provides a study plan corresponding to the learning ability of each student with the learning coaching system. As a result, the pass rate of HU students in AY2016 came near to the national average (2.6% lower than the average). The pass rate of students who completed the two-year course exceeded the national average by more than 15%. HU should continue to make further improvement to realize educational achievements exceeding the national average. To increase the number of examinees from the School of Law of the University, in AY2017, two special lecture programs for students in the third and fourth years were added. Explanation meetings and special seminars relating to the bar examination were implemented. HU has worked to increase the number of applicants to and enrollments in the University while establishing personal networks. HU will also continue the measures it took in the previous year for preventing decline of admission by successful applicants, including provision of learning guidance to successful applicants.

#### [Special Courses]

##### Special Course on Special Support Education

(Reasons for under-enrollment) (i) Due to financial conditions of local governments and other reasons, the number of teachers dispatched by the local education boards has been declining, (ii) all local governments have employed more teachers recently, and (iii) local governments have employed more temporary teachers, anticipating resignation of a large number of teachers. Under these circumstances, new graduates are offered more career opportunities. Special courses at other national universities are also experiencing the same problem of under-enrollment. On the other hand, the number of children in need of special educational support is increasing. A system to provide special support classes in high school will start in AY2018. By AY2020, the percentage of teachers with a special support school teacher license should be increased to 100% of teachers who teach in special support schools. Subsequently, the percentage of teachers with a special support school teacher license among teachers who teach special support classes should be increased. As the need for special support education has been increasing, the number of applicants to this course has been gradually increasing, although the enrollment rate was lower than

(Actions) For the course, the University continued lobbying with the education boards of Hiroshima Prefecture, Hiroshima City, and other cities in Hiroshima Prefecture and neighboring prefectures to encourage them to send incumbent teachers to take this special course.

The University renewed the special course's website, created a leaflet to introduce the course and solicit students, and distributed the leaflet within and outside the University as a part of its public relations activities. In addition, for the special course, the University asked the cooperation of special support schools in Hiroshima Prefecture in handing out the leaflet to students who participated in caring and other experience programs. As a result of these efforts, students from other majors or from other universities have shown interest in acquiring special knowledge about special support education and have enrolled in the course recently. These on-going activities to deliver information on the special course are expected to contribute to the improvement of the enrollment rate.

(1) In AY2016, the teachers in charge of the course frequently contacted the Hiroshima Prefecture Education Board and municipal education boards in Hiroshima Prefecture to explain the special course and encourage them to send more incumbent teachers to take the course. As a result of these efforts, in AY2016, teachers dispatched by prefectural and municipal education boards took the admission examination to this special course. It is expected that more incumbent teachers will be sent to this course by continuing the lobbying and providing information about this course.

(2) For the course, the University has used an admission solicitation poster. In AY2013, it created an A-4-size leaflet to introduce the course and solicit students, in place of a poster. The leaflet has been sent to major universities offering teacher training courses in Western Japan. The University also asked all special support schools in Hiroshima Prefecture offering caring and other experience programs to hand out the leaflet to university students (including students from other universities) attending the experience programs. Some students who took the admission examination to the special course said that they became interested in the course because of this leaflet. Because its effectiveness was proven, the University will continue to create and distribute the leaflet next year.

(3) Students collected information about this course by visiting its website or by talking with current or former students of the Special Course. The University will continue to improve the contents of the course's website and the personal contacts with students studying in the course.

(4) Enrollment of graduates of Hiroshima University has increased. But few people have seen the poster or leaflet of the course. Posters should be posted on the walls of student rooms, in addition to halls and bulletin boards. In AY2016, the University conducted promotion of the special course, targeting teachers in the Graduate School of Education via a mailing list and by posting the leaflet in their letter boxes. In addition, three course explanation meetings were held in December. Some students who attended these meetings from outside HU took the admission examination to the course. The University plans to hold explanation meetings on the course in Hiroshima City in the first half of the next academic year.