

Report on AY2017 Operational Performance

June 2018

Hiroshima University



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○ Overview of Hiroshima University

(1) Current Profile (as of the end of AY2017)

(i) Name: Hiroshima University

(ii) Location

- Headquarters: Kagamiyama, Higashi-Hiroshima City, Hiroshima Prefecture
- Campuses: 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 (since 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*
- 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 facility: 1
Hiroshima Synchrotron Radiation Center*

○ Joint usage facility for national universities in the Chugoku/Shikoku Area: 1
Saijo Seminar House

○ Joint education and research facilities on campus: 22
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, 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

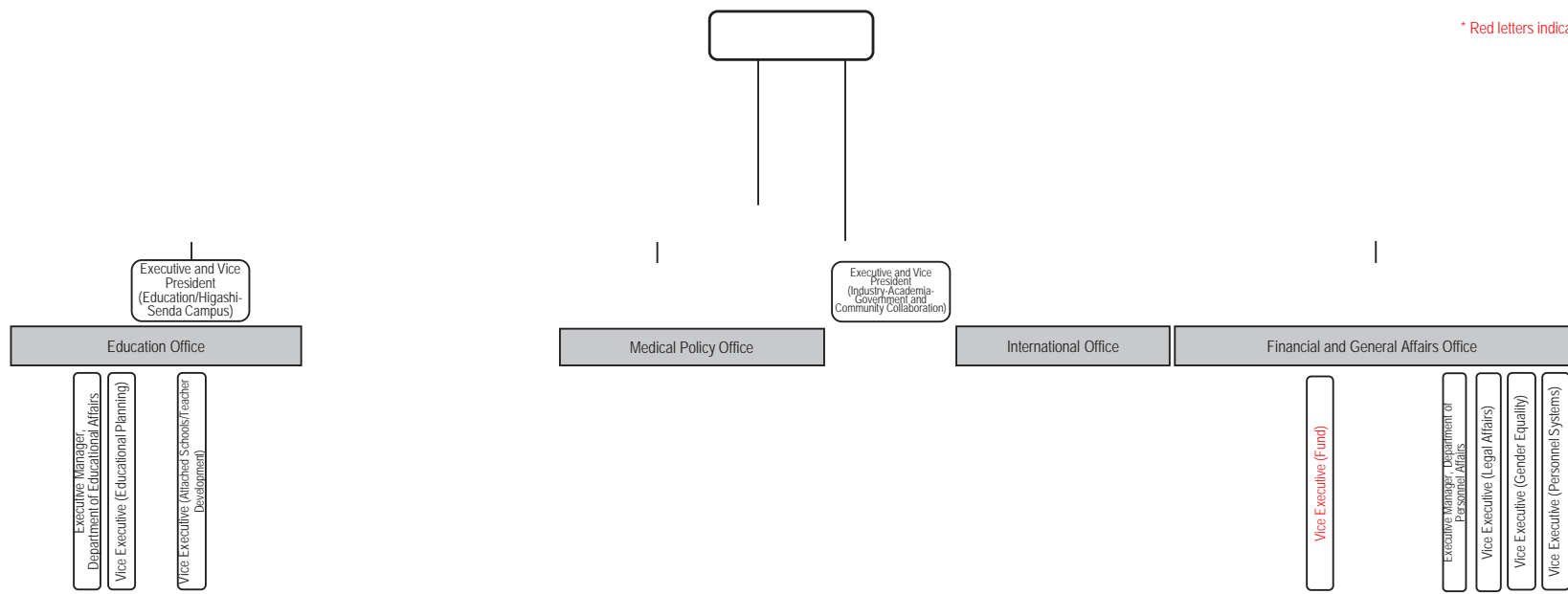
Hiroshima University Kindergarten; Hiroshima University Kindergarten, Mihara; Hiroshima University Elementary School; Hiroshima University Elementary School, Shinonome; Hiroshima University Elementary School, Mihara; Hiroshima University Junior High School; Hiroshima University Junior High School, Shinonome; Hiroshima University Junior High School, Mihara; Hiroshima University Junior High School, Fukuyama; Hiroshima University Senior High School; Hiroshima University Senior High School, Fukuyama

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

(v) Students and school staff (as of May 1, 2017)

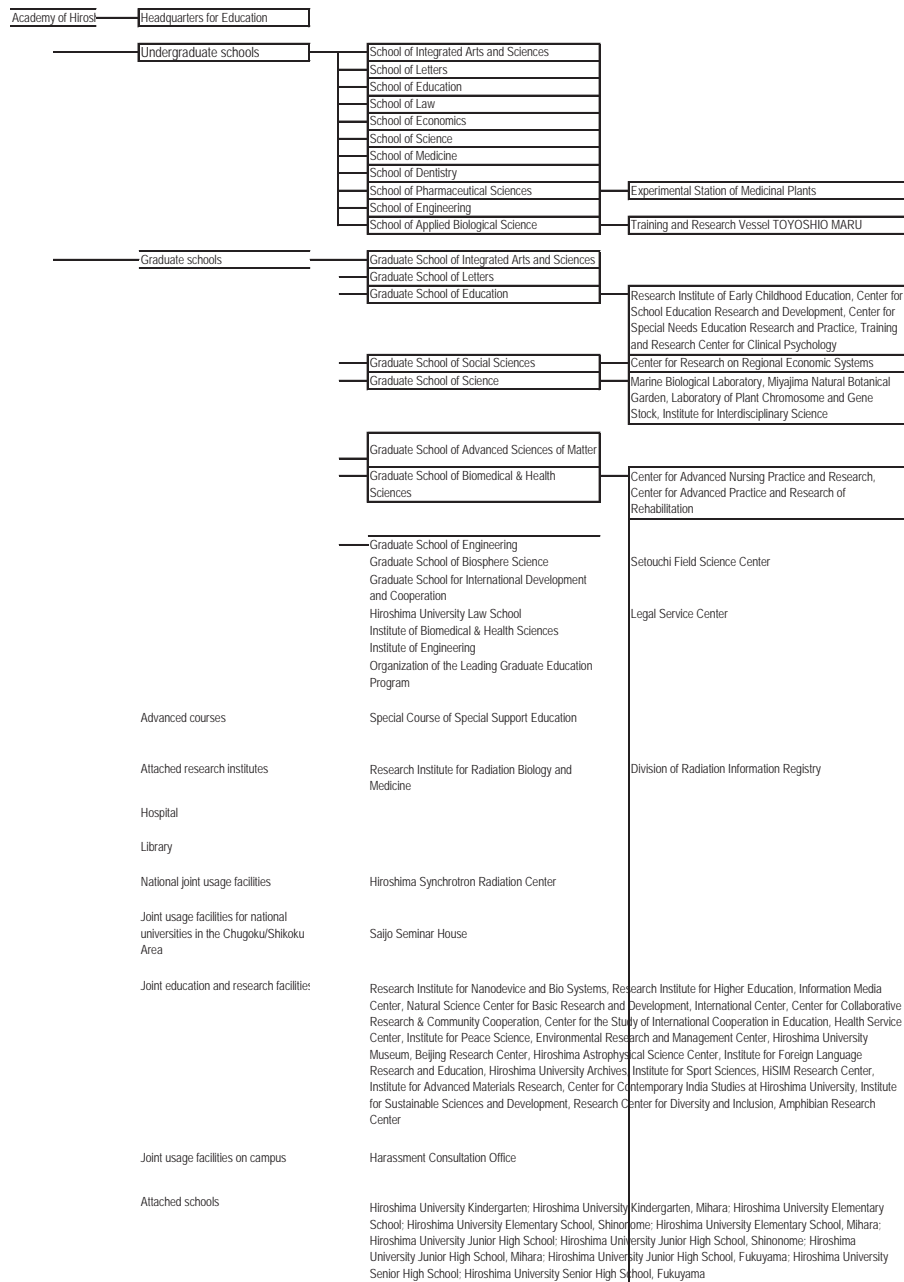
- Students: Undergraduate students 10,887 (including 71 foreign students)
 - Graduate students 4,520 (including 1,122 foreign students) (including Hiroshima University Law School and Professional Development Program for Teachers and School Leaders)
 - Advanced courses 17
 - Attached schools 3,789
- Teachers and administrative staff members:
 - Teachers 1,894 (including 216 attached schools teachers)
 - Administrative staff members 1,754

(2) Basic Objectives of Hiroshima University

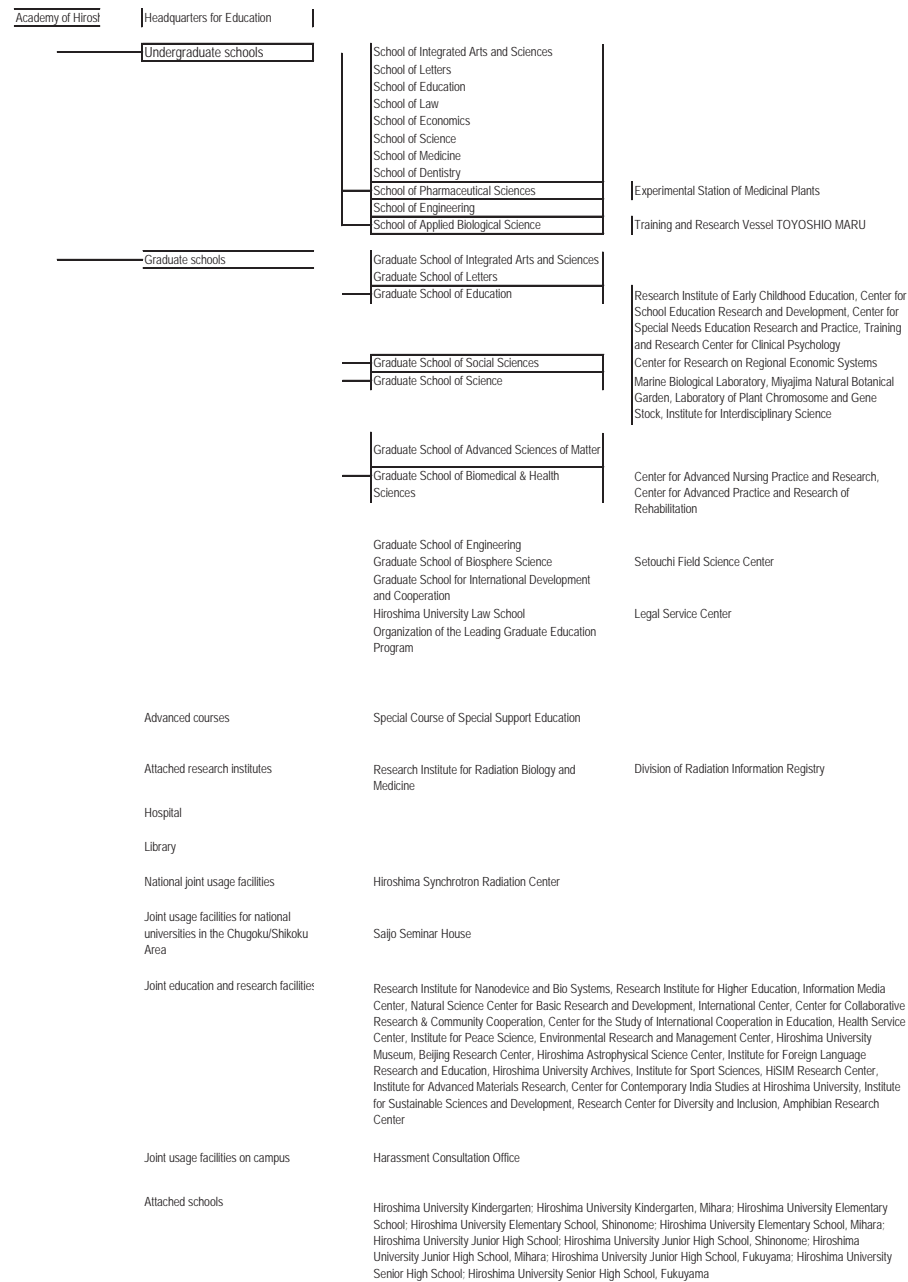


* Red letters indicate revised organizations and positions

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



Educational and Research Organizations (As of March 31, 2018)



○ Overview

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 2017 (AY2017), 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 April 2017, the University developed and announced the SPLENDOR PLAN 2017, a ten-year plan for achieving higher RU and SGU targets.

To effectively link activities of teachers to the enhancement of the functions of the University, a governance system was established in April 2016 under which processes from personnel deployment planning to selection of candidates are discussed by the Executive Board and finally approved by the President. Specifically, the Central Personnel Committee was formed as an organization directly supervised by the President that manages labor cost points and discusses teacher deployment. In collaboration with the Academy of Hiroshima University, a teachers’ organization operating independently from education and research organizations, the Central Personnel Committee implements

strategic and systematic personnel allocation from a holistic viewpoint for the entire university beyond the borders of educational and research organizations, by using the University’s unique achievement-motivated key performance indicators(AKPI®), Basic Effort Key Performance Indicators (BKPI®) and other criteria for monitoring the academic performance of teachers. Through these activities, the University actively hired foreign teachers, female teachers, annual compensation-based teachers and young teachers. These efforts also led to establishment of new graduate schools in AY2018: School of Informatics and Data Science; and School of Integrated Arts and Sciences, and Integrated Global Studies.

As explained above, Hiroshima University conducts unique personnel management by establishing a single unified teachers’ organization and the Central Personnel Committee that centrally conducts strategic management of personnel affairs of all 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) Verification of the numbering of courses and the presentation method of syllabuses, and establishment of access to syllabuses for foreign viewers [Project No. 1]
Please refer to “Actions for Strategic and Ambitious Objectives and Plans” on p. 23.

- 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. 23, 24 and 25.

- iii) Addition of subjects taught in foreign languages [Project No. 32]
Please refer to “Actions for Strategic and Ambitious Objectives and Plans” on p. 31.

iv) Reform of liberal arts education [Project No. 4]

The University has provided liberal arts education to students in accordance with its Framework of Liberal Arts Education Reform established in AY2010. From AY2018, considering the environmental changes for the University and problems identified so far, reform of liberal arts education started. The purposes of liberal arts education are

- (1) to broaden and deepen students’ cultural knowledge and develop the abilities to make judgments from a wider perspective, and to cultivate and enrich their personality;
- (2) to develop abilities to proactively learn and think, identify problems and find solutions; and
- (3) to develop abilities to play important roles in and outside Japan based on global visions.

Major reform activities are as follows:

- 1) Establish the General Education Control Department in the Headquarters for Education, and form the Controlling Council and the Planning and Management Council under this Department. The Controlling Council examines and discusses common matters related to education within the University. In accordance with the policy established by the Controlling Council, the Planning and Management Council creates and implements teaching subjects common to all students within the University. Within the Planning and Management Council, 21 sections have been formed. Under the leadership of the section chief, each section implements common educational programs for all students within the University in cooperation with the relevant unit of the Academy of Hiroshima University.
- 2) By making the best use of the units in the Academy of Hiroshima University established in April 2016, all teachers are assigned to teach appropriate liberal arts subjects.
- 3) To ensure that students understand the meaning and purpose of studying at Hiroshima University, the new requisite subject “Introduction to University Education” should be created with an aim to provide the basic skills and attitude necessary for learning at the University.
- 4) Aiming to promote acquiring knowledge in various academic fields beyond the boundaries of specialties, the University will reorganize liberal arts subjects into the disciplines of the Humanities and Social Science group and the Natural Science group. All undergraduate students must acquire at least 4 credits from both courses (humanities-sciences cross study).

- v) Provide the liberal arts subject “Spread Your Wings in the World with the Strength of Education” [Project No. 4]

As a part of liberal arts education, the University created and provided the lecture program “Spread Your Wings in the World with the Strength of Education” to new undergraduate students, by inviting leaders from sports, art, science and business fields as lecturers. Twelve sessions of lectures were given under this program in April and May 2017 with the participation of a total of 2,115 students (including students in the second and later years). After each lecture, a questionnaire survey was conducted of attending

students. To the question "Was the lecture interesting to you?" more than 75% of

subject "University Teacher Training" was implemented (a common subject for graduates, 2 credits) with 26 students (including 6 foreign students). As for teachers, TA training sessions of the FD Training Program (Practice Course) were carried out, with 17 participants. The University also offered a TF program designed for students who are employed as TFs. The program provided training to create teaching portfolios (with participation of 4 students). As for open seminars, the "Create Meaningful Learning Experience Series (three lecture sessions, 78 participants) and "Work with TAs Series" (two workshop sessions, 17 participants) were carried out, inviting experts from within and outside Japan as lecturers.

- **International forums and results presentation:** A report on the background and the current status of the three-tier TA system was published as project results in "Higher Education Research Series 137" issued by the Research Institute for Higher Education of Hiroshima University. The following seminars and study meetings were also conducted: the Hirodai TA Open Seminar (five sessions, 109 participants in total), inviting experts from inside and outside Japan as lecturers; the international forum "Reform in Teaching Assistant (TA) System in Universities - For Enhancement of Education in Undergraduate and Graduate Schools", inviting experts from the United States (71 participants); and a study meeting in Tokyo (11 participants). In the International Forum, 18 projects participated in the poster session from around Japan. Posters presented by Hiroshima University were the following: two posters for TF results, two posters for QTA results and one poster for specific activities of QTAs. Results of the international forum and other activities will be compiled into a report and published as a part of the Higher Education Research Series in AY2018.

v) Expansion of career support [Project No. 15]

To support job hunting of students, the following career support activities were provided mainly led by the Global Career Design Center:

- To develop a sense of being a member of society, which is necessary for all students, and to develop them into sophisticated persons, the liberal arts subject “Career Education Course” (in the third term) was offered, taught by 12 guest lecturers who had work experience at enterprises and other businesses. Ninety students took this program. “Modern Issues in Kasumigaseki,” a subject designed to deepen students’ understanding of the career track of national public officers and problems the national government organizations are currently experiencing, was offered by inviting senior managerial officers from the Central Government as lecturers (a specialized subject of the School of Law, open to students from all departments). A total of 509 students took this subject. The responses to the questionnaire survey conducted with participants indicated that the satisfaction level was very high for both subjects (4.2 points for the Career Education Course and 4.6 points for Modern Issues in Kasumigaseki, compared with an average of 4.1 points out of a total of 5 points). In addition, as a program to understand the businesses and jobs in the real world and help students to think about campus life and their own future career, a new course, “Career Design Course,” will be offered in AY2018. Alumni of the University who have abundant experience in local companies will be invited to talk about real episodes in the business forefront. In AY2017, preparations for starting this course were implemented.
- As a part of activities to strengthen collaboration between national universities in the Chugoku/Shikoku Region, a joint job offer meeting (with 1,245 participants, including 388 HU students) was conducted in March at Hiroshima University. Concurrently, a career support consultation meeting with teachers and related parties from universities in the Region was also conducted for national university students in the Region. This event started in AY2014 as the first joint job offer meeting in Japan for students of nine national universities in the Chugoku/Shikoku Region. It has been carried out every year, co-hosted by Hiroshima University and Okayama University.
- The University cooperated in conducting the first meeting of the “Industry Study Seminar by HU Alumni” hosted by Senda Juku (an alumni association of Hiroshima University) (with 100 participants). It was a valuable opportunity for students to listen to alumni about their jobs and industries in detail.
- Hiroshima University, Yamaguchi University and Tokushima University collaborated to form an industry-academia-government consortium. It was a part of the “Home for Innovative Researchers and Academic Knowledge Users (HIRAKU)” project [one of the “Development of Next Generation Researcher” programs under the Building of Consortia for the Development of Human Resources in Science and Technology project (the Ministry of Education, Culture, Sports, Science and Technology)]. The purpose of the consortium is to develop and retain young excellent researchers (students in doctoral courses, post-doctors, and tenure track researchers). The consortium, comprising mainly national and private universities, companies and public organizations in the Chugoku/Shikoku Region, developed systems that promote mobility of human resources and diverse career paths and established environments where researchers can independently conduct and concentrate on research activities, including the leveraging of HIRAKU-PF (a portfolio of young researchers) and long-term dispatch of interns to companies. Under this project, 14 researchers were dispatched to Tosoh Corporation, the National Institute of Advanced Industrial Science and Technology, Mazda Motor Corporation, Mishima Foods Co., Ltd. and other companies.

- International internship programs (such as G.ecbo Program) were implemented (with 37 participants), aiming to develop researchers and professionals who can play active roles in the international community. The G.ecbo program has proven to contribute to the development of highly specialized professionals. In addition to academic achievements in the research subjects they had planned before the dispatch, the dispatched students acquired valuable experience. Some students reported that their approach to research activities and way of thinking have positively changed and some reported that they were inspired regarding formation of their future careers.
- As a pilot internship project for first-year students, the liberal arts subject “Social Action Project through Service-Learning” program was implemented. In this program, ten students were dispatched to companies or social organizations as interns or volunteers. In the result report meeting for this project, students reported their experiences in the internship or volunteer activities to the teacher in charge of the subject and staff members of the Global Career Design Center. The program provided good opportunities to students to think about their future career design. Individual departments and graduate courses also provided career support to students to meet the specific needs of students in their departments/courses, in collaboration with the Global Career Design Center.
- The Global Career Design Center provided general job-hunting guidance and seminars, and career and job-hunting consultation for all students of the University. In addition to these support activities, individual departments and graduate courses also implemented their own support activities, such as job-hunting guidance/seminars for students in their departments/courses. The Graduate School for International Development and Cooperation provided three sessions of the “International Cooperation Career Seminar,” for students who desire to work in international organizations, by inviting business persons who work in the forefront of international cooperation as lecturers. The Graduate School of Advanced Study of Matter provided eight sessions of the “Lecture on Social Exchange Projects Through Alumni.” The School of Pharmaceutical Sciences provided one session of the “Hiroshima University School of Pharmaceutical Sciences Career Education Seminar.” The School of Letters and the Graduate School of Letters provided 14 sessions of “Job-Hunting and Path to Become Social Members.” The School of Letters, the Graduate Schools of Letters, the School of Education and the Graduate School of Education posted counselors who provided individual consultation to students in their departments.

(iv) Improvement in the method to screen enrollment applicants

- i) Utilization of scores of third parties’ English proficiency tests in undergraduate school admission screening [Project No. 18]
Please refer to “Actions for Strategic and Ambitious Objectives and Plans” on pp. 26 and 27.
- ii) Use of an online application system for graduate school admission examinations, equipped with English interface and an upload function [Project No. 19]
Please refer to “Actions for Strategic and Ambitious Objectives and Plan” on p. 27.
- iii) Utilization of scores of third parties’ English proficiency tests in graduate school admission screening [Project No. 20]
To actively admit globally competent students, third parties’ English qualification/proficiency tests that measure 4 English skills were utilized in the admission screening of applicants in nine undergraduate courses (out of 11 courses in total) and two leading programs of doctoral courses.

When a person applies to a graduate school in a foreign country, he/she is often required to submit scores of Graduate Record Examinations (GRE) that measure the academic achievement level of a person. In the middle of August, the University was authorized by the Educational Testing Service (ETS) to utilize these scores in its admission screening.

It was explained in the application guidebook of the University that applicants to the Graduate School of Integrated Arts and Sciences, the Graduate School of Letters, the Graduate School of Social Sciences (Management Studies), the Graduate School of Science, the Graduate School of Biosphere Science, and the "Taoyaka Program for Creating a Flexible, Enduring, Peaceful Society" (five graduate schools and one program) are required to submit a certificate of their GRE score.

- iv) Establishment of a seamless system to complete the processes from application to enrollment [Project Nos. 17, 18, 19, and 20]

The development of the online application system, with Japanese and English language interfaces, equipped with an application form upload function, was completed by AY2016. It was used in some departments on a trial basis in AY2017. From the admission screening for AY2019, which will be carried out in AY2018, this system will be used in all undergraduate schools and some graduate schools. Some of the benefits of this online application system for applicants are as follows: 1) The processes from application to enrollment can be completed smoothly, 2) The enrollment fees may be paid by credit card (only for payment from overseas), at the counter of convenience stores, and by other various payment methods, and 3) The volume of paper documents sent by postal mail can be reduced. Schools can also increase the efficiency of their administration processes because the volume of postal mail and paper documents to be processed can be reduced, the receipt of payment can be checked easily, and the progress of the process can be confirmed.

(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. The purpose of this system is 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

core research fields of the University by assisting in filing of applications for financial aid programs provided by third parties, and assisting in active publication of results of international research activities.

In AY2014, the Writing Center started to provide financial aid for a part of the costs of English proofreading services. In AY2017, aid of 6,935,993 yen was provided for 334 uses of proofreading services.

To promote the internationalization of the administrative office, URAs and administrative employees work with two foreign fellows who speak English as their mother tongue (a science communicator in charge of international public relations who was hired in AY2017 and a fellow in charge of consultation on English paper writing who was hired in AY2016) at the same workplace. In AY2017, the second year for this two-foreign-fellow system, HU established a support system for international research activities that utilize both the language skills and the management ability of URAs and advanced specialists. With this support system, when an organization within the University conducts international joint research activities with a foreign organization or expands the international research network, the administrative work can be quickly and flexibly processed, including concurrent checking by a native English speaker of a draft of an agreement and other documents prepared in English.

(3) Activities to strengthen management and other functions to facilitate

In addition, to develop a joint research center as a result of the transfer of a part of the functions of RIKEN Japan, as explained above, the Basic Agreement for Collaboration and Cooperation was concluded with RIKEN and the RIKEN Research Center was opened on the HU campus to further strengthen the collaboration and expand joint research activities.

iii) Development of a foundation for forming regional eco system [Project No. 28]

Based on the agreement concluded between HU and the School of International Biodesign, India, candidates for teachers in charge of the "Hiroshima Biodesign Education and Development" course were dispatched for training in India (one trainee until the end of December 2017 and one additional trainee in February 2018), aiming to develop innovation human resource development staff members in the field of biodesign for creating medical equipment industries.

Aiming to introduce education menus in several phases, provision of individual guidance to two local companies was started in March 2018. In addition, from April 2018, HU has been making preparations to offer new subjects in the Graduate School of Biomedical & Health Sciences: Lecture on Biodesign; and Seminar I on Biodesign. In January 2018, an activity center was established on Kasumi campus for close collaboration with the University Hospital.

In June 2017, when a team from India visited the University, an innovation seminar (with 90 participants) and a workshop (with 12 participants) were conducted for wider awareness building.

HU has implemented a support program for young researchers, aiming to develop technologies and patent applications that will lead to technological innovation in the industry, to promote joint research activities and to acquire large-scale funding. HU conducted a questionnaire survey of 60 researchers who received support from this program and compiled the results of the survey. According to the survey, with the support of this program, 14 industry-academia joint research projects were conducted and 23 papers and reports were presented, showing that the support program greatly contributed to the improvement of research abilities of young researchers. It was also decided to start consideration regarding a more helpful reporting method of results and networking between supported researchers. In AY2017, seven researchers from the life science field and engineering fields were selected under this program and started their research activities.

iv) Finding new partners for overseas industry-academia collaboration [Project No. 28]

The following activities were carried out in order to strengthen the presence of Hiroshima University in the international society and find new overseas collaboration partners, mainly focusing on Mexico and other Latin America countries. Collaborative activities in South East Asia have solidified. Systems established for industry-academia collaboration in Indonesia, China and other Asian countries were also adopted and have been continuously utilized in Vietnam and Myanmar. Furthermore, to realize collaboration with companies in India, HU concluded comprehensive agreements with Indian companies and universities. Collaborative activities in Singapore also started. HU's networks in Latin America and South East Asia have significantly expanded by these activities. HU also implemented activities to strengthen collaboration in the U.S. and Europe.

- As a part of the "Program for Establishing the Industry-Academia-Government Innovation Creation System," JICA's strategic Japan-Mexico partnership training (from May to December 2017), the Center for Collaborative Research & Community Cooperation of Hiroshima University accepted three trainees from Mexico in December 2017. As a part of this program, the Center started to develop a venture creation system and hosted a venture pitch competition with UNAM University in Mexico via video conference in November 2017.

Subsequently, one of these trainees was hired as a researcher of HU and has been

engaged in operations related to international industry-academia-government collaboration. This was a new experiment, but has been greatly helpful for strengthening collaboration with Latin America.

- The Japan-Mexico Presidents' Meeting was successfully conducted at Hiroshima University from November 29 to December 19, 2017, inviting 70 university presidents from Japan and Mexico.
- In November 2017, the manager of the Global Innovation Division, the Center for Collaborative Research & Community Cooperation, attended the conference of LACHEC, an international conference mainly comprising universities in Colombia, as a representative of Hiroshima University. The manager also visited National University of Colombia and negotiated the conclusion of an inter-university agreement with the university. Subsequently, the President of Hiroshima University visited the National University of Colombia and concluded an agreement on April 30, 2018.
- An inter-university agreement was concluded with UNAM (National Autonomous University of Mexico) in Mexico in August 2017.
- The Manager of the Global Innovation Division, the Center for Collaborative Research & Community Cooperation, visited San Marcos University in Peru in March 2018 to negotiate an MOU. Subsequently, the President of HU visited Peru and concluded an MOU on May 4, 2018.
- In March 2018, HU and Guanajuato University (Mexico) co-hosted a seminar on industry-academia-government collaboration in innovation in agriculture and food at the campus of Guanajuato University. The seminar was very successful. Several universities from Europe also participated in it.
- In March 2018, HU invited researchers from Mexico, Colombia, Peru and Bolivia as speakers about industry-academia-government collaboration in their countries. The Phoenix Salon program "Latin America" was carried out, where experts from universities and industries exchanged information and held discussions. A presentation meeting regarding business start-ups was also conducted.
- In October 2017, the second "Myanmar Industry-Academia-Government Collaboration Seminar" was hosted jointly in Myanmar by HU, Fukken Co., Ltd., Yangon Technological University, and the Myanmar Engineering Society, to discuss geotechnical engineering (with 300 participants), contributing to the solution of social problems in Myanmar. HU is now negotiating an inter-university agreement with Yangon Technological University.
- In August 2017, the second "Vietnam Industry-Academia-Government Collaboration Seminar" was hosted jointly in Vietnam by HU and Vietnam National University (Ho Chi Minh School) to discuss solutions to problems in food and agriculture in Vietnam, by inviting speakers from Kume Fertilizer Co., Ltd. (Higashi Hiroshima) and Satake Vietnam, and several other speakers from local companies (with 70 participants).
- In May 2017, HU concluded an international exchange agreement with the Indian Institutes of Technology (Madras School).
- In June 2017, HU concluded a comprehensive agreement with Satyam Venture in India.
- In November 2017, HU co-hosted with the Economic Development Board of Singapore an extended Phoenix Salon regarding Singapore. It was agreed with the EDB to consider implementing matching and seminars in Singapore about foods in the future.
- As a part of the PEACE international cooperation program, HU conducted four sessions of Ideas Mining, inviting three persons from the University of Münster (Germany). Participants included students from HU (including foreign students) and participants from the Hiroshima University of Economics and the Hiroshima Convention & Visitor Bureau. One of these sessions was moderated by the HU Center for Collaborative Research & Community Cooperation (from February 21 to March 1, 2017).

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

Hiroshima University plays a core role in the Center of Innovation (COI) Program (the Center of KANSEI Innovation Nurturing Mental Wealth) of the Japan Science and Technology Agency (JST). In the research activities under this program, HU performed verification of a hypothesis about a brain network using fMRI to find out the mechanism of visualization of sensitivity and acquired knowledge leading to prediction of Kansei information and detection of errors in prediction and discovery of the function of the island cortex.

To widely disseminate these research results to society, from August to September 2017, HU exhibited them at a booth at JST Fair 2017 and hosted an open symposium in the Hiroshima region in January 2018 (with 201 participants). To strengthen collaboration between participating organizations, a summer study session was conducted in August 2017, mainly comprising young researchers (with 116 participants) and a three-center joint result reporting meeting was held in December 2017 (with 118 participants).

HU developed a prototype of a *Kansei* meter that uses an EEG measuring instrument to measure emotions in real time based on personal attributes. In the area of social deployment of technologies, utilizing the technology and other knowledge developed in joint research activities with Mazda Motor Corporation in FY2016, HU conducted joint research activities with other participating companies.

As for treatment of intellectual properties, a general meeting of participating organizations was conducted in March 2018 to discuss the revision of the Memorandum for Joint Research Activities at the Center of KANSEI Innovation Nurturing Mental Wealth.

Looking ahead to the completion of the project, HU also developed a portfolio in the areas of education, research and social deployment for realizing independent operation of centers, and started consideration of development of an excellent undergraduate program focusing on Kansei, development of Kansei COI projects into centers, and development of new social deployment programs.

vi) Formation of a Program on Open Innovation Platform with Enterprises, Research Institutes and Academia (OPERA) [Project No. 28]

To promote full-fledged industry-academia joint research projects between organizations, with close collaboration with industry, HU has worked to form an industry-academia "genome editing" consortium for co-creation, comprising 30 organizations (11 universities and research institutes and 19 companies). The Consortium expanded collaborative research activities by conducting outreach activities, such as four sessions of a social trend study meeting focusing on microalgae, drug discovery, medical care, and other subjects; patent search on genome editing technology (ZFN, TALEN); and exhibition at the Japanese Society for Genome Editing. Three additional institutions will participate in the Consortium in FY2018.

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

In the "Hiroshima Initiative to Nurture a Peaceful Society for All People" project, which had been selected by MEXT as a Center for Communities (COC) project in AY2013, two meetings of the Hiroshima University Hiroshima Initiative Council, a consortium comprising stakeholders from inside and outside Hiroshima University, were held on June 1, 2017 and February 28, 2018, to report the results of the COC activities. The operating structure and other systems of the COC were reorganized in order to continue its operation after the support period.

On January 25, 2018, an evaluation meeting of the third-party evaluation committee was held. Members comprising third parties conducted general evaluation of the activities of the COC project of Hiroshima University. The project received a general evaluation of "B" (in

five-level scale; "A" is the highest score).

On February 28, 2018, a symposium to present a summary of the project activities was held. The achievements of the project were widely communicated with the participation of 60 people from inside and outside the University.

To draw a concrete picture of people necessary for this project, HU offered the following two educational programs to develop "Hiroshima Leaders for Peace and Harmony" who uphold the spirit of "Pursuit of Peace" and can contribute to realization of a society where diverse people live harmoniously in diverse areas:

- A peace education subject, "Introduction to Hiroshima Leaders for Peace and Harmony" (started in AY2017, 87 participants in the first year); and

- A special program, "Hiroshima Peace Initiative Leader Program" (started in AY2018).

HU also established a system to include community-based education programs in undergraduate courses. In particular, in the field of solutions for problems in mountainous areas and islands, which was mainly led by the School of Applied Biological Science, the education program under this project has been successfully offered to all students of the University.

(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. 28, 29 and 30.

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. 28, 29 and 30.

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. 28, 29 and 30.

iv) Improvement of the organization of the Morito International Advanced Education School [Project No. 30]

Please refer to "Actions for Strategic and Ambitious Objectives and Plans" on pp. 28, 29 and 30.

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. 28, 29 and 30.

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

Please refer to "Actions for Strategic and Ambitious Objectives and Plans" on pp. 28, 29 and 30.

vii) Retention of globally competent human resources [Project No. 31]
Please refer to "Actions for Strategic and Ambitious Objectives and Plans" on pp.30 and 31.

viii) Redesigning of curriculum by Japanese proficiency level [Project No. 32]
Please refer to "Actions for Strategic and Ambitious Objectives and Plans" on p. 31.

ix) Provision of online Japanese language programs [Project No. 32]
Please refer to "Actions for Strategic and Ambitious Objectives and Plans" on p. 31.

x) Verification of the quarter-teaching system [Project No. 33]
HU verified the results of the questionnaire survey conducted with students and teachers in charge of individual subjects in AY2016 regarding the quarter-teaching system. According to the survey, students felt that they could concentrate on individual subjects because there were fewer tests at the term-end and that they could learn effectively because classes were taught intensively in a short period. On the other hand, as for a subject that is taught in two sessions in a row on the same day, students felt that the impact of absence was greater than in the semester system. Teachers in charge of term subjects responded that they could effectively teach exercise classes because the lecture class and the exercise class were taught in a row on the same day and that students seemed to learn more efficiently because the next course is taught before they forget the content of the previous course. On the other hand, when they canceled the teaching schedule for a day for some reason, the impact was great because two sessions were canceled. It was also difficult for some students to acquire credits because they could not attend classes while they were sent to the on-the-job teaching practice program or the caregiving experience program or other similar program. Based on the results of the questionnaire and opinions collected from the opinion meetings with individual departments, HU determined transition patterns for term subjects. HU also identified subjects that would be difficult to change to term subjects. Based on these results, HU established a basic policy for a change to a term-teaching system for all schools at the University. According to this policy, HU worked on implementing the change to the term-teaching system in AY2018.

As an action to promote change to the term-teaching system, the Headquarters for Education also implemented observations of liberal arts classes and study meetings. Class observations were conducted in classes of subjects that were provided two sessions in a row, to consider methods for introducing active learning. Teachers in charge of subjects and other observers participated in these observations and exchanged opinions after the observations [25 participants in May, 25 participants in July and 22 participants in November).

(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 "HU Hospital" or simply the "Hospital") accepted one pharmacist from Taichung Veterans General Hospital (Taiwan). In addition, nine persons, including the hospital director, doctors and nurses, were invited from Taichung Veterans General Hospital to the 2017 Health Science Symposium with Taichung Veterans General Hospital.

- Delegations of doctors and nurses from Chungnam National University Hospital (South Korea), each comprising 24 members, visited the HU Hospital in June and November 2017.
- The HU Hospital sent a physiotherapist to the Health Sciences Course, the University of Sydney, for learning technical skills of behavior analysis.
- HU accepted one resident from Ho Chi Minh Medical University as a special research student of the Graduate School of Biomedical & Health Sciences. Subsequently, the HU Hospital accepted this resident as a foreign doctor taking clinical training under the HU Hospital Post-Graduation Clinical Training Program.

ii) Enhancement of Post-Graduation Clinical Training Program [Project No. 37]
As there had been no matching in the Pediatrics/Gynecology Intensive Training Course for two consecutive years, when the Post-Graduation Clinical Training Program for AY2018 was created and offered, the Program was expanded into a cross-training program, by adding two hospitals as clinical training cooperative hospitals.

iii) Community clinical training at the Minamisoma Municipal General Hospital [Project No. 37]
After the accident at the Fukushima Daiichi Nuclear Power Plant, the HU Hospital concluded a collaboration agreement with Fukushima Medical University regarding collaboration in the fields of education, research and medical services. As a part of the collaboration under this agreement, two residents were sent to community medicine training incorporating disaster medicine at the Minamisoma Municipal General Hospital, a cooperative clinical training hospital of the HU Hospital.

iv) Development of a world-top-class radiation therapy team [Project No. 37]
The Hospital established a program to develop globally competent human resources (a radiation therapy team) that provide world-top-class radiation therapy and to dispatch the developed human resources to other medical institutions in the region and neighboring Asian countries. Under this program, the Hospital dispatched a study group to advanced radiation therapy facilities in and outside Japan to develop an educational program that realizes the standardization of radiation therapy techniques. The Hospital also collected information necessary for establishing a regional collaboration system for radiation therapy. In addition, the Hospital conducted a team-building workshop to deepen mutual understanding between different job categories involved in radiotherapy. Also, in cooperation with enterprises, it offered exercise training sessions to build a collaborative structure. The Hospital also made presentations at academic conferences on team medicine in radiotherapy.

v) 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 HU Hospital held meetings with related facilities, aiming to establish a network of related medical institutions of HU and foreign medical institutions mainly led by the Center for Development of Globally Competent Medical Professionals for the Future Program, and to develop a human resource development program utilizing the network. The Hospital held the World Health Summit in Hiroshima 2017 to promote blending of advanced medicine and regional medicine. It also held 14 sessions of open seminars to disseminate information to doctors, residents, and medical professionals at the HU Hospital.

- vi) 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 sent one doctor and one medical professional to an overseas training program and had 13 persons, including doctors, nurses and clinical radiation technologists, participate in specialized seminars and other relevant events in Japan.
- vii) Promotion of medical research activities [Project No. 38]
To promote medical research activities at the University, in April 2017, the University set up the Medical Research Promotion Council led by the Vice President in Charge of Research Ethics. It has considered the establishment of a Medical Research Organization as an ARO (academic research organization) that organically integrates the University's medical research activities and maximizes their functions. It also examined the following activities: promotion of translational research projects that develop basic research results for the clinical development stage leading to use in medical treatment; acquisition of more competitive funds from the Japan Agency for Medical Research and Development (AMED), a research expense subsidy program of the Ministry of Education, Culture, Sports, Science and Technology and other sources; IR (investor relations) for medical research projects and a method to promote them; etc.
- viii) 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). To establish a multi-support system to ensure collaboration between different job functions, the Hospital, mainly via its Sports Medical Center, expanded its research projects to improve the performance of para-athletes and to prevent injuries to para-athletes. Joint research projects with sports associations for the disabled were also implemented to deploy research results in actual playfields. Results of these research projects were presented at academic meetings and other occasions in and outside Japan. Furthermore, in accordance with an agreement concluded between four parties (Hiroshima University, the government of Hiroshima Prefecture, the Hiroshima Prefecture Sports Association for the Disabled, and NPO STAND) in October 2016 for collaboration and coordination in para-sports activities, the ALL HIROSHIMA SPORTS SUMMIT and the Sports Experience for the Disabled event were conducted.
- (ii) Activities to ensure quality of medicine**
- i) Establishment of International Center for Lymphedema [Project No. 35]
In April 2017, the Hospital opened the first international center for lymphedema in Japan to provide multidisciplinary treatments to patients with lymphoedema and to make appropriate diagnosis and mitigate the conditions of the patients. Also, to enhance the lymphedema treatment and to strengthen the functions of the Hospital, one specially appointed professor (who concurrently serves as the Center Director) and one assistant professor were posted at the Center (in accordance with the President's strategic point).
- ii) Reinforcement of the medical safety management system [Project No. 35]
• To secure proper provision of medical treatments that use highly advanced medical technologies or unapproved drugs or medical devices, in April 2017, the Hospital established the Department of Evaluation for Highly Advanced Medical Technology and the Department of Evaluation for Unapproved Drugs and Medical Devices. In addition, to determine the ethics of proposed cases, their scientific validity, appropriateness of

- providing them at the HU Hospital, appropriate provision methods, and other factors, the Hospital dissolved the Medical Ethics Review Committee to form a better organizational structure and established the Highly Advanced Medical Technology Evaluation Committee and the Unapproved Drugs and Medical Devices Evaluation Committee under the respective evaluation departments.
- In April 2017, the Hiroshima University Medical Safety Audit Committee was established as an external audit committee. The purposes of this Committee are to confirm the status of operations related to medical safety, request corrective measures for medical safety management, as necessary, and publish the results of its audit to the public.
- iii) Retention of medical professionals [Project No. 35]
• In October 2017, the Hospital introduced a two-shift work system for nursing staff members, aiming to provide diverse working styles that fit different needs of individual employees regarding their work-life balance.
• To improve the treatment of contract medical technical workers, the Hospital has created new job titles: medical social worker (general worker) and chief licensed cook (skilled/labor worker). Full-time employment is offered for these positions.
- iv) Support for female doctors to stay on their career path [Project Nos. 35 and 37]
The HU Hospital was selected as one of the implementers of the "Female Doctor Career Support Model Promotion Project 2017" of the Ministry of Health, Labor and Welfare. In FY2017, under this project, the Hospital set up the "Hiroshima University Hospital Hiring Quota for Female Doctors," an additional quota besides the regular recruitment quota. It is a career support system tailored to fit diverse circumstances of individual female doctors who wish to return to work. Under this quota, five female doctors were hired, contributing to general retention of doctors and supporting female doctors by providing opportunities to return to full-time work.
- v) Conclusion of a medical support agreement with Sanfrece Hiroshima [Project No. 36]
In May 2017, to support J1 Sanfrece Hiroshima, a professional soccer team, in the area of medical care, the Hospital, Mazda Hospital and Sanfrece Hiroshima signed a medical support agreement. Doctors from the Department of Orthopedic Surgery have provided medical treatments and surgical operations to team members as team doctors of Sanfrece Hiroshima. Starting from this season, in addition to this medical care, the Hospital has provided support in the psychological and nutritional areas as well as support for everyday health care, such as internal medicine. Also, the Sports Medical Center of Hiroshima University Hospital began programs to support players' ability to improve their competitive power by conducting motion analysis and giving instructions regarding ideal body movement and muscle power building.
- vi) Improvement and reinforcement of the disaster medical system [Project No. 36]
The Hospital implemented the "Basic Training for Medical Care for Nuclear Disasters" program for teachers and administrative employees on the HU Kasumi Campus to provide them the basic knowledge necessary for accepting people injured in nuclear disasters. In addition, to make it easier and more effective to conduct medical rescue activities in the event of a disaster, the Hospital conducted the Hiroshima University Hospital Disaster Medical Relief Training program, which included training on accepting patients exposed to radiation.
- vii) Securing of doctors in mountainous areas and on islands [Project No. 40]
Aiming to secure the posting of doctors in mountainous areas and on islands in Hiroshima Prefecture, the government of Hiroshima Prefecture and the University have implemented

the "FURUSATO (Hometown) Admission Quota" for the School of Medicine since FY2009. Five students enrolled in the first year of this project completed six years of the undergraduate course and two years of initial training in March 2017. In April 2017, they were posted to local medical institutions.

- The Hospital negotiated discounts with suppliers for all drugs. Negotiations were also

Program. Hiroshima University Kindergarten was the only national/public kindergarten certified. This Program intends to promote mutual training and exchanges between certified organizations. By holding and participating in training activities under this Program, the attached kindergarten can contribute to networking with the community in the area of education and sharing of research results.

The attached kindergarten also hosted the Higashi Hiroshima Preschool Education Study Group, comprising 19 preschool and childcare facilities in Higashi Hiroshima City. Two workshops were held during the year, providing training opportunities to total of 150 childcare workers.

- The attached high schools and junior high schools started a joint research group, regarding preparation for establishment of a Global Leader School planned by the education boards of Hiroshima Prefecture. The joint research group cooperated in the consideration and trial of development of lessons taught in English. Teaching supervisors implemented trial lessons [trial lessons: 3 subjects in 19 hours].

(iv) Review of roles and functions

Activities to establish a Hiroshima University version of the "Measures to Enhance Functions" [Project Nos. 41, 42, and 43]

HU has the advantage of having all school types, from kindergartens to senior high schools. To further strengthen the roles and features of individual schools, HU established the Attached Schools Function Enhancement Review Working Group (WG), while considering their respective historical backgrounds and social missions. WG considered the Hiroshima University edition of the "Enhancement Measures." It also reviewed the existing plan for school reorganization and the appropriate size of the attached schools in the future.

(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)

i) Contribution as an academic center [Project No. 27]

The Research Institute for Radiation Biology and Medicine of Hiroshima University has established the "Research Center for Radiation Disaster 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 197 joint research projects (total of the three universities) in AY2017, playing a core role in forming an academic center for radiation accidents and medical science.

ii) Triangle Project [Project No. 27]

The Research Center for Radiation Disaster Medical Science endeavors 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 started the Triangle Project in AY2017, working on "research on consequences and risks of low-dose exposure," "radiation hazard medical treatment," and "social impact of radiation disasters and protection from radiation." A new integrated research team was formed, comprising researchers from three member research institutes (the HU Research Institute for Radiation Biology and Medicine, the Atomic Bomb Disaster Institute of Nagasaki University and the Fukushima Global Medical Science Center of Fukushima Medical University). This team conducted 25 research projects.

iii) Implementation of Fukushima Prefecture Citizen University Open Forum [Project No. 27] With the theme of "From Reconstruction to Innovation - Think About the Future of Fukushima," the Fukushima Prefecture Citizen University Open Forum was held in Fukushima City in January 2018. About 700 citizens, more than four times last year's audience, attended this program. To utilize experience in reconstructing activities after the Great East Japan Earthquake as model cases in and outside Japan and to utilize them in creating a bright future, students from junior high schools, high schools and universities held active discussions with top leaders from different fields about what we should do next.

iv) International symposium [Project No. 27]

The Research Institute for Radiation Biology and Medicine held an international symposium in February 2017 with the theme of "Stepping Forward for Establishment of Science of Disaster Recovery and Revitalization" at Nagasaki University. Thirteen world-leading experts (including seven 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 241 participants.

v) Self check/evaluation and external evaluation [Project No. 27]

Regarding activities of the Research Institute during AY2016, self-check/evaluation and external evaluation were conducted. The external evaluation committee, consisting of six experts, conducted an external evaluation. The committee evaluated the purpose of this Research Institute, the implementation system, applications for collaborative research projects, the examination of collaborative research projects, the support system, results of collaborative research activities, the uniqueness of activities, the improvement system, and responses to problems to be handled. All evaluation items received the highest rating of "Standards Satisfied."

vi) Conclusion of an agreement for loose collaboration between network-type joint research centers

In March 2018, to promote cooperation and exchange between network-type joint research centers of three universities, the "Agreement on Promotion of Collaboration and Cooperation Between the Network Joint Research Center for Materials and Devices, the Research Center for Biomedical Engineering and the Research Center for Radiation Disaster Medical Science" was concluded.

(ii) Unique activities and achievements of the Research Institute for Radiation Biology and Medicine

i) Holding of an exhibition [Project No. 27]

From August 4 to October 19, 2017, HU held the exhibition "Live at Ground Zero - History of Medical Care for Close-Range Atomic-Bomb Survivors" at the Medical Museum of the School of Medicine. Panels and document materials were presented and related movies were played at the exhibition. As a summer special experience program, the "See Chromosomes and Bone Marrow by a Microscope" program was carried out. A total of more than 1,000 persons visited the exhibit. At the opening ceremony held on the day before the event, HU issued a certificate of receipt to the honorary professor who assigned valuable materials to the Institute.

- ii) Holding of a lecture [Project No. 27]
 As a concurrent event with the exhibition explained in i) above, on September 2, 2017, an honorary professor gave a lecture with the theme of "Footsteps of 78 people who survived the atomic bombs - Proof of inhumanity of atomic bombs," at the Hiroshima Peace Memorial Museum with the participation of about 150 people. With the concurrently held exhibition, it served as an opportunity to communicate the research activities of the Institute widely to the public.
- iii) Conclusion of inter-department international exchange agreements [Project No. 27]
 To promote active researcher exchanges between departments, on September 7, 2017, the Research Institute for Radiation Biology and Medicine signed an international exchange agreement with the Burnasyan Federal Medical Biophysical Center of the Federal Medical Biological Agency, Russian Federation. Under this agreement, the two institutes will work closely together to promote joint research on radiation dose and health impact assessment and other research projects in the future.
- iv) Identification of genetic changes that determine individual differences in sensitivity to radiation [Project No. 27]
 A joint research group mainly led by Hiroshima University has developed an analytical method to quantitatively evaluate the influence of specific genetic changes on radiosensitivity by using a genomic editing method on human cultured cell lines and proved that an ATM hetero gene mutation is one of the genetic factors of radiosensitivity. This research is expected to be the first step towards tailoring of radiation protection standards.

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 Institute)

- i) Status of joint use/research activities [Project No. 27]
 Public solicitation of proposals for joint research projects was conducted twice during the year (January and July). In addition, the Center accepted academically urgent tasks as necessary from time to time. Proposals for joint research projects selected by HU increased steadily from 120 projects in AY2016 (including 26 joint research projects with foreign institutions) to 131 projects (including 30 joint projects with foreign institutions) in AY2017. In AY2017, there were 214 users, including 65 foreigners (30% of total users). In AY2017, ten foreign organizations joined the network. The network of international joint research has expanded to 66 institutions.
- ii) Research results [Project No. 27]
 In AY2017 the Center published 34 peer-reviewed papers. Papers published in journals with seven or more impact factors (IFs) were one paper in ACS Nano (IF=13.9), one paper in Nano Letters (IF=12.7), four papers in Nature Communications (IF=12.1) and one paper in Phys. Rev. Lett. (IF=8.5) totaling seven papers (20% of all papers published by the Center). The Center conducted a high-resolution angle-resolved photoemission spectroscopy experiment, using low-energy synchrotron radiation and clarified that lattice vibration plays a crucial role in high-temperature superconductivity of copper oxide (published in the press release on July 6, 2017, mail to introduce the University, and on the English website of the University).

- iii) Improvement of the joint use/research systems [Project No. 27]
 The Center deployed foreign teachers (AY2017: one associate professor (short-term) and one assistant professor) to further strengthen the international research network and its research abilities. Renewal of the radiation high-frequency power source was completed by using the President's discretionary budget, securing a stable supply of radiation beams. Furthermore, the air conditioner in the experiment hall was renewed by maintenance work for energy-saving.
- iv) International symposium [Project No. 27]
The Center conducted the "International workshop on strong correlations and angle-resolved photoemission spectroscopy" (CORPES 17) from July 2 to 7, 2017. A total of 117 participants (including 63 participants from 19 foreign countries) presented their latest research results and engaged in active discussions on the strongly correlated electron system and angle-resolved photoemission spectroscopy. On March 8 and 9, 2018, the Center held the 22nd Hiroshima International Symposium on Synchrotron Radiation. A total of 93 participants (including 12 researchers from seven foreign countries) discussed trends in advanced research projects in the material science and biomolecular science fields that use radiation in the vacuum ultraviolet and soft X-ray range and summarized joint research projects for the year.
- v) Support for young researchers [Project No. 27]
 The Center hired a post-doctor researcher from India as a researcher and accepted a female post-doctor researcher from the Chinese Academy of Sciences as a foreign guest researcher.
- vi) Synchrotron radiation experiments by graduate students [Project No. 27]
 Under the cross-credit agreement between the HU Graduate School of Science and the Graduate School of Natural Science and Technology of Okayama University, the Center conducted the "Synchrotron Radiation Experiments for Graduate Students" (as a curriculum of Hiroshima University).
- vii) High school-university collaboration [Project No. 27]
 The Center accepted 901 high school students from super science high schools and the Global Science Campus Project of Hiroshima University and under the Sakura Science Plan.
- viii) Activities to communicate information [Project No. 27]
 The Center updated the website (in Japanese and English) as needed, to communicate information on the procedures of joint research projects, selection of research subjects, research papers, and highlights of research results (total visits to the website from April 2017 to March 2018: 56,298 visits, with 24% from foreign countries (mainly from the U.S., U.K. and China)).
- ix) External evaluation and self-check/evaluation [Project No. 27]
 On March 9, 2018, the Center received an international evaluation on its research activities by an external evaluation committee (chaired by Prof. Ingolf Lindau, Stanford University, and five other foreign members) and received a rating of "Excellent." It also conducted a self-check/evaluation to prepare for an external evaluation on the general activities of the Center (to be conducted on April 5, 2018).

- x) Collaboration with university joint use organizations [Project No. 27]
The Center participated in collaborative activities with the following university joint usage organizations: the Collaboration Support Project of the High Energy Accelerator Research Organization; a cooperative research project on light vortex with the Institute for Molecular Science (National Institute for Natural Science); research and development of a high-precision manipulator with the National Institute of Advanced Industrial Science and Technology based on a collaborative research agreement; and a material science research project using hard X-ray photoemission spectroscopy with the National Institute for Materials Science.
- (ii) Unique activities and achievements of the Hiroshima Synchrotron Radiation Center**
- i) Active implementation of cross-field research projects [Project No. 27]

v) Activities under the MEXT Nanotechnology Platform [Project No. 27]

institutions, aquariums and a wide range of organizations.

It provided a total of 12 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 AY2012 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 special notes on pp. 39, 40 and 41.

(2) Objectives relating to improvement of financial conditions

Please refer to special notes on pp. 44 and 45.

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

Please refer to special notes on pp. 49 and 50.

(4) Objectives relating to other operation-related matters

Please refer to special notes on pp. 54, 55 and 56.

3. Actions for "Strategic and Ambitious Objectives and Plans"

Unit 1	Actions to Become a Top 100 University in the World University Ranking
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.

<p style="text-align: center;">Progress</p>	<ul style="list-style-type: none"> • To develop “globally competent people who pursue peace with their international education,” the University introduced a special program, the “Global Peace Leadership Program,” in FY2017 to help students to deepen their understanding of the Japanese culture and peace and to acquire English abilities, abilities to identify and solve problems in a multicultural society, leadership, and career path development. HU receive 44 enrollment applications for this program, and selected 18 students by document screening and interviews. In June 2017, the opening ceremony of the program was implemented. The program has progressed efficiently. In October, personal tutoring was provided to the 18 students for consultation about the study plan for the fourth term and after and consultation about preparation for study abroad programs. In AY2017, eleven students achieved a score of 730 or higher in the TOEIC® test. The scores of most of the other students are also steadily improving. • In AY2017, HU introduced the liberal arts subjects “Communication Seminar I and Communication II,” with the objective for enrolled students to achieve a score of 730 points in the TOEIC® test. We compared the scores of 199 students who took Communication Seminar I and took the TOEIC® L & R IP test for both the May and July tests, and confirmed the effectiveness of the program. The average score in the July test improved by about 100 points, and 78 students whose scores in the May test were lower than 730 marked scores higher than 730 in the July test. Among the students who took “Communication Seminar II,” 34 students whose score in the July test was lower than 730 achieved 730 or higher in the November test. As these programs were proved to be effective for improving the English abilities of students, we decided to continue these programs in AY2018. <p>We also examined the average score of 128 students who took all of the TOEIC® L & R IP tests conducted in May, July and November. Their average improved by 97.7 points in the July test compared with the May test. Their average improved by 53 points in the November test compared with the July test. It was confirmed that the scores of all students who took the program improved.</p> <p>Of all the students who took the “Communication Seminar I and II” programs in AY2017, 113 students (51% of all students) achieved a score over 730 in the TOEIC® L & R IP tests. These results show the effectiveness of these programs.</p> <ul style="list-style-type: none"> • To improve the skills of students to communicate in English and to help them to achieve a score of 730 in the TOEIC® tests, HU offered the “TOEIC® Skill Up Class” as a non-curricular program from middle of June to middle of November 2017. <p>To verify the effectiveness of the TOEIC® Skill Up Class, HU required all the students who took the program to take the TOEIC® L & R IP test conducted on November 19, 2017. In fact, 64.4% of the students took the test. Out of 121 students who took the TOEIC® Skill Up Class and took the TOEIC® L & R IP test in November, 24 students achieved scores higher than 730. Because it was also confirmed that many of the students who attended 70% or more of the classes improved their scores, we decided to continue this program in AY2018.</p> <p>HU offered the “TOEIC® Skill Up Course” and the “Global Communication Course” by level of English abilities of students. Each course comprised 30 sessions. The TOEIC® Skill Up Course was designed for students with an English proficiency level of Grade 2 of the Practical English Proficiency Test (Eiken) or a 550 TOEIC® score, with the objective to achieve improvement of the TOEIC® scores of the enrolled students by 100 points or more. The Global Communication Course was designed for students with English proficiency levels of Grade 2 and Grade Pre-1 of the Practical English Proficiency Test (Eiken) or a 650 TOEIC® score, with the objective to help students to acquire a high English proficiency level through conversation lessons with native teachers so that they can discuss a wide range of topics, from daily conversation to politics and economics. The Higashi-Hiroshima Campus provided a total of four classes (two classes on Thu. and two classes on Fri). The Kasumi Campus provided two classes on Wed. There were 137 applicants to the programs on the Higashi-Hiroshima Campus and 31 applicants on the Kasumi Campus.</p> <ul style="list-style-type: none"> • To improve TOEIC® scores of students and their skills to communicate in English, HU conducted the “Short Study Abroad Experience on Campus” program (a program to experience language training classes of a study abroad program on HU campuses) at the beginning of August and at the end of September 2017 on both campuses. For the August program, there were 40 applicants on the Higashi-Hiroshima Campus and 16 applicants on the Kasumi Campus. For the September program, there were 41 applicants on the Higashi-Hiroshima Campus and 10 applicants on the Kasumi Campus. • HU has introduced the English conversation training application “MyET.” It is a self-learning tool for improving the pronunciation and speaking abilities of students to supplement contents that cannot be sufficiently covered by the curriculum classes. In AY2017, 1,052 students used MyET, an increase of 210 users from 842 in AY2016, indicating that students who are interested in improving their English abilities have increased. The Institute for Foreign Language Research and Education offers the online English learning program “NEXT” (comprising the General English Training Course and the TOEIC® L & R Test Course, a total of five courses). A total of 619 students enrolled in the program for the period from April to September (559 undergraduate students, 57 graduate students and 3 other students). The number of students enrolled in the program for the period from October to March increased to 751 (696 undergraduate students, 54 graduate students and 1 other student). • In AY2017, the percentage of students who reached the TOEFL® i BT80 level was 8.3% (901 students/10,818 students in total).
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Medium-Term Objectives [2]	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.
Medium-Term Plan [7]	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 a globalized graduate school education. Results of these programs should be verified.
Plan for AY2017 [7]	Add degree courses all taught in English and verify the results of the existing degree courses in light of their intended purposes.
Progress	<ul style="list-style-type: none"> As of April 2017, there were a total of 62 degree courses that could be completed only by credits from subjects taught in English. In January 2018, the University asked each graduate school that offers a degree course that can be completed only by credits from subjects taught in English to examine the results (the number of enrollments and the number of students who completed the course) and the preparation status for AY2018. As a result of the examination, the total number of enrollments during the period from AY2015 to AY2017 was 835 students, and the total number of students who completed these courses was 581 students. As of April 2018, a total of 69 courses were offered.
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® iBT86.
Plan for AY2017 [8]	To achieve the target to improve the English abilities of about 30% of graduate students to the TOEFL® iBT86 level by 2019, by taking into account the specialty of their major fields, and to help them develop into globally competent and independent persons, HU should encourage graduate students to present their research results at international conferences. The University should also continue the non-curricular TOEIC skill up classes to improve their English proficiency. And based on the results of the measurement of English abilities of graduate school students, it should consider effective programs to further enhance their English abilities.
Progress	<ul style="list-style-type: none"> To improve the skills of students to communicate in English and to help them to achieve a 730 score in the TOEIC® tests, HU has offered two classes of the “TOEIC® Skill Up Class” by level of English abilities of students, as a non-curricular program, from middle of June to middle of November 2017. Each class comprised 30 sessions. The Higashi-Hiroshima Campus provided a total of four classes (two classes on Thu. and two classes on Fri). The Kasumi Campus provided two classes on Wed. There were 42 applicants to the programs on the Higashi-Hiroshima Campus and 10 applicants on the Kasumi Campus. The Curriculum Committee of the Headquarters for Education thoroughly communicated to graduate schools that graduate students could take the all-department TOEIC® IP test implemented in May and November free of charge. As a result, 332 graduate students took the May test (including 63 students who achieved the TOEFL iBT86 level (TOEIC® 780 points)), and 348 graduate students took the November test (including 48 students who achieved the TOEFL iBT86 level (TOEIC® 780 points)). To improve TOEIC® scores of students and their skills to communicate in English, HU conducted the “Short Study Abroad Experience on Campus” program (a program to experience language training classes of a study abroad program on HU campuses) at the beginning of August and at the end of September 2017 on both campuses. For the August program, there were 18 applicants on the Higashi-Hiroshima Campus and 5 applicants on the Kasumi Campus. For the September program, there were 11 applicants on the Higashi-Hiroshima Campus and 6 applicants on the Kasumi Campus. HU has introduced the English conversation training application “MyET.” It is a self-learning tool for improving the pronunciation and speaking abilities of students to supplement contents that cannot be sufficiently covered by the curriculum classes. In AY2017, 519 students used MyET, an increase of 78 users from 441 in AY2016, indicating that students who are interested in improving their English abilities have increased. The Institute for Foreign Language Research and Education offers the online English learning program “NEXT” (comprising the General English Training Course and the TOEIC® L & R Test Course, a total of five courses). A total 619 students enrolled in the program for the period from April to September (559 undergraduate students, 57 graduate students and 3 other students). The number of students enrolled in the program for the period from October to March increased to 751 (696 undergraduate students, 54 graduate students and 1 other student). From the end of September to November 2017, the University conducted a language ability questionnaire survey with graduate students regarding their English proficiency. A total of 557 students responded to the questionnaire. Of these respondents, 115 students responded that their TOEIC® scores were 780 or higher. Based on the results of the survey, HU started consideration of programs to further improve their English abilities.
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.

	Plan for AY2017 [18]	All undergraduate schools of the University have adopted English qualification/proficiency tests that measure the 4 English skills (reading, listening, writing and speaking) for the AO admission examination. The results of the use of these tests and problems identified should be examined based on the improvement of students' abilities to use English after their enrollment and utilized for the improvement of the school admission screening.
	Progress	<ul style="list-style-type: none"> • HU analyzed the English abilities of students who were admitted to HU in AY2017 by the AO admission screening using third parties' English proficiency tests (mainly "Eiken"), by comparing their scores in the TOEIC test they took after their enrollment with those of other students enrolled in AY2017. The results of the analysis showed that students admitted by the screening that used third parties' English proficiency tests generally achieved higher TOEIC scores than other students admitted by screening that did not use these tests. Based on this analysis, the Admission Screening Committee judged that the use of third parties' English proficiency tests is effective and decided to continue to use these tests as a part of the admission screening. • For the admission of students in AY2019 (the screening will be conducted in AY2018), HU will adopt the "Deemed Full Marks" system for the English language examination. In this system, if an applicant has a score of a third party's English proficiency test that satisfies the standard designated by the University, when the applicant takes admission examinations of the University, which requires the results of the National Center for University Entrance Examinations (i.e. regular screening, AO screening and screening with commendation), the applicant is deemed to have received full marks in the English language examination. There are undergraduate schools that have already utilized scores of third parties' English proficiency tests for their AO admission screening, such as giving additional points based on the score of such English proficiency test. As the Full Marks system will be introduced, the University considered the treatment of these undergraduate schools in and after the admission screening for AY2019 (whether they should continue to use the existing system or change to the Full Marks system). As a result of deliberation, it was decided that all these undergraduate schools that have already utilized their systems should continue to use their own systems.
	Medium-Term Plan [19]	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.
	Plan for AY2017 [19]	Verify the effectiveness and problems of the online application system in English with the upload function adopted by some graduate schools. Based on the results of the verification, the system should be improved.
	Progress	In the admission screening of graduate schools for AY2017 (the screening was conducted in AY2016), the "Taoyaka Program for Creating a Flexible, Enduring, Peaceful Society" (one of the programs for leading graduate schools) and the Graduate School of Letters adopted an online application system with an English interface and an upload function (upload of an application in the PDF format). HU examined the effectiveness of this system. There was no inquiry from applicants about how to use this system, and HU also operated the system smoothly with no difficulties. Thus, it was verified that the system had no problems.
	Medium-Term Objectives [8]	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.
	Medium-Term Plan [22]	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.
	Plan for AY2017 [22]	In striving to become a World Top 100 comprehensive research university, conduct activities to enhance the research ability of the University, based on the results of the self-check and evaluation of the previous year's activities, which will result in improvement in the number of published papers and other research result indicators

	Progress	<ul style="list-style-type: none"> In AY2017, the interim evaluation of the “Program for Promoting the Enhancement of Research Universities” of MEXT was conducted. In preparing reports to be submitted for this interim evaluation, HU implemented IR analysis and self-check regarding activities it conducted to enhance its research abilities during the past four years. As a result, HU added a new objective as the fifth objective: organization-level collaboration with companies, and enhancement of the function to match research seeds with social needs. In April 2017, HU established the new long-term vision “SPLENDOR PLAN 2017.” Based on its concept, “Establishment of a Worldwide Research and Education Center Leading Science for Sustainable Development,” HU included the following five strategies and five enhancement policies in the future vision of the report for interim evaluation. Following these strategies and policies, HU has continuously conducted effective activities to further strengthen its research abilities. <p>Strategy 01: Strengthen the organizational foundation, Enhancement policy 01: Utilize a high IR function and develop excellent URAs Strategy 02: Form a center of communities, Enhancement policy 02: Evolve into an international and integrated interdisciplinary research center Strategy 03: Enrich the human resources, Enhancement policy 03: Develop young researchers and human resources for innovation research Strategy 04: Strengthen the communication of information to the international community, Enhancement policy 04: Expand the network to accelerate international joint research activities Strategy 05: Strengthen the collaboration with industries and the community, Enhancement policy 05: Promote social collaboration based on “glocal” cooperation</p> <ul style="list-style-type: none"> In AY2017, HU focused on reinforcement of collaboration between departments under the leadership of the Executive in Charge of Research, which led to activities to strengthen the ability to conduct effective research activities. Each department established a research promotion committee, deployed URAs in charge of individual research projects and appointed a teacher in charge of industry-academia collaboration as a contact person, to promote sharing of understanding of research strategies across the University and to identify problems of individual departments and fields. (Ex. the number of papers at the Graduate School of Engineering increased from 556 papers in FY2016 to 728 papers in FY2017 (an increase of 172 papers)) As a result of continuous activities based on these strategies and enhancement policies, HU ranked 321st place in the QS World University Ranking (a rise of 1 place from AY2016). The number and percentage of papers co-authored with foreign researchers increased significantly from 715 papers (31.9%) in AY2016 to 737 papers in AY2017 (33.2%).
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 HU, 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 AY2017 [23]	Evaluate the research activities and intensively assign researchers mainly to strategic fields that HU places emphasis.
	Progress	<ul style="list-style-type: none"> In AY2017, HU established the Basic Effort Key Performance Indicators (BKPI®), in addition to its unique achievement-motivated key performance indicators (AKPI®). By using these two indicators, HU now is able to monitor all educational and research activities of teachers and grasp its abilities as a university. It also started the development of the C-KPI (Common Key Performance Indicator) with Ehime University, Tokushima University, and Yamaguchi University. We aim to contribute to establishment of a national indicator model, anticipating that the use of this indicator will realize the standardization of the management of education and research performance and efforts. In AY2017, following AY2016, using AKPI® and other indicators, HU continued to conduct evaluation of research activities of self-sustained research centers and incubation research centers that are engaged in research activities in strategically important fields. It also implemented strategic and systematic personnel allocation from a holistic viewpoint for the entire university beyond the borders of educational and research organizations.
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.

<p>Plan for AY2017 [30]</p>	<p>To increase the percentage of foreign students among all students from the previous year, measures for increasing foreign students should be reviewed and improved based on the verification results of measures taken in the previous year, such as the meetings to explain its study abroad programs. Increase the percentage of Japanese students with study abroad experience from the previous year by reviewing and improving the START program and other study abroad programs for Japanese students to match the various needs of students.</p>
<p>Progress</p>	<p>Quantitative expansion was promoted while maintaining the quality of the study abroad programs. As a result of this effort, the percentage of foreign students among all students reached 11.0% (as of May 1, 2018), and the percentage of Japanese students sent to foreign universities reached 4.4% (during AY2017).</p> <ul style="list-style-type: none"> • Development and utilization of a Japanese version of the BEVI test (an attribute test measuring adaptability to different cultures) As the Japanese version of the BEVI test (BEVI-j), developed and introduced in AY2016, enables objective and direct evaluation of study abroad programs, it attracted attention of many universities. HU implemented a total of 22 sessions of workshops in AY2017, which were participated in by a total of about 400 participants from about 120 universities, companies and organizations. <u>By the end of AY2017, eight national/public universities, including Kansai University, Tsukuba University, Sophia University and Ryukoku University, adopted the BEVI-j test.</u> Many other universities are also considering the adoption of the test. HU started to provide the English version of the revised BEVI test to affiliated overseas universities. The University Rovira i Virgili in Spain and Malmö University in Sweden are considering adoption of the test. In AY2017, for over 20 study abroad programs, HU conducted about 1,500 tests with students before and after completing these programs. The test results were statistically processed, and an evaluation report was created that analyzed characteristic distribution of numerical data for 12 programs and made other analyses. The report was provided to the program coordinators so that it could be utilized for evaluation and improvement of the programs. Against the background that emphasis is placed on the connection between education in super global high schools (SGHs), super science high schools (SSHs) and the University, <u>the University developed a BEVI-j test for high school students</u> to enable long-term effective measurement of study abroad programs, language programs and cross-culture learning programs of the high schools (the measurement is conducted twice, during high school time and after enrollment in universities). <u>The test was made available to these high schools at the end of AY2017.</u> • Reinforcement and expansion of overseas satellite centers In addition to the 14 overseas satellite centers established in twelve countries/regions by AY2016, <u>two satellite centers were added in AY2017 in two countries to further strengthen their functions.</u> To promote student and academic exchanges with universities in Europe, in May 2017, Hiroshima University established the Hiroshima University Lithuania Center within the Asia Research Center of Vytautas Magnus University (Lithuania) and the Hiroshima University Saarland Center on the campus of Saarland University (Germany). Taking this opportunity, HU will start to send students to Lithuania under the START + (PLUS) short-stay-abroad program in AY2018. • Expansion of the START short-stay-abroad program Since 2010, HU has offered the START Program, a short-stay-abroad program for the first year undergraduate students with little overseas experience. The University bears a portion of the costs incurred by program participants. <u>In AY2017, HU established 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 (one course, 26 participants). Eleven courses were provided under these two programs, and a total of 271 students were sent to eight countries (the number of applicants was 420).</u> The effectiveness of these programs was verified from the fact that the English ability of the participants in START improved after the program (TOEIC® scores improved by more than 25 points). And applicants to longer-period study abroad programs increased. The percentage of applicants to the HUSA short-term study abroad program, who had participated in START or START+ programs, increased from 7% in 2010 to 37% in AY2017. • Expansion of medium- and long-term student exchange programs <u>In AY2017, HU was selected as one of the implementers of the MEXT "Projects to Promote Globalization of Universities" and started the "International Linkage Degrees Program (ILDLP) for Social Deployment of Advanced Technologies" program, a student exchange program with universities in India that sends about 36 students each year bilaterally between Japan and India.</u> In AY2017, the University held discussions and a kick-off meeting with partner universities under this program, and implemented short-term student exchanges.

	<p>As a part of the Project to Promote Globalization of Universities, the PEACE program and the AIMS-HU Program have been implemented. The PEACE Program is a bilateral student exchange program introduced in AY2016, and about 50 students a year are exchanged with universities in Cambodia, Myanmar, Laos, Vietnam and Thailand. The AIMS-HU Program has been implemented since 2013, and about 25 students a year are exchanged with universities in ASEAN countries. Through these programs, the University has promoted short-, medium- and long-term student exchange with universities in Asia with cross granting of curricular credits. For the AIMS-HU program, the subsidy from the government will end in AY2018. To continue the program in and after AY2018, HU made preparations, including securing of personnel and operating funds. HU has also offered various medium- and long-term student exchange programs to satisfy the diverse needs of students, and based on the abilities of students. It sent students to foreign partner universities under the HUSA (Hiroshima University Study Abroad) short-term student exchange program with credit transfer with partner universities, and under study abroad programs via university consortia, including the University Study Abroad Consortium (USAC) and the University Mobility in Asia and the Pacific (UMAP).</p> <p>Improvement of the organization of Morito Institute of Global Higher Education (3+1 Program)</p> <p>The Morito Institute of Global Higher Education (3+1 Program) accepts students in the fourth year from foreign undergraduate schools for three terms and provides them advanced education and Japanese language education necessary to proceed to graduate schools of HU. After completing bachelor courses in their respective home universities, these students will be admitted to graduate schools of HU to develop them into advanced experts in their specialized fields. As a result of thorough publicity activities, the number of enrolled students drastically increased in AY2017 [26 students in AY2016 → 90 students in AY2017 (an increase of 64 students)] [198 applicants in AY2018 as of May 2018].</p> <p>Furthermore, <u>to accept more foreign students mainly through this program, HU considered establishment of an organization that serves as a Japanese language/culture education center and as a contact point to accept foreign students. The present International Center was reorganized and the development of an organization was started, aiming at establishing the Hiroshima University Morito Institute of Global Higher Education (3+1 Program) in October 2018.</u></p> <ul style="list-style-type: none"> • Provision of special Japanese language and culture study programs to motivate foreign students to study at HU HU offered a short-stay program of about two weeks to foreign students who had interest in the Japanese language and culture. Participating students took classes at Hiroshima University, attended socializing events with Japanese students at HU, and visited companies in Hiroshima Prefecture to deepen their understanding of the Japanese language and culture. Since it was started in AY2010, the program has been expanded, by adding courses and accepting more students every year. In AY2017, 11 courses were offered and accepted 246 foreign students. <u>In AY2017, the program accepted eight Chinese students with hearing disability for the first time on a trial basis, and training sessions incorporating special support education were conducted. Based on this experience, it was decided to consider a new program that accepts foreign students with disabilities to the Morito Institute of Global Higher Education (3+1 Program), which is scheduled to be established and open in AY2018.</u> • Conclusion of inter-university exchange agreements HU actively concluded exchange agreements with foreign universities. As of the end of AY2017, HU had 301 inter-university exchange agreements, an increase of 65 from 236 agreements in AY2016. HU aims to promote active student exchange with educational institutions in various countries and establish a hub structure for international joint research activities, by adding foreign partner universities. In AY2016, HU established the Guanajuato Center in Mexico in accordance with the affiliation agreement with Guanajuato University. At the request of an affiliated university based on HU's experience in international industry-academia-government collaboration and student exchange, <u>HU hosted the third Japan-Mexico Presidents' Meeting in November 2017.</u> The meeting was participated in by about 150 representatives from 37 universities and organizations in Mexico and 30 universities and organizations in Japan. With the theme of "Collaboration for Innovation: Academy, Industry and Government working together," they discussed industry-academia-government collaboration, collaboration in research projects and student exchanges, and deepened the exchange between Japanese universities and Mexican universities. By hosting this meeting, HU greatly contributed to the promotion of exchange between Japan and Mexico and expanded exchange with many Mexican universities.
<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 AY2017 [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 36.8% 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 5.4% 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"> The following personnel plans were implemented to promote 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, 2018 was 41.1% (an increase of 0.8% from the previous year), significantly exceeding the target of 36.8%.</u> <ol style="list-style-type: none"> <u>International recruitment was completely implemented</u> to hire globally competent teachers with excellent educational and research abilities from and outside Japan. To put priority on recruitment of globally competent teachers in its personnel deployment plan, <u>HU continued the quota for "recruitment of foreign and globalized teachers"</u> when it submitted a personnel request. Since AY2014, HU has continued to add foreign administrative staff members. In AY2017, one foreigner was employed as an administrative staff member (one was hired in AY2016). 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, one employee will be sent to each of 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 6.8% of all administrative members as of May 1, 2018 (an increase of 0.4% from the previous year), significantly exceeding the target of 5.4%.</u>
Medium-Term Plan [32]	<p>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.</p>
Plan for AY2017 [32]	<p>Add more degree courses taught in English to achieve the target to increase subjects taught in foreign languages to about 20% of all subjects both in undergraduate and graduate schools in AY2018. Based on the proposal created in AY2016 to divide the Japanese language program into classes by level of Japanese proficiency, HU should make preparations to develop new Japanese language classes by proficiency level which will be offered in AY2018.</p>
Progress	<ul style="list-style-type: none"> The Curriculum Committee of the Headquarters for Education urged the expansion of graduate courses all taught in English. As a result, 5 courses taught in English were added in AY2017, totaling 62 courses. Participants in the "How to Teach in English" FD increased from 34 participants in AY2015 to 65 in AY2016 and to 109 in AY2017. <u>By these efforts, the percentage of subjects taught in foreign languages had reached 25.9% of all subjects of undergraduate and graduate schools as of April 2017, significantly exceeding the target of 20% for AY2018.</u> In AY2018, to further increase subjects taught in English, the School of Integrated Arts and Sciences, Department of Integrated Global Studies, will provide subjects taught in English, and new subjects and 36 liberal arts subjects (three peace education subjects, 30 area subjects and three foundation subjects) will be created. Redesigning of curriculum by Japanese proficiency level In AY2017, the Special Assistant to the President (in charge of Japanese language education) was newly appointed, who supervised the redesigning of the Japanese language study program for foreign students from a holistic viewpoint. The School of Integrated Arts and Sciences, Department of Integrated Global Studies, which was established in AY2018, requires students whose mother tongues are not Japanese to acquire 12 credits of Japanese language subjects. A curriculum corresponding to this requirement was developed. Classes were also added to accommodate the increasing number of foreign students, mainly in the Morito Advanced International Education School 3+1 Program. Consequently, in AY2018, 15 sessions were added to the curricular Japanese language subjects to accept more foreign students. Provision of online Japanese language programs To prepare for the reorganization and opening of the Hiroshima University Morito Advanced International Education School in AY2018, HU promoted Japanese language education by using ICT. It considered provision of online Japanese language training to foreign students before they come to Japan. The "Online Anytime Access Japanese Education System (MyJT)" that was introduced at the end of AY2016 was continued in AY2017. HU encouraged about 130 foreign students to use the system to learn before they came to Japan. To place students into classes by their proficiency level, HU also established a system in which foreign students take an online placement test to measure their Japanese proficiency before they come to Japan. This system will be implemented for foreign students who will come to Japan in April 2018. (As of April 2018, 315 students took the test and enrolled in appropriate Japanese language classes.) By using the online learning system, foreign students can start to improve their Japanese abilities before they come to Japan. By using the results of the Japanese language proficiency test before students come to Japan, HU can start the placement of foreign students earlier and efficiently operate the curriculum.
Medium-Term Plan [34]	<p>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.</p>
Plan for AY2017 [34]	<p>Verify the occupancy of the university-leased mixed-boarding student houses</p>

	Progress	As of November 1, 2017, 1,532 Japanese students lived in mixed-boarding houses with 777 foreign students. To maintain the occupancy by foreign students while reducing the cost burden for the University related to boarding houses, HU established a new boarding house system (designated apartment house for foreign students system), and started the solicitation for April 2018. "Designated apartment houses for foreign students" are apartment houses owned and managed by the Hiroshima University Student Co-op for which living support for tenants is offered (holding an explanation meeting for new tenants, support for procedures to move in and out of the housing, and consultation in English). Foreign students can receive support in English from the student co-op while they occupy these apartment houses.
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 AY2017 [46]	Under the leadership of the President, teachers and researchers should be strategically allocated, by using HU's unique Achievement-motivated Key Performance Indicators (AKPI®), Basic Effort Key Performance Indicators (BKPI®) and other methods that evaluate personal performance of teachers in educational and research activities.
	Progress	<ul style="list-style-type: none"> • HU used Basic Effort Key Performance Indicators (BKPI®) in addition to Achievement-motivated Key Performance Indicators (AKPI®) for allocating teachers (personnel allocation) to important fields from a holistic viewpoint (i.e. enhance the strengths and characteristic functions of individual departments, based on the project to restructure graduate schools and create new graduate schools and other initiatives), in accordance with the <u>Hiroshima University Teacher Deployment Policy for AY2018 and AY2019.</u> • To retain and develop excellent researchers and to promote active educational and research projects, HU's personnel allocation focused on increasing young teachers, female teachers and foreign teachers in all departments. <u>The age structure of teachers was also improved by deploying more Associate Professors, Lecturers, and Assistant Professors.</u> • As of March 31 2018, HU had received 144 personnel requests from individual departments due to the resignation of existing teachers or in accordance with their future personnel plans. HU strategically deployed teachers in responding to 59 requests. (For the full year of AY2017, HU received 189 requests for personnel deployment and strategically deployed teachers in responding to 76 requests. At the meeting to discuss personnel requisitions submitted during the first period in accordance with the Hiroshima University Teacher Deployment Policy for AY2019, only personnel requisitions that needed an early action were accepted, such as requisitions for deployment of young teachers, female teachers and foreign teachers, and teachers necessary for degree programs.)
Medium-Term Objectives [21]		Enhance the international competence of teachers and staff members capable of conducting excellent education and research activities in an international competitive environment.
	Medium-Term Plan [47]	To recruit and retain excellent teachers and administrative staff members from inside 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 AY2017 [47]	To recruit and retain excellent teachers and administrative staff members from inside 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 16.2% of all teachers.
	Progress	<ul style="list-style-type: none"> • To increase the number of teachers who work under the annual compensation system, HU created a leaflet that outlines the annual compensation system and distributed it to teachers scheduled to be hired and existing teachers to make sure that they are aware of the system. As a result, the percentage of teachers who work under the annual compensation system (including specially appointed teachers) had <u>reached 22.3% of all teachers as of March 31, 2018 (an increase of 2.2% from the previous year), significantly exceeding the target of 16.2%. 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 20.2% (an increase of 3.9% from the previous year).</u> • The use status of the cross-appointment system as of March 31, 2018 <u>increased to six agreements (four with Japanese organizations and two with foreign organization), from two agreements in the previous year (one with a Japanese organization and one with a foreign organization).</u> • To promote more use of the cross-appointment system, HU created and communicated the Procedures for the Cross Appointment System. It was also communicated that the cross-appointment system should be used in principle for foreign teachers who are hired for a short term under the labor cost point hiring quota. • The cross-appointment system had been applied only to university teachers and specially appointed teachers. <u>It was decided to expand the application to researchers and education/research promoters (such as coordinators and managers) in AY2019 to further promote educational and research activities and industry-academia collaboration, and to extensively acquire excellent human resources from inside and outside Japan.</u>

	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 hiring tenure-track teachers in accordance with the teacher employment plan.
	Plan for AY2017 [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 30%, by hiring young teachers in accordance with the Teacher Deployment Policy.
	Progress	<ul style="list-style-type: none"> • In AY2016, 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. <u>With this organizational structure, 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.</u> • Under the central management of personnel affairs of teachers, as a part of the effort to recruit diverse human resources, <u>a strategic quota for "young researchers (under 35)" was created and 51 posts were offered to young researchers.</u> <ol style="list-style-type: none"> (1) The Teacher Deployment Policies for AY2017 and AY2018 were reviewed and modified. The labor cost points for "Young Assistant Professor (three-year appointment)" was increased from 5.00 points to 10.00 points, and 16 posts were offered to young assistant professors. (2) HU applied for the National University Reform Subsidies Program (National University Young Researcher Support Program) for AY2017. <u>Subsidies for 21 posts were approved.</u> (3) HU planned the Young Teacher Recruitment Acceleration Project (for the tenure-track system), using the funds in the Reserve for Special Purpose as of the end of FY2016 and hired six teachers. (4) By utilizing the subsidies from the MEXT "Building of Consortia for the Development of Human Resources in Science and Technology" project (the 8th term (the first half of AY2018), and the 9th term (the second half of AY2018)) (for the tenure-track system), six researchers were hired. (5) By utilizing subsidies from the MEXT "Leading Initiative for Excellent Young Researchers" program (for researchers newly hired in AY2018) (for the tenure-track system), HU decided to select two candidates and apply for the program. • By these programs, as of March 31, 2018, the percentage of young teachers (under 40) among all full-time teachers had increased to 23.1%, a decrease of 1.2% from the previous year (it was 20.3% for teachers to whom the accumulation of operating cost subsidies for severance benefits applies). The target of 30% could not be attained mainly because fewer full-time researchers resigned and the number of existing researchers who reached the age of 40 increased from the previous year. • <u>As of March 31, 2018, the percentage of tenure-track teachers among all full-time teachers increased to 12.5% (an increase of 6.0% from the previous year).</u> • HU will conduct the following activities to achieve the objectives of the Medium-Term Plan: <ol style="list-style-type: none"> (1) To vitalize its educational and research activities at HU, retention and development of excellent teachers is necessary. To achieve this, teachers should be evaluated fairly and appropriately regarding their abilities and performance, and the evaluation should be reflected in their recruitment and promotion. In particular, HU should develop young researchers so that they can start their career as a university teacher with ease of mind and improve their abilities as a teacher. To realize this, HU developed the "Policy for Retaining and Developing Excellent University Teachers - To Become a university where young teachers play active roles with ease of mind." In accordance with this policy, HU should recruit tenure-track teachers. (2) Under the central management of personnel affairs of teachers, and in accordance with the Hiroshima University Teacher Deployment Policy, a request to replace a post with a young teacher should be preferentially satisfied. In accordance with the policy in (1) above, all departments should offer the tenure-track system (with a contract term of five to seven years) to young researchers who are newly hired by the University to promote medium- and long-term employment of young researchers.
	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 percentages of female teachers and female managers should be increased to about 20%.

Plan for AY2017 [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 16.6% of all teachers, and female managers should be increased to about 14.5% of all managers by implementing personnel deployment in accordance with the Teacher Deployment Policy.

Progress

○ 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
<p>[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.</p>	<p>[44] Based on opinions and reviews received from external reviewers (including one or more external members of the Administrative Council), the results of a third party's evaluation by the Evaluation Committee and the President's interviews with deans and directors, necessary improvement should be implemented. The actions that have been taken by individual departments should be verified and the effectiveness of the PDCA cycle should be improved.</p>	IV
<p>[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.</p>	<p>[45] Authority given to the President, executives, vice presidents and other officers, and the functions of individual operational organizations should be reviewed and modified as needed. 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, and improvement and expansion of their functions should be implemented as needed.</p>	III
<p>[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>[46] Under the leadership of the President, teachers and researchers should be strategically allocated, by using HU's unique Achievement-motivated Key Performance Indicators (AKPI®), Basic Effort Key Performance Indicators (BKPI®) and other methods that evaluate personal performance of teachers in educational and research activities.</p>	IV
<p>[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>[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 16.2% of all teachers.</p>	IV

<p>[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>[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 30%, by implementing personnel deployment in accordance with the Teacher Deployment Policy.</p>	<p>III</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] HU should create environments that encourage teachers and administrative staff members to use programs designed for keeping a Work-Life Balance, through active communication and holding seminars about these programs. By</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 of the University, based on the population of students 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 strategic allocation of teachers to important educational and research fields. Educational and research organizations should also be reorganized and their enrollment quotas should be reviewed.</p>	<p>[52] Consider reorganizing the educational and research organizations to strengthen the functions of the humanity and social science/interdisciplinary fields and the science and engineering fields. Enrollment quotas of individual departments should be reviewed and modified. Make preparations for the establishment of the School of Informatics and Data Science (tentative name) and the "Department of Integrated Global Studies" (tentative name) of the School of Integrated Arts and Sciences in AY2018.</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 life and biological science fields that lead to enhancement of the functions of the fields.</p>	IV
<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] For the Professional Development Program for Teachers and School Leaders, a system to verify post-completion of grade progression should be established.</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

(1) Notes relating to improvement of operation and efficiency

Strengthening of governance

i) Strengthen the risk management system

Under the leadership of the President, HU implemented school reforms mainly in the area of reinforcement of its educational and research abilities. HU also strengthened its risk management system. To address compliance issues on information security and the prevention of misconduct in research activities, HU newly appointed the Vice President in Charge of Information and the Vice President in Charge of Research Ethics.

ii) Providing opportunities to share information and exchange opinions relating to the university operations

To strengthen the power of the University, it is essential to retain and develop excellent teachers. To realize this, the "Policy for Retaining and Developing Excellent University Teachers - To become a university where young teachers play active roles with ease of mind" was reported in the meeting of the Executive Board on October 24, 2017.

It was proposed in the report that HU should further deliberate on a proper operation system for the new educational and research organizations formed as a part of the restructuring of the graduate schools. For this deliberation, HU formed the "Working Group for Deliberation of a Proper Operation System for the New Educational and Research Organization" under the Executive Board. The Working Group had a total of 17 deliberation meetings. It also conducted two all-departments opinion exchange meetings and four opinion exchange meetings with individual graduate schools to share information and exchange opinions.

iii) Selection and performance evaluation of the President

The term of office of the present President will expire at the end of AY2018. The President Selection Committee held five meetings in FY2017. In the fifth meeting, the Committee conducted a performance evaluation of the President, in accordance with the requirement stipulated under the applicable law that was revised in April 2015 in connection with the reform of university governance. As a result of the evaluation, the Committee determined that the performance of the President was excellent.

In this meeting, following the evaluation, the Committee discussed the reappointment of the President and determined that the reappointment of the President is acceptable and approved him as a candidate for the President for the next term.

iv) Improvement of operation of the organization [Project No. 44]

- To further improve the quality of educational and research activities by enhancing the characteristics of individual departments and implementing measures to improve and eliminate identified problems, external reviewers (including one or more external members of the Administrative Council) conducted evaluation of 18 departments in September 2017. Based on the results of the evaluation by these external reviewers (including one or more external members of the Administrative Council), the results of a third party's evaluation by the Evaluation Committee of the University and the President's interviews with deans and directors, the actions that have been taken by individual departments were verified to improve the effectiveness of the PDCA cycle.
- To reflect constructive opinions of students in the operation of the University as a corporation, an opinion exchange meeting was held in September 2017 between external reviewers (including one or more external members of the Administrative Council) and

students. A request was presented by the students that the open hours of the library should be extended to 22:00. In April 2018, in response to this request, the open hours of the library were extended to 24:00 to provide a place where students can study at night.

v) Strategic allocation of internal resources [Project No. 46]

Please refer to "Actions for Strategic and Ambitious Objectives and Plans" on p. 32.

vi) Acquisition of diverse and excellent human resources [Project No. 47]

Please refer to "Actions for Strategic and Ambitious Objectives and Plans" on p. 32.

Development of administrative staff members

i) 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 May 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

Promotion of a Work-Life Balance

Activities to promote a Work-Life Balance and diversity in research environment

[Project No. 50]

- HU examined the use statuses of its Work-Life Balance support programs by employees.

In this restructuring initiative, HU conducted initiative actions for future reform of graduate schools and for promoting leading interdisciplinary and cross-field research education and research activities. HU established cross-disciplinary degree programs in each graduate school. It also started a Leading International Project Group (tentative name), which is comprised of graduate schools of HU, research organizations in and outside Japan, enterprises, and other organizations, to establish a system that enables interdisciplinary and cross-field research education and research activities that utilize diversified research abilities and combined powers of participating organizations.

Actions to address problems pointed out in the AY2016 evaluation

Delivery of letters of acceptance/failure to wrong addresses in the admission examination with commendation

In the admission examination with commendation for AY2017 enrollment (the examination was conducted during AY2016), some letters of acceptance/failure were delivered to wrong addresses. To prevent the same mistake from happening in the first and second sessions of general admission examinations for AY2017 enrollment (these examinations were conducted during AY2016), HU immediately took actions and revised the checking system as follows:

(1) The Admission Examination Group checked the data of all applicants that were input into the computer

The operation procedure manual was modified. By following the revised manual, two checkers compared the applicant data created in the online application system with the applicant data that were input into the Admission Examination Information System.

(2) HU hired a business operator to check the registered address data of all applicants against the addresses shown on the application forms.

For general admission examinations taken by a large number of applicants, an HU staff member brought the printed list of address data that were input into the Admission Examination Information System and application forms to a contracted business operator and checked the data consistency by reading out the data between the checkers.

(3) To prevent the recurrence of the same mistake, the systems were modified in AY2017.

The online application system and the Admission Examination Information System were modified so that data in the online application system can be directly transferred to the Admission Examination Information System without manual operations by employees in the Admission Examination Group.

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] In accordance with the funding strategy, funding measures should be developed for each fund type. Conduct an investigation of the movement of competitive research funds in and outside Japan. Based on an analysis of the investigation, the current funding strategy should be reviewed.	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, by using the verification method developed in AY2016, the effectiveness of solicitation strategies, such as the donation methods and the advertisements, should be developed and the results of the verification should be compiled into a report.	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.	III

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

(2) Notes relating to improvement of financial conditions

Activities to expand external research funds and internal revenues

i) Development and implementation of an "External Funding Strategy" [Project No. 56]

In accordance with the External Funding Strategy developed in AY2016, HU conducted various activities to generally increase funding from external sources, including the adoption of the hourly-rate method for indirect costs of joint research activities, expansion of the Title Sponsor Fund, and commencement of the acceptance of clinical trials of regenerative medicines and other medicines. As a result, the amount of the external fund per full-time teacher acquired in AY2017 was 6,530,000 yen, an increase to about 110% of the amount at the end of the Second Medium-Term Period (the external fund per full-time teacher in AY2015 was 5,950,000 yen).

ii) Cost reduction [Project No. 58]

- The ratio of general administrative expenses to operating costs reported in the financial report for AY2016 was calculated for each segment (i.e. unit for accounting purposes), and a financial analysis of causes for the increase/decrease from the previous year and other matters was implemented. The results of the analysis were reported in the meeting of the Group of Accounting Controllers held in June 2017, a meeting of accounting controllers from all departments, to solidify their understanding regarding budget allocation and use of the budget to achieve reduction of the general administrative expense ratio.

- To reduce the general administrative expense ratio, in the initial budget for AY2017, 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 in the Corporate Headquarters) (annual reduction by 98,548,000 yen).

In the initial budget for AY2018 that was created in March 2018, 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 AY2017 (6% reduction in the Corporate Headquarters) (annual reduction by 96,118,000 yen).

- Electricity service contracts of other universities and their actual costs were examined and analyzed. Based on the results of these examinations and analyses, HU concluded long-term (five years) service contracts for the Higashi-Hiroshima Campus and the Kasumi Campus to obtain a higher discount for long-term service and a higher discount for a large account. It is expected that the electricity cost will be reduced by about 50 million yen a year in and after AY2018.

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

- To increase revenues from effective use of its owned assets, HU rents with charge some facilities to outsiders for short-time use. HU collected and verified information on the use status of these facilities offered for short-time use. In AY2017, HU adopted an incentive system to allocate 60% of the revenues received from renting these facilities to controlling departments of these facilities. As a result, the annual revenues increased by 2,700,000 yen (a 23% increase) from AY2016. To further encourage the short-time use of these facilities, in March 2018, information about this system was posted on the website of Hiroshima University, open to public viewers. When posting the information, HU set a policy to design the web pages in such a way that it is easy for visitors who are outsiders to find information. They were designed so that information of photos of the buildings and rooms for rent, rental fees,

capacity of the rental facilities, fixtures and equipment, the application procedures, and other related information can be quickly viewed from a table of rental facilities. In addition, to make it easier for visitors to find information, facilities are sorted by capacity and by department.

- As for revenues from lending spaces for vending machines, HU had had contracts with two vending machine operators because the execution dates of these contracts were different. Upon the renewal of these contracts, they were put together into one contract. As a result, the commission fees received for lending spaces for vending machines increased 11%. It is expected that revenues in AY2018 will increase by 7,500,000 yen from AY2017. These revenues received for lending spaces for vending machines were appropriated to cover a part of the costs of the START overseas short-stay program for students in the first year who did not have much overseas experience.

Activities to solicit donations

i) Send the leaflets to more alumni organizations, based on the results of the verification of the donation methods, the effect of the publicity activities, and other matters [Project No. 57]

When newsletters of alumni organizations of the School/Graduate School of Medicine and the School/Graduate School of Dentistry were sent to graduates in AY2016, the leaflets of the Hiroshima University Title Sponsor Fund and the Hiroshima University Fund were enclosed. Because this arrangement had some positive effect on fund-raising, in AY2017, these leaflets were also attached to newsletters of alumni organizations of the School/Graduate School of Integrated Arts and Sciences, the Program of Health Science (School of Medicine)/the Health Science Major (Graduate School of Biomedical &

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
[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 should be set 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.	[60] To maintain and improve the quality of its educational and research activities, by using the evaluation items set in the previous year, HU should conduct a self-check and evaluation. Based on the results of the self-check and evaluation, an external evaluation should also be performed by the external members of the Administrative Council (including foreign members).	IV

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	[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. [31] Implement publicity activities that contribute to enhancement of the recognition and reputation of HU in and outside Japan.
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Medium-Term Plan	Annual Plan	Progress
[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.	[61] To disclose and communicate the results of the self-check and evaluation of individual departments in an easy-to-understand manner, the effectiveness of communication via the website should be verified. For such verification, utilize outsiders' responses to questionnaires related to public relations and other appropriate methods.	III
[62] To enhance the recognition and reputation of HU in and outside Japan, HU should utilize its website, social media and other appropriate means to communicate information relating to its educational, research and medical activities, social activities, and their excellent achievements, focusing on communication from users' viewpoints.	[62] Information should be organized by stakeholders so that different types of stakeholders can easily access necessary information. The functions of the Hiroshima University Institutional Repository should be expanded. Publication of books by the Hiroshima University Publication Business should also be expanded to communicate research results of Hiroshima University to the public.	III
[63] Enhance the reputation of HU, by actively posting articles in foreign academic magazines and educational and research information magazines, and by releasing information to other foreign media.	[63] By utilizing the information communication system established in AY2016, post more actively articles and release information relating to excellent research results of HU in foreign academic magazines and other foreign media.	IV

(3) Notes 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 Plan” on pp. 25 and 26.
- 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 Plan” on pp. 25 and 26.

examinations, HU thoroughly reviewed the method to provide information and improved its official website.

In October 2017, HU started the Public Relations Student Directors system to reflect opinions of students in its public relations activities. HU appointed 23 students as the first Student Directors.

The Public Relations Student Directors wrote articles in friendly writing styles from the viewpoints of students, such as an article targeting high school students featuring interviews with HU students, introduction of alumni (published in the "HU-PLUS" newsletter), report on HU students who play active roles in the community, and introduction of unique researchers in HU. These articles were posted on the official website of Hiroshima University and in other publications.

v) Active use of SNS for public relations activities [Project No. 62]

In December 2017, HU started its official Instagram. Targeting those in their teens and early twenties, HU posted impressive photos to attract the interest of young people. In about four months, followers of the HU account reached 1,346 follows as of March 31, 2018. Followers of major national universities are as follows: 3,860 followers for Osaka University (started use in August 2015), 2,023 followers for Tsukuba University (started use in February 2017), and 1,076 followers for Kyoto University (started use in July 2017). Compared with these universities, it seems that the account of Hiroshima University has attracted relatively strong interest. (The follower data for these universities were as of March 6, 2018.)

HU also continued Twitter and Facebook (in Japanese and English) to distribute information to various users. As of March 31, 2018, HU has 11,753 followers on Twitter (compared to 10,692 in AY2016), 8,380 followers on Facebook (in Japanese) (compared to 6,765 in AY2016), and 1,014 followers on Facebook (in English) (compared to 776 in AY2016).

Followers of major national universities on Twitter are as follows: 29,575 followers for Tokyo University, 17,046 followers for Osaka University, and 13,352 followers for Kyoto University. Followers of major national universities on Facebook are as follows: 33,992 followers for Tokyo University, 18,458 followers for Kyoto University, and 14,512 followers for Tsukuba University.

vi) Active international public relations [Project No. 63]

To actively communicate the research results and activities of Hiroshima University to society, HU started sending articles to newsletters for overseas readers. It sent articles to "QS News-2-Wow-U News Letter," and the "JSPS San Francisco Newsletter" published by the Japan Society for the Promotion of Science on a continuous basis (QS: 14 sent, 2 published; JSPS: 12 sent, 9 published).

HU also issued HU UPDATE (Hiroshima University e-mail magazine) three times during AY2017, which delivered information about results of research activities at HU and other latest topics in English. HU UPDATE was actively utilized in public relations activities. It was distributed at international exchange events, and was also posted on the official website of HU (in English). HU UPDATE was also e-mailed to overseas partner universities under inter-university exchange agreements (about 220 schools) and presidents, directors and other officers of other overseas universities (about 80 schools). Teachers of HU also sent HU UPDATE to their friends overseas in the research and education fields. Through these active publicity activities, HU strove to enhance its reputation.

As an effort to strengthen its ability to communicate information to international society, HU

posted English press release articles about its research activities on EurekAlert! and AlphaGalileo, which are leading online platforms for an international scientific news service, to enhance its international reputation (EurekAlert!: 11 releases/35,347 viewers in total (3,213 viewers on average); AlphaGalileo: 9 releases/26,506 viewers in total (2,945 viewers on average).

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 should be conducted.
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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 renovate the Dentistry Laboratory Building C to improve and maintain the educational and research environment. It should also 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.	III
[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. Shared-use spaces for all departments should be expanded, based on teachers' requests for research space and an examination of the actual use statuses of facilities.	IV

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 and health 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 of the previous year 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
[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.	[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 recognizes that he/she is legally responsible for observing applicable laws and regulations and is subject to disciplinary punishment in the event of non-compliance.	III
[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.	[68] To secure proper management of personal information, including information that contains a personal identification number, HU should improve the effectiveness of its internal audit, training and education of students, teachers and other employees, and verify them before they will be implemented in AY2018.	III
[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, the Procedures for Information Security Management and the Guideline for Using the Cloud Service of Hiroshima University.	[69] The transfer of the main server for administrative operations to cloud computing implemented in AY2016 should be evaluated and analyzed. Based on the evaluation and analysis of risks relating to the information system implemented in FY2016, measures to strengthen information security should be developed, taking into account the priority of problems, in accordance with the Information Security Policy, the Procedures for Information Security Management and the Guideline for Using the Cloud Service of Hiroshima University.	IV

(4) Notes relating to other operation-related matters

Activities relating to facility management

i) Facility improvement in accordance with the Campus Master Plan [Project No. 64]

In accordance with the action plan of the Campus Master Plan, the following works were conducted to create spaces and maintain safe educational and research environments:

(Kasumi campus) Renovation of Dentistry Laboratory Building C, renovation of the Health Service Center, and replacement of batteries in the switch room of the Clinical Management Building;

(Higashi-Hiroshima Campus) Renovation of the Graduate School of Engineering Building D4 and water-proof roof renovation of the building of the Graduate School of Advanced Study of Matter,

(Kure) Replacement of a chain of the floating pier,

(Higashi-Senda Campus) Water-proof roof renovation of the General School Building S

(Shinonome) Replacement of lighting fixtures in the library of the junior high school.

Through these works, HU improved its facilities to respond to the needs of more advanced and diversified education and research activities.

ii) 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. HU implemented other energy-saving measures, such as replacement of old air-conditioning units with high-efficiency units, replacement of lights with LED lights, replacement of transformers with high-efficiency transformers, and adoption of double insulating glass. As a result of these measures, HU saved about 56,400 kWh of energy in AY2017, compared with AY2016.

iii) Effective use, maintenance and management of facilities (including preventive maintenance) [Project No. 65]

(i) Activities related to the research space request/registration system

To improve the balance of areas allocated to teachers for their educational and research

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

iv) 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 February to March 2018, 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.

To comply with the revised Guideline for Management of Administrative Documents issued by the Cabinet Office, in AY2017 HU reviewed the method for managing its corporate documents and other related matters. Consequently, in the explanation meeting on April 17, 2018, the method for managing corporate documents and other matters were communicated to administrative staff members.

Activities to enhance information security

i) Operation of the rules relating to information security [Project No. 69]

• Activities to strengthen the information security system

- (i) The position of the Vice President in Charge of Information was created in April 2017.
- (ii) The Hiroshima University Information Security Regulations were revised. The Vice President in Charge of Information assumes, on a full-time basis, the role of the Chief Information Security Officer, which had been concurrently served by an Executive.
- (iii) The Vice President in Charge of Information proposed information security measures to officers, deans and directors of departments at the round-table meetings of executives and on other occasions to exchange opinions, and conducted enlightenment activities.

Based on these activities, HU conducted an information security education program (classroom lecture) in September 2017 for officers, deans and directors of departments (with an attendance rate of 94.3%).

• Self-check and evaluation of information security, and internal audit and external audit

- (i) A self-check and evaluation of information security was conducted. As a result of thorough communication, the implementation rate of the self-check and evaluation improved by 2.6%. [89.8% (15,586 persons) in AY2016 → 92.4% (16,007 persons in AY2017)]
- (ii) An internal audit of the hospital information system was implemented in November 2017. It was confirmed by this internal audit that the system has been properly and continuously operated in accordance with the applicable rules and regulations.
- (iii) An internal audit of the financial accounting system was implemented in March 2018. It was confirmed by this internal audit that the system has been properly and continuously operated in accordance with the applicable rules and regulations.
- (iv) An internal audit in accordance with the certification of Information Security Management System (ISMS) (ISO/IEC 27001, ISO/IEC 27017: Service Customer) was implemented in February 2018.

Based on the results of this audit, HU made improvements to the management system within the organization and received a certification renewal inspection of the Japan Audit and Certification Organization for Environment and Quality (JACO) in February 2018. The information security management system of HU was evaluated as being operated effectively and continuously, and passed the renewal inspection.

• Development of a plan for information security incident response training

- (i) Based on the Hiroshima University Information Security Basic Plan developed in March 2017, HU developed an implementation plan for "information security incident response training" in August 2017, which is comprised of educational lectures, drills and evaluation, to prepare for the greatest threat of a potential external attack (targeted attack). In accordance with this plan, response drills were conducted in October and November 2017.

ii) Enhancement of information security [Program No. 69]

• Proper management of important information

- (i) In May 2017, to prevent unauthorized access, the system was redesigned to block access to all internal servers from outside the University.
- (ii) At the MEXT Related Parties Chief Information Security Officers Conference held in May 2017, the Vice President in Charge of Information of HU gave a lecture on "Proper management of IP addresses and a system to prevent installation of unauthorized servers" and provided information to participants from other universities and organizations about HU's information security management. In August 2017, the Vice President in Charge of Information reported in the meeting of the HU Information Security Committee the information he acquired at the MEXT Related Parties Chief Information Security Officers Conference and strove for further improvement of information security management at HU.

iii) Response to information security incidents [Project No. 69]

• Provision of education and training (case study of incident prevention)

- (i) In September 2017, HU provided a total of eleven information security training sessions to enhance awareness and knowledge of teachers and administrative staff members regarding information security. A total of 739 people have taken this training program.

Information Security Compliance Education (Follow-up Course) was provided to teachers and administrative employees who have worked at the University for longer than one year (5,136 people) (attendance rate: 96.6%).

To ensure that individuals can swiftly take appropriate actions when an incident occurs, information security response training was conducted, using Blackboard Learn R9.1 (LMS), which was intended for all 3,496 full-time teachers and employees. This training was comprised of two steps: a prior lecture and then a drill to respond to an incident. In October 2017, participants learned a method to check the update status of the OS and the anti-virus software via LMS [Attendance rate: 56.8%]. On a later date (November 2017), when they received the announcement to start a drill, the persons who took the prior lecture confirmed the update status on LMS and reported the results of the confirmation. The participation rate was 54.9%.

- (ii) HU provided Information Security Compliance Education (the Freshman Course for new enrollments, and the Follow-up Course for existing students), which was intended for all HU students (16,046 students). The participation rate of each course was 92.2% and 94.8%, respectively.

- Establishment of procedures for quick responses (examples of activities to minimize damage)
 - (i) HU participates in the NII SECURITY OPERATION COLLABORATION SERVICES (NII-SOCS) of the National Institute of Informatics. In AY2017, HU started a system in which if HU receives a notification from NII-SOCS of suspicion of an unauthorized communication, HU cooperates with the telecommunications carrier to block communications from the notified IP address within one hour from receipt of the notification.

In AY2017, HU received 192 notifications from NII-SOCS. It responded to all of these incidents in accordance with this system. As a result, no information security incidents have occurred in AY2017.
 - (ii) In February 2018, HU provided the CSIRT (Computer Security Incident Response Team) members with two sessions of an education and training program to refresh their understanding of the procedures to respond to a notification of unauthorized communication and to respond to an information security incident. The participation rate was 100% for the first session and 91.7% for the second session. As a measure to minimize damage, this training will be continued in AY2018.

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 Attachment	Annual Plan based on the Medium-Term Plan Attachment	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.	Not applicable

IV. Plan to assign or provide as collateral important assets

Medium-Term Plan Attachment	Annual Plan based on the Medium-Term Plan Attachment	Actual Results
1. Plan to assign 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 ²) should be assigned. (2) The land for the Hatsukaichi Apartment Complex (2585-9, Jigozen 5-chome, Hatsukaichi City, Hiroshima, 332.73 m ²) 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.	In connection with the long-term borrowing of funds used for improvement works of Hiroshima University Hospital and maintenance of special medical equipment at the Hospital, the land of the HU Kasumi Apartment Complex should be provided as collateral for the borrowing.	In connection with the long-term borrowing of funds used for maintenance of basic and environmental facilities at the Hospital (renewal of the disaster control facilities), and maintenance of equipment at the Hospital (the high-performance computer tomography system), the land of the HU Kasumi Apartment Complex was provided as collateral for the borrowing.

V. Appropriation of surpluses

Medium-Term Plan Attachment	Annual Plan based on the Medium-Term Plan Attachment	Actual Results
<p>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.</p>	<p>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.</p>	<p>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. The surplus reported in AY2016 (1,053,406,030 yen) will be reversed in AY2018 and thereafter will be appropriated to the program to accelerate hiring of young researchers and the program to improve the educational and research environment.</p>

VI. Others 2. Personnel plan

Medium-Term Plan Attachment	Annual Plan based on the Medium-Term Plan Attachment	Actual Results
<p>(1) Strategic allocation of internal resources Under the leadership of the President, 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>(2) Acquisition of diverse and excellent human resources (i) To strengthen its education and research abilities, HU should hire and retain excellent human resources from within and outside Japan. To realize this, more flexible personnel and compensation systems should be adopted, such as an annual compensation system or a mixed compensation system. HU should also increase teachers with foreign nationalities or with teaching or research experience in foreign countries and young teachers (under 40).</p> <p>(ii) By recruitment, transfer, promotion, training and other activities in accordance with the administrative personnel development plan, HU should increase administrative staff members with foreign nationalities or with working experience in foreign countries and develop employees who can provide stronger support to educational and research activities.</p> <p>(3) Realize gender equality (i) Based on the basic policy of the Hiroshima University Gender Equality Declaration, HU should promote a Work-Life Balance of teachers and administrative staff members. 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 in AY2019.</p>	<p>(1) Strategic allocation of internal resources 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®), the Basic Effort Key Performance Indicators (BKPI®) and other methods that evaluate personal performance of teachers in educational and research activities.</p> <p>(2) Acquisition of diverse and excellent human resources (i) To strengthen its education and research abilities, HU should hire and retain excellent human resources from within and outside Japan. To realize this, more flexible personnel and compensation systems should be adopted, such as an annual compensation system or a mixed compensation system. By planning and implementing personnel deployment in accordance with the Teacher Deployment Policy, HU should increase teachers who work under the annual compensation system, teachers with foreign nationalities or with teaching or research experience in foreign countries and young teachers (under 40).</p> <p>(ii) By recruitment, transfer, promotion, training and other activities in accordance with the administrative personnel development plan, HU should develop administrative staff members. As a part of this plan, HU should also recruit foreign staff members and send Japanese staff members abroad for training to increase the number of administrative staff members with foreign nationalities or with working experience in foreign countries.</p> <p>(3) Realize gender equality (i) 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 should verify the use status of these programs.</p>	<p>Please refer to "3. Actions for Strategic and Ambitious Objectives and Plans" on p. 32.</p> <p>Please refer to "3. Actions for Strategic and Ambitious Objectives and Plans" on pp. 30, 31, 32 and 33.</p> <p>Please refer to "3. Actions for Strategic and Ambitious Objectives and Plans" on pp. 30 and 31. Please refer to "(1) Notes relating to improvement of operation and efficiency" on pp. 39 and 40.</p> <p>Please refer to "(1) Notes relating to improvement of operation and efficiency" on p. 40.</p>

<p>(ii) To actively post female teachers to decision-maker positions relating to the management of the University, the percentages of female teachers and female managers should be increased.</p>	<p>(ii) To actively post female teachers to decision-maker positions relating to the management of the University, by implementing personnel deployment in accordance with the Teacher Deployment Policy, the percentage of female teachers and female managers should be increased.</p>	<p>Please refer to "3. Actions for Strategic and Ambitious Objectives and Plans" on pp. 33 and 34.</p>
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○ 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
[Bachelor's Courses]	(a)	(b)	(b)/(a)×100
	(students)	(students)	(%)
School of Integrated Arts and Sciences, Integrated Arts and Sciences	520	581	111.7
School of Letters, Humanities	580	649	111.8
School of Education, Cluster 1 (School Education)	680	717	105.4
Cluster 2 (Science, Technology and Society Education)	352	379	107.6
Cluster 3 (Language and Culture Education)	336	361	107.4
Cluster 4 (Lifelong Activities Education)	220	234	106.3
Cluster 5 (Fundamentals for Education and Human Development)	352	385	109.3
Total	1,940	2,076	107.0
School of Law, Law Day Program	580	625	107.7
Evening Main Program	180	206	114.4
Total	760	831	109.3
School of Economics, Economics Day Program	620	682	110.0
Evening Main Program	260	293	112.6
Total	880	975	110.7
School of Science, Mathematics	188	213	113.2
Physical Science	264	298	112.8
Chemistry	236	267	113.1
Bioscience	136	148	108.8
Earth and Planet Systems Science	96	100	104.1
Transfer in the third year within the Department	20	11	55.0
Total	940	1,037	110.3
School of Medicine, Medicine	717	732	102.0
Health Sciences	480	516	107.5
Total	1,197	1,248	104.2
School of Dentistry, Dentistry	318	331	104.0
Oral Health Sciences	160	169	105.6
Total	478	500	104.6
School of Pharmaceutical Sciences, Pharmaceutical Science	228	236	103.5
Medicinal Sciences	88	98	111.3
Total	316	334	105.6

Name of Course of Undergraduate or Graduate School	Enrollment Quota	Actual Enrollment	Enrollment Rate
[Bachelor's Courses]	(a)	(b)	(b)/(a)×100
	(students)	(students)	(%)
School of Engineering, Cluster I (Mechanical System Engineering)	420	482	114.7
Cluster II (Electrical, Computer and Systems Engineering)	540	590	109.2
Cluster 3 (Chemistry, Biotechnology and Process Engineering)	460	512	111.3
Cluster 4 (Social and Environmental Engineering)	540	583	107.9
Transfer in the third year within the Department	20	37	185.0
Total	1,980	2,204	111.3
School of Applied Biological Science, Applied Biological Science	380	452	118.9
Bachelor's Course Total	9,971	10,887	109.1
[Master's Courses]			
Graduate School of Integrated Arts and Sciences, Integrated Arts and Sciences	120	152	126.6
Graduate School of Letters, Humanities	128	167	130.4
Graduate School of Education, Learning and Curriculum Development	40	47	117.5
Curriculum and Instruction Sciences	160	173	108.1
Teaching Japanese as a Second Language	28	31	110.7
Educational Studies	28	30	107.1
Psychology	38	44	115.7
Higher Education	10	13	130.0
Special Support Education	(Note 1)	1	
Scientific and Cultural Educational Studies	(Note 1)	2	
Language Culture Education	(Note 1)	7	
Lifelong Activities Education	(Note 1)	5	
Higher Education Development	(Note 1)	3	
Total	304	356	117.1
Graduate School of Social Sciences, Law and Politics	48	63	131.2
Economics	56	48	85.7
Management Studies	56	48	85.7
Total	160	159	99.3

	(a)	(b)	(b)/(a)×100	[Doctoral Courses]	(a)	(b)	(b)/(a)×100
	(students)	(students)	(%)		(students)	(students)	(%)
Graduate School of Science, Mathematics	44	45	102.2	Graduate School of Integrated Arts and Sciences, Integrated Arts and Sciences	60	94	156.6
Physical Science	60	74	123.3				
Chemistry	46	94	204.3	Graduate School of Letters, Humanities	96	107	111.4
Bioscience	48	44	91.6				

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	30	142.8
Transportation and Environmental Systems	21	19	90.4
Architecture	21	14	66.6
Social Environmental Systems		1	
Total	243	214	88.0
Graduate School of Biosphere Science, Bioresource Science	36	43	119.4
Biofunctional Science and Technology	36	26	72.2
Environmental Dynamics and Management	27	18	66.6
Total	99	87	87.8
Graduate School of Biomedical Sciences and Graduate School of Health Sciences, Biomedical Research		40	
Applied Biomedicine		21	
Oral Health Sciences		2	
Total		63	
Graduate School for International Development and Cooperation, Development Science	66	62	93.9
Educational Development and Cultural and Regional Studies	42	38	90.4
Total	108	100	92.5
Doctoral Course Total	1,567	1,805	115.1
[Expert Degree Courses]			
Hiroshima University Law School, Law	76	48	63.1
Graduate School of Education, Professional Development Program for Teachers and School Leaders	40	40	100.0
Expert Degree Course Total	116	88	75.8
[Special Course]			
Special Course on Special Support Education	30	17	56.6
Special Course Total	30	17	56.6

Name of Course of Undergraduate or Graduate School	Enrollment Quota	Actual Enrollment	Enrollment Rate
	(a)	(b)	(b)/(a)×100
	(students)	(students)	(%)
[Attached Schools]			
Hiroshima University Elementary School --- 12 classes	400	379	94.7
Hiroshima University Elementary School, Shinonome --- 18 classes	472	430	91.1
Hiroshima University Elementary School, Mihara--- 12 classes	400	373	93.2
Hiroshima University Junior High School --- 9 classes	360	385	106.9
Hiroshima University Junior High School, Shinonome --- 9 classes	264	249	94.3
Hiroshima University Junior High School, Mihara --- 6 classes	240	238	99.1
Hiroshima University Junior High School, Fukuyama --- 9 classes	360	366	101.6
Hiroshima University Senior High School --- 15 classes	600	612	102.0
Hiroshima University Senior High School, Fukuyama --- 15 classes	600	604	100.6
Hiroshima University Kindergarten --- 3 classes	80	76	95.0
Hiroshima University Kindergarten, Mihara --- 3 classes	80	77	96.2
Attached School Total	3,856	3,789	98.2

(Note 1) Enrollments were no longer solicited for these courses because in AY2016, 1) Special Support Education, 2) Scientific and Cultural Educational Studies, 3) Language Culture Education, and 4) Lifelong Activities Education and Higher Education Development Courses (master's courses, Graduate School of Education) were respectively reorganized into 1) Learning and Curriculum Development, 2) Curriculum and Instruction Sciences, 3) Teaching Japanese as a Second Language, and 4) Higher Education (master's courses).

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

○ 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 109.1%.

The overall enrollment rate of master's courses was generally good at 129.7%.

The overall enrollment rate of doctoral courses was generally good at 115.1%.

The enrollment rate of expert degree courses was 75.8%, far below the quota.

The enrollment rate of the special course was 56.6%, far below the quota.

(2) Major reasons for enrollment rates not exceeding 90%

[Expert Degree Courses]

Hiroshima University Law School, Law

(Reasons for under-enrollment)

(1) The numbers of applicants and enrollments in law schools continue to decline in general (students enrolled in law schools in Japan decreased by 153 persons from the previous year).

(2) Successful applicants to the HU Law School who have also passed the examination of another law school in Tokyo tend to choose the Tokyo law school as its competition rate is declining.

(3) Tuition fees of Hiroshima University (a national university) are relatively higher than those of private universities (because they offer programs to exempt all or 50% of tuition fees

(Actions)

(Actions)

[Special Course]

Special Course on Special Support Education

(Reasons for under-enrollment)

(1) Due to financial conditions of local governments and other reasons, the number of teachers dispatched by local education boards has been declining, (2) all local governments have employed more teachers recently, and (3) local governments have employed more temporary teachers, anticipating the 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