Report on Operational Performance

Hiroshima University



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Overview of Hiroshima University

(1) Current Profile (as of the end of AY2018)

(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: 12

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, School of Informatics and Data 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 Marine Biological Laboratory, Graduate School of Science* 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: 26

Research Institute for Nanodevice and Bio Systems*, Research Institute for Higher Education, Information Media Center, Natural Science Center for Basic Research and Development, Morito Institute of Global Higher Education, Center for Collaborative Research & Community Cooperation, Center for the Study of International Cooperation in Education, Health Service Center, Center for Peace, 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, Research Center for Diversity and Inclusion, Amphibian Research Center, Translational Research Center, Resilience Research Center, Digital Monozukuri (Manufacturing) Education 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;

(2) Basic Objectives of Hiroshima University

1 Principles

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

2. Basic Policy

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

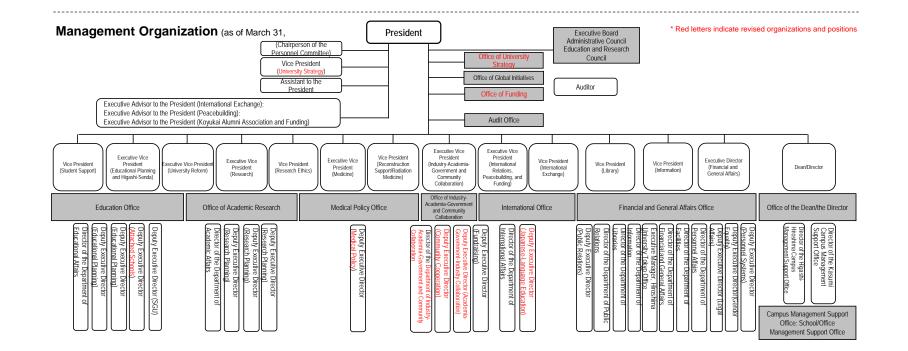
HU also strives to serve as a national center representing Japan and leading the world and as a regional center for the Chugoku and Shikoku Regions in Japan, by taking advantage of its unique characteristics and strengths, responding to the needs of the times and society, to realize a "University of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

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

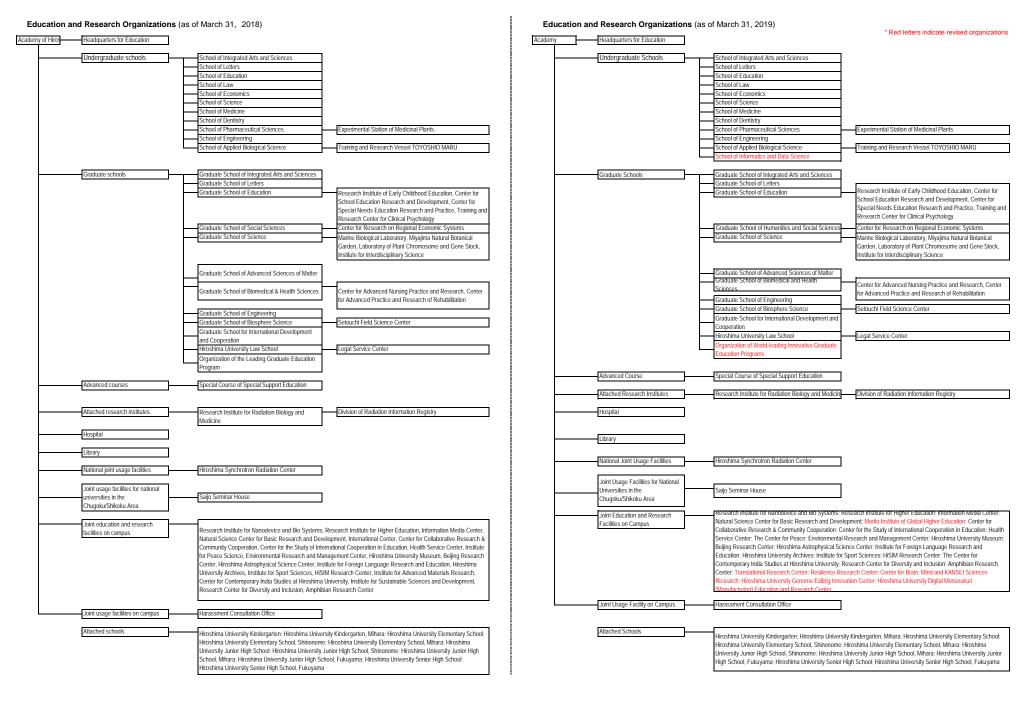
In the area of educational activities, HU carries out specific activities of the Hiroshima University Global Campus Expansion and Innovation Initiative developed in the Second Medium-Term Period, by utilizing support programs, such as the MEXT Top Global University Project, aiming to provide world-class education to develop educated people who can play active roles globally in solving unforeseeable problems for humankind and in pursuing peace, with their advance knowledge and abilities. To comply with the international standards for education and improve the quality of education, HU improves its educational activities through its internal education evaluation system and also receives outsider evaluations from an international consortium of universities, SERU (Student Experience in the Research University). In the area of social contribution, HU focuses on activities to promote advanced collaboration with thriving industries in the region, such as transportation equipment and machinery industries, and with regional communities in Hiroshima Prefecture and neighboring prefectures. HU has worked in the Second Medium-Term Period to contribute to enhancement of the international competitiveness of the region and creation of innovation, by utilizing support from the Center of Innovation Stream programs of MEXT and the Building of Consortia for the Development of Human Resources in Science and Technology program of the Japan Science and Technology Agency. To contribute to regional vitalization and enlivenment, HU implements region-oriented education and research to develop people who can play active roles globally, responding to needs in areas having strong global orientation within Hiroshima Prefecture, by utilizing support from the MEXT Center of Community Program and the Hiroshima University Regional Contribution Program.

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

(3) Organization of Hiroshima University See Pages 4 and 5.







Based on its founding principle "a single unified university, free and pursuing peace," 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 2018 (AY2018), 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. To achieve the next 10-year plan "SPLENDOR PLAN 2017 (developed in April 2017)" to achieve the RU and SGU goals at a higher level, we have steadily conducted concrete action plans.

In April 2018, the University established the School of Informatics and Data Science, a core hub for data science and informatics education, and the Department of Integrated Global Studies in the School of Integrated Arts and Sciences, which plays a leading role in the development of human resources capable of solving problems in the international community and realizing the globalized campus of Hiroshima University.

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, recruitment and promotion to the 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 centrally manages all labor cost points and discusses teacher deployment within the University. In collaboration with the Academy of Hiroshima University (a teachers' organization operating independently from education and research organizations), the Committee implements strategic and systematic personnel allocation from a holistic viewpoint for the entire University beyond the borders of educational and research organizations. The academic performance of teachers is evaluated by using the University's unique achievement-motivated key performance indicators (AKPI[®]), Basic Effort Key Performance Indicators (BKPI®), and other criteria. Through these activities, the University actively hired foreign teachers, female teachers, annual compensation-based teachers, and young teachers. These efforts also led to the establishment of new educational courses in AY2019: Graduate School of Integrated Life Science and Graduate School of Biomedical and Health Sciences.

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
- Verification and improvement of the numbering of courses and presentation in syllabuses [Project No. 1]
 Project No. 1]
 - Please refer to "3. Actions for Strategic and Ambitious Objectives and Plans" on p. 24.
- ii) Development of English proficiency of students [Project Nos. 2, 3, 7 and 8] Please refer to "3. Actions for Strategic and Ambitious Objectives and Plans" on pp. 24, 25, 26 and 27.
- iii) Creation of the new requisite subject "Introduction to University Education" for all students in all departments [Project No. 4] In AY2018, the University started a requisite subject, "Introduction to University Education" (2 credits), which all undergraduate students are required to take in the first term of their first year. The subject aims to give students opportunities to think about what it means to study at the University, clarify their goals, and develop the basic skills and attitude for studying at the University. The Course Review Working Group, which was formed in the General Education Control Department of the Headquarters for Education, created common textbooks in both Japanese and English for the course. New students from all undergraduate departments were divided into eight classes, one of which was taught in English. All classes used an online learning system (Learning Management System). Students used their laptop computers in the class. (Since AY2015, the University has required all students to possess a laptop computer to be used for activities at the University.) The course comprises the following contents: [Part 1: Learning at University] Chapter 1: What do you learn at University? (School) Chapter 2: Learning at University and the Transition to Society (Global Career Design Center) Chapter 3: Study Abroad and Cross-Cultural Understanding 1 (International Center) Chapter 4: Study Abroad and Cross-Cultural Understanding 2 (International Center) [Part 2: Knowledge and Techniques for Learning] Chapter 5: Using the Library and Collecting Resources (Library) Chapter 6: Information Security and Information Ethics (Information Media Center) Chapter 7: Study and Research Ethics (Academic Office) Chapter 8: Academic Writing (Writing Center) Chapter 9: Academic Presentations (Information Media Center) [Part 3: Campus Life] Chapter 10: Health Management and Mental Health (Health Service Center) Chapter 11: Moral Awareness (Student Life Committee) Chapter 12: Prevention of On-Campus Harassment (Harassment Consultation Office) [Part 4: Social Awareness] Chapter 13: Gender and Gender Equality (Research Center for Diversity and Inclusion Chapter 14: Diversity and Accessibility (Accessibility Center) [Part 5: Global Citizenship] Chapter 15: Becoming a Global Citizen: Lecture by Special Instructor (2 class sessions) iv) Provision of the liberal arts subject "Becoming a Global Citizen" [Project No. 4] As part of the requisite subject "Introduction to University Education," which all new students are required to take in the first term, special lectures titled "Becoming a Global Citizen" were provided, inviting world leaders in sports, art, science, and business as lecturers. Twelve sessions were provided from April to May so that all new students could attend two sessions. A total of 4,763 students (including 4,671 students in the first year) attended the lectures. We conducted a guestionnaire survey of these students and received the following feedback:

"Was the topic of the session interesting to you?

To this question, more than 80% of students responded "very interesting" or "interesting" for almost all sessions. Although the topics of the sessions varied depending on the lecturer, students had a keen interest in the lectures.

"Was the session helpful to broaden your way of thinking and social perspective?" To this question, about 90% of the students responded "very helpful" or "helpful." The participants understood the session very well and felt that the contents were beneficial. "Was the session helpful for your studying and University life in the future?" "Was the session helpful for you to think about your future career or job?"

To these questions, about 80% of the students responded "very helpful" or "helpful." By providing these lectures immediately after admission to the University, we could provide opportunities to the students to think about their life at the University and future careers. The survey results indicate that many students were inspired by lectures given by speakers with extensive experience and insights who are active in their fields and that participants were very satisfied in general.

v) Establishment of the School of Informatics and Data Science [Project No. 4] In AY2018, the University established the School of Informatics and Data Science, which systematically and comprehensively provides advanced knowledge about data science and informatics to develop people who specialize in specific subjects in various fields. The School provided subjects to learn the basics of computer programming and statistics in AY2018. As a core hub of data science and informatics education at the University, the School has started efforts to enhance the function of the entire University.

vi) Common subjects for graduates [Project No. 5]

Taking advantage of the characteristics and strengths of the University, we considered the establishment of an educational/research organization (a graduate school) that would lead to the functional enhancement of all graduate schools. As part of this consideration, we decided to provide common subjects for graduate students at the Graduate School of Integrated Life Science, and the Graduate School of Biomedical and Health Sciences which will be established in AY2019. These common subjects will be designed to provide a broad and deep general education and foster motivation to create "science for sustainable development," and they will consist of two subject groups: 1) Sustainable Development and 2) Career Development and Data Literacy.

Every graduate student in these Schools is required to take at least one subject from each subject group of these new common subjects. These subjects aim to have students think deeply about what contribution the science they specialize in can make as "science for sustainable development" and acquire basic knowledge that is necessary to understand the recent progress of social systems and play an active part in modern society. In September 2018, to develop a university-wide system, we considered the details of common subjects for graduate students for AY2020, including the start dates, assignment of TAs, and the enrollment method. The meaning and purpose of taking these common subjects will be explained to new students during the guidance session in April 2019. We also considered the expansion of common subjects for graduate students for AY2020 and decided to increase the number of subjects and classes.

vii) Designation of the Advanced Genome Editing Human Resources Development Program as a WISE Program [Project No. 5]

In October 2018, MEXT announced the selection of Doctoral Programs for World-leading Innovative & Smart (WISE Programs) for AY2019. <u>Hiroshima University's "Advanced Genome</u> <u>Editing Human Resources Development Program" was successfully selected as one of 13</u> <u>universities and 15 programs. It was the only program selected from the Chugoku and Shikoku</u> <u>Region. This Advanced Genome Editing Human Resources Development Program provides a</u> <u>5-year doctoral degree program, aiming to foster the world's highest education and research</u> <u>capabilities</u>.

Two courses will be established: Life Science Course (5 years) and Medical Course (4 years). Students acquire knowledge and skills, from the basics to applications of genome editing, with quality-guaranteed unique curriculums. They aim to develop people who are capable of genome editing and can apply it in industry.

In these courses, students also conduct joint research with companies participating in the Program on Open Innovation Platform with Enterprise Research Institute and Academia (OPERA) and with other affiliated organizations. These joint research activities are expected to enhance the students' ability to conduct cutting-edge and practical research and development. In AY2018, the University established the Hiroshima University Organization of the Leading Graduate Education Program and the Hiroshima University Genome Editing Innovation Center to work on close collaboration with organizations outside the University, and it actively communicated information on the activities of this Program. Internal rules have also been developed. This Program involving multiple disciplines starts from April 2019, and 12 students have been accepted.

- viii) Verification of educational quality assurance in the double degree program [Project No. 6] We collected information from individual departments about the student exchange under the double degree program to confirm the current status of the program. We also exchanged opinions with persons in charge in individual departments to identify issues, including quality assurance of the curriculums and papers, bidirectionality of student dispatch and acceptance, and program management. These activities revealed problems, such as the need to improve the balance between the dispatch and the acceptance of students, among others. It was also found that efforts as an organization were not sufficient generally in all graduate schools. Considering these internal issues and the results of an analysis of the double degree programs currently implemented at European and U.S universities, we are now considering starting joint degree programs with universities in the European Union (EU).
- ix) Joint Graduate School Program between Capital Normal University (China) and Hiroshima University [Project No. 6]

In AY2015, Hiroshima University established the "Joint Graduate School Program of Capital Normal University and Hiroshima University" with Capital Normal University in Beijing, China, where Hiroshima University operates its Beijing Research Center. For this double-degree master's program, solicitation and matching of students were implemented. In AY2019, three students are scheduled to enroll (compared with seven in AY2016, nine in AY2017 and six in AY2018).

Of the 16 students who have completed this double-degree master's program, two have proceeded or will proceed to the doctoral program of the University. <u>This has proven that the</u>

- ii) Verification of a pre-enrollment scholarship [Project No. 14] Please refer to "Actions for Strategic and Ambitious Objectives and Plan" on p.28.
- iii) First-year internship (social experience) for all students from AY2019 [Project No. 15] <u>The University decided to start an internship (social experience) program for first-year students</u> from AY2019. All first-year undergraduate students will be temporarily placed in external <u>companies and organizations to receive social, work, or volunteering experience</u>. This program aims to connect the learning and study at the University with social experience, motivate the students to study and live a meaningful campus life, and provide them an opportunity to think about their future careers, including career choices and occupational aptitude. During AY2018, we made preparations for the university-wide implementation of this program.
- iv) Expansion of career support [Project No. 15]

To support job hunting of students, HU provided the following characteristic career support activities in AY2018:

○ Career support/job placement support

To further strengthen and enhance career support and employment support to the students, the University started the Hiroshima University Career Support Network, consisting of alumni associations and other groups and organizations of graduates and related parties. On December 8, 2018, the first meeting of the Network, the Hiroshima University Career Support Network Conference, was held to discuss measures to expand the support network. The network is managed mainly by the Global Career Design Center, and the members include the HU Alumni Association, the HU Kanto Network, HU Kansai Phoenix No Kai, HU Senda Juku, the HU Sports Alumni Association, the HU Kasumigaseki Network, the HU Association of Former Career Supporters, and the HU Tokyo Office.

To help students become familiar with the businesses and jobs in the real world and think about campus life and their own future career, a new course, the "Career Design Course," started in AY2018. Alumni of the University who have abundant experience at local companies were invited to talk about real episodes in the business forefront.

O Home for Innovative Researchers and Academic Knowledge Users (HIRAKU) Project 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 excellent young researchers (students in the doctoral courses, postdocs, and tenure track teachers). 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, 22 researchers were dispatched to the United Nations Institutions for Training and Research (UNITAR), Denso Corporation, the Benesse Educational Research & Development Institute, and other companies. As part of this project, the University hosted the speech contest "HIRAKU 3MT (Three Minute Thesis) Competition 2018" on September 15, in which doctoral course students talked three minutes about the vision and appeal of their research in easy-to-understand language. Thirty-one doctoral students from nine universities, including HU, made presentations. The University also co-hosted with Vitae, a UK researchers' organization, skill development workshops for planning field-integrated projects on June 28-30, July 2-3, and February 7.

- O As a result of these efforts, <u>Hiroshima University ranked third in the "Ranking of Japanese universities with outstanding employment of graduates" and second in the "Ranking of Japanese universities with high satisfaction of graduates on working conditions offered by employers," published by Vorkers, Inc. on October 23. 2018.</u>
- v) Hiroshima University Regional Parent Meeting [Project No.15]

In AY2018, the University carried out a new project for parents of HU students, the HU Regional Parent Meeting, at four venues (Kobe, Hiroshima, Fukuoka, and Matsuyama). This project aims to help parents and family members of HU undergraduates (in the first and second years) to understand the learning environment and student support at HU. A total of 288 parents and family members participated at the four venues. The program included a speech by the President; a presentation on campus life, study abroad programs and career paths; speeches by graduates and graduate students; and information exchange meetings and private consultation meetings.

Participants were asked to fill out a questionnaire after the meeting. On a question about general satisfaction, 90% of the respondents chose "4" or "5" (5 scales, 1. Dissatisfied to 5. Very satisfied). Positive feedback was also obtained in the free description responses, such as the following: "Admission is not the goal. I appreciate that you continue to provide parents with

Distribution of Accessibility Minimum Standard e-learning course:

We developed a new course, "Accessibility Minimum Standard," by examining and organizing educational contents and defining its position in the Accessibility Leader Development Program for Teachers. In March, online distribution of the course started via the Learning Management System.

The 13th Accessibility Leader Development Program:

The following sessions were conducted: Practices for four subjects (84 students) + Exercises for three subjects (25 students) + a lecture for one subject (19 students); and five classroom training sessions (two summary writing sessions, one guide help session, one sign language session, and one accessibility workshop) (54 students).

To improve the literacy of members of HU regarding diversity and accessibility and to promote the shift to daily consideration from special support and attention to disabled students, the University continued the offering of the Online Accessibility Study Course for 2017, following the previous year, to all HU members (students, teachers and administrative staff members) (distributed until June 2018, with 125 participants). Online Accessibility Study Course 2018: Introduction and Basics were also created and have been offered from July 2018 (337 participants).

In December 2018, the 13th Accessibility Leader Certification Examination was conducted. Thirty-two people from HU acquired an accessibility leader qualification (1st grade - seven people, 2nd grade - 25 people).

A total of 644 students, teachers, and administrative staff members participated in the accessibility leader training program.

Apart from the accessibility leader training program, accessibility education subjects were also taught as part of liberal arts subjects (Introduction to University Education: 2,372 students; Introduction to Student Wellness: 53 students; and Introduction to Hiroshima Leaders for Peace and Harmony: 116 participants).

These activities expanded the opportunities to educate and learn about accessibility at the University and promoted an environment where students, teachers, and administrative staff members could acquire more advanced knowledge depending on their interest.

vii) Addition of university-leased mixed-boarding student houses [Project No. 34] Please refer to "3. Actions for Strategic and Ambitious Objectives and Plans" on p.34.

(iv) Improvement in the method to screen enrollment applicants

i) New admission examinations of individual undergraduate schools for AY2021 [Project No.17] HU has published the "Announcement Regarding Revision of Hiroshima University Admission Examinations for Enrollment in AY2021 (released May 22, 2018)." This announcement was developed based on its student admission policy, which reflects the graduation requirements, the diploma policy, the curriculum structure, and the curriculum implementation policy of Hiroshima University. As described in this Announcement, the University will improve its admission examination method by focusing on evaluating applicants comprehensively from multiple aspects based on three fundamental academic abilities. These three abilities are fundamental knowledge and skills; thought, judgment, and presentation abilities necessary to use knowledge and skills to solve problems; and a proper attitude for proactive learning. The revision of the examinations was outlined in the admission examination briefings for high school teachers (12 venues), campus explanation meetings (8 venues), the Open Campus, and admission examination briefing at prep schools in August. It was also explained at the time of high school visits and campus tours (228 schools).

- 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 Plan" on p.28.
- iii) Use of an online application system for graduate school admission examinations equipped with an English interface [Project No. 19]
 Please refer to "Actions for Strategic and Ambitious Objectives and Plan" on p.29.
- iv) Utilization of scores of third parties' English proficiency tests in graduate school admission screening [Project No. 20]

Many graduate schools at HU use scores of third parties' English qualification/proficiency tests to evaluate the four English skills (reading, listening, writing, and speaking) of applicants. However, as a result of confirmation of their current use status, it was found that they utilized only TOEIC, TOEFL, and a few other tests. To broaden the range of utilization of third parties' tests in the future, each graduate school considered various types of qualification and certification tests.

(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, the University has encouraged researchers within the University to make proposals to create incubation research centers that can perform world top-level research activities. Intensive support is provided to selected proposals to assist them in developing into self-sustained research centers with outstanding research achievements that can conduct research activities independently with externally procured funds.

In AY2018, we selected three new incubation centers. The interim evaluation of one self-sustained research center of the second project was conducted. For five incubation centers of the second project, the Council of the Organization for Research Promotion, comprising the President as the chairman, deans and directors, and other members, conducted a final and precise evaluation, including interviews with researchers. As a result of this evaluation, it was decided to continue the support of two incubation centers and discontinue the support of three incubation centers. Consequently, the University currently has ten self-sustained research centers and 15 incubation research centers.

In AY2018, the University will conduct a final evaluation of the self-sustained research centers of the first project and will have final evaluation interviews at the beginning of AY2019. <u>The</u> <u>Genome Editing Innovation Center</u>, one of these centers, has developed into a joint education and research facility on campus, which led to the adoption of large-scale projects, such as the WISEhisudintch as the

HU has actively worked to conclude comprehensive agreements with foreign universities and research institutions. In AY2018, it concluded 47 agreements with other universities (totaling 345 agreements) and 29 agreements with departments of other universities (totaling 386) to expand its international research network, which will promote joint research activities and collective writing of papers.

HU concluded a university-level memorandum of understanding (MoU) with the Council of Scientific & Industrial Research (CSIR) in India (an organization directly controlled by the Indian government). This MOU aims to establish a joint research and education hub, mainly led by HU's self-sustained research centers and expand the range of research exchange throughout India. HU also carried out seminars, international conferences and other research exchange activities that would lead to joint research in the future with the University of Vermont, USA, and other foreign universities under new inter-university agreements. HU promoted joint international research projects between organizations and expanded its global research network to have research bases around the world.

<u>HU also established the Network for Education and Research on Peace and Sustainability</u> (<u>NERPS</u>). NERPS consolidates activities at Hiroshima University that contribute to solving global environmental issues and the achievement of the global common sustainable development goals (SDGs) into one place. It creates and proposes interdisciplinary research for Peace and Sustainability. To promote the 17th goal of SDGs "Partnership for the goals," NERPS held the second and the third Hiroshima University SDGs Symposiums (December 2018 and February 2019). Representatives from universities (including students), the national government and local governments, companies, and overseas research institutions gathered to discuss the common issues of SDGs from different standpoints and perspectives. NERPS has started activities to promote international joint research and researcher exchanges to contribute to peace, the environment, and all other SDGs.

- iii) Increase in international collective writing of papers [Project No. 22]
 Please refer to "Actions for Strategic and Ambitious Objectives and Plan" on p.29.
- iv) Strategic focus on research activities by utilizing a new evaluation technique for research activities [Project No. 23]
 Please refer to "Actions for Strategic and Ambitious Objectives and Plan" on p.30.

(ii) Research support and effective use of research resources

Reinforcement of the research support system [Project No. 25] From AY2013, to reinforce its research support system, HU has worked to establish a campus-wide URA organization (under the Research Planning Office) comprised of senior URAs (University Research Administrators), who take charge of research promotion at the headquarters, and URAs and associate URAs, who support research activities in individual departments. To support big projects, experts with academic careers who can understand the contents of research activities have been mainly appointed as the senior URA and URAs. HU worked to optimize the URA organization to support the enhancement of research abilities by developing and deploying both URAs with advanced academic knowledge and URAs with administrative skills to promote collaboration among URAs and the combining of their diverse abilities. In AY2018, to ensure that URAs can conduct activities stably and autonomously, systems for URA were established, including a salary system, an evaluation system, and a system to secure financial resources necessary for recruitment and retention, with the consensus of all departments. URAs whose current terms have expired and have acquired an indefinite conversion right will shift to the new system at their request. URAs have provided support for vitalization of international research activities in core research fields of the University. They assist in filing applications for external financial aid programs and assist in the 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 AY2018, aid of 6,015,018 yen was provided for 310 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 and a fellow in charge of consultation on English paper writing) at the same workplace. HU also established a support system for international research activities that utilizes 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. For example, the native English-speaking staff members can concurrently check drafts of agreements, applications for large-scale fund-raising from foreign sources, and other documents prepared in English.

(3) Activities to strengthen management and other functions to facilitate industry-academiagovernment collaboration

i) Activities to strengthen management and other functions to facilitate industry-academia-government collaboration [Project No. 28]

In the area of industry-academia collaboration, it was decided to start the Co-creation Institute for Preventive Medicine from April 1, 2019. It is the second co-creation institute intended to promote co-creation of new added value through collaborative research activities between Hiroshima University and business enterprises and promote the development of human resources based on advanced mutual understanding and trust between independent organizations.

To further deepen the collaboration with partner organizations under comprehensive collaboration agreements, HU opened the Hiroshima University Kure Satellite in the city hall of Kure City on January 30, 2019. It also opened the Hiroshima University AIST Collaboration Office at the Chugoku Center of the National Institute of Advanced Industrial Science and Technology (AIST) on February 1, 2019.

On January 10, 2019, HU concluded a memorandum of understanding on disaster prevention and mitigation with the Chugoku Regional Development Bureau. It is a part of the new disaster prevention/reduction initiative that started after the heavy rain disaster that struck the region in July 2018. On January 28, HU also concluded a memorandum of understanding with the New Energy and Industrial Technology Development Organization (NEDO) regarding mutual cooperation in entrepreneur support. The "Guideline for Promoting Joint Research Projects between Industry, Academia and Government" co-published by MEXT and METI stipulates the reform of the personnel evaluation system for teachers engaged in collaborative activities between, industry, universities and the government. To follow this guideline, the University reviewed the teachers' BKPIs® related to industry-academia collaboration activities (social contributions) and built a system to evaluate industry-academia collaborative activities conducted by teachers.

ii) Reinforcement of information delivery functions [Project No. 28]

To promote the use of HIMAWARI, the Hiroshima University Industry-Academia Research Seeds Database for Co-Creation search website, HU reviewed and modified the input interface to make it easier for teachers to input seed information. The output function has also been enhanced. A function to convert the data to a PDF file in an easy-to-see and easy-to-understand way has been added. These improvements in the system are expected to increase registration of research seeds and access by enterprises to search for HU's research seeds, which will increase the number of joint research agreements and acquisition of more external funds.

(4) Cooperation with society and contribution to the community

i) Expansion of organizational large-scale joint research projects [Project No. 28]

The project is working to launch the fund in April 2019. HU is also working on the establishment of HU-led ventures. A project to develop a magnetic targeting device for bone marrow mesenchymal stem cells was chosen by JST as the Program for Creating Start-ups from Advanced Research and Technology (START).

HU also collaborated with universities in four Latin American countries (Mexico, Peru, Colombia, Bolivia) with which it has inter-university agreements. HU and these universities started a pitch event (G1PEC) for teachers, administrative staffs, undergraduates, and graduate students, intending to solve social issues in these countries and create new businesses there. HU is also working on opening the G1PEC website. Activities to support the startup of ventures were also conducted, including the first workshop of "Compact BRAVE" (June 1), "PR Event" pitch events (May 25 and September 21), and the "Higashi Hiroshima Startup Academy" program (February 2 to February 23).

iv) 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 Narturing Mental Wealth) of the Japan Science and Technology Agency (JST). In the research field, HU researchers have been working to capture the mechanism of "a moment to awareness" in the KANSEI process and researching the more essential area of perception. The program also worked on applying the past research results to social implementation (such as the conversion of a saliency map into a tool). The program has also developed a prototype of a KANSEI/perception sensing device that connects basic research results with elemental technologies. The researchers collaborated with many participating companies in applied development, demonstrations, and experiments.

To widely publicize these research results to society, the program held an open symposium in Tokyo in June 2018 (216 participants) and had an exhibit booth at the JST Fair 2018 in August. To strengthen collaboration between participating organizations, the program conducted a summer study session in August 2018, mainly comprising young researchers (with 119 participants). A three-center joint result reporting meeting was also held in December (with 76 participants).

In addition to the foundation built by COI (sites, systems, and industry-academia collaboration), the Brain, Mind and KANSEI Sciences Research Center was newly established in October 2018 for continuous research. The Center started working on the integrated implementation of research, education, and industry-academia collaboration as a core institute in this field. In the second interim evaluation by JST, the program obtained an S+ rating (S is the highest rank) for its activities to realize these visions (backcasting, R&D results, and activities to

realize social implementation) and the continuous formation of innovation.

To further optimize intellectual property management, in February 2019, HU concluded with all participating organizations the "Memorandum for Research Activities at the Center of KANSEI Innovation Narturing Mental Wealth," revising the former memorandum.

Looking ahead to the completion of the project, HU also developed a portfolio in the areas of education, research and social deployment for realizing the independent operation of centers. It also started consideration of a structure that further accelerates the WISE Program concept and social implementation of the science of KANSEI.

 v) 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 established and operates an industry-academia

close collaboration with industry, HU has established and operates an industry-academia "genome editing" co-creation consortium, comprising 33 organizations (10 universities and research institutes and 23 companies). During the JST interim evaluation, interviews of participating organizations (five universities and five companies) were conducted to identify issues that need to be considered for social implementation of research results. In AY2018, five new organizations participated in the project, contributing to the expansion of joint research.

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

HU has established the Committee for Promoting Center of Communities to establish systems to support centers of communities (COCs) after the project is completed. The committee has developed systems to promote activities that have been started by the COC project. The committee has also established a support system for the project, "Human Resource Development for the Project to Create International Marine Cultural and Living Sphere through Tourism." (*)

(* A joint project led by Hiroshima City University. It was designated by MEXT as a COC+ project for regional vitalization driven by local universities.)

As ongoing programs after the completion of the COC project, HU has implemented two educational programs to develop "Hiroshima Leaders for Peace and Harmony" who can contribute to the realization of a society where diverse people live harmoniously in diverse areas. They are the Peace Science Course: Introduction to Hiroshima Peace Initiative Leader Program; and the Special Program: Hiroshima Peace Initiative Leader Program.

Following AY2017, the "Peace Science Course: Introduction to Hiroshima Leaders for Peace and Harmony" was provided to 116 students. In a student questionnaire, the satisfaction with this course was high, with about 80% of the participants responding "very satisfied" or "satisfied."

The Special Program: Hiroshima Peace Initiative Leader Program started from AY2018, with six students from four departments. This Special Program held regular exchange meetings with the students to understand their needs. It also provided field practice by visiting facilities in the communities to see the current problems of the communities to deepen the understanding that is necessary for solving their problems. [(February 15 (Fukutomi Town and Toyosaka Town), March 4 (Toyosaka Town), and March 15 (Akitsu Town)]

In the COC project, the University worked with the local community to build a community-oriented education system for undergraduate schools. After the completion of the COC Project, these activities have been continued. In particular, the School of Applied Biological Science offered community-oriented liberal arts seminars, and students chose "community" as the subject for their graduation paper. The School also provided community-oriented educational subjects open to students from other departments. It has developed into university-wide education.



(5) Activities for globalization

I) Establishment of a foundation for the development of globally competent people [Project No.30]

Please refer to "3. Actions for Strategic and Ambitious Objectives and Plans" on pp. 30, 31, 32 and 33.

- ii) Utilization and dissemination of a Japanese version of the BEVI test (an attribute test measuring adaptability to different cultures) [Project No. 30] Please refer to "3. Actions for Strategic and Ambitious Objectives and Plans" on pp. 30, 31, 32 and 33.
- iii) Short stay program "Study Tour Abroad for Realization and Transformation (START)" [Project No. 301 Please refer to "3. Actions for Strategic and Ambitious Objectives and Plans" on pp. 30, 31, 32

and 33.

- iv) Improvement and expansion of the organization of the Morito International Advanced Education School [Project No. 30] Please refer to "3. Actions for Strategic and Ambitious Objectives and Plans" on pp. 30, 31, 32 and 33.
- v) Japanese language and culture training to encourage international students to study at HU [Project No. 30]

Please refer to "3. Actions for Strategic and Ambitious Objectives and Plans" on pp. 30, 31, 32 and 33.

- vi) Addition and expansion of overseas sites [Project No. 30] Please refer to "3. Actions for Strategic and Ambitious Objectives and Plans" on pp. 30, 31, 32 and 33.
- vii) Conclusion of inter-university exchange agreements [Project No. 30] Please refer to "3. Actions for Strategic and Ambitious Objectives and Plans" on pp. 30, 31, 32 and 33.
- viii) Peace Lecture Marathon [Project No.30] Please refer to "3. Actions for Strategic and Ambitious Objectives and Plans" on pp. 30, 31, 32 and 33.
- ix) Medium-term and long-term student exchange program [Project No. 30] and 33.
- x) Brush-up seminar for Japanese teachers residing overseas [Project No. 32] Please refer to "Actions for Strategic and Ambitious Objectives and Plan" on pp. 33 and 34.

xi) Provision of online Japanese language programs [Project No. 32] Please refer to "Actions for Strategic and Ambitious Objectives and Plan" on pp. 33 and 34.

(6) Activities of the Hospital

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

Active exchange with foreign institutions [Project No. 36] i) Hiroshima University Hospital (hereinafter the "HU Hospital" or simply the "Hospital") accepted a visiting group of 34 medical students from Hasanuddin University in Indonesia (under the inter-university exchange agreement concluded on December 10, 1997). The Hospital accepted two doctors and one nurse from Taichung Veterans General Hospital (Taiwan) for training (under the inter-department exchange agreement concluded on March 15, 2015). Two doctors, one nurse, and two administrative staff members from the HU Hospital participated in the International Symposium on Advanced Patients Care held at Taichung Veterans General Hospital in October. One neurosurgeon and one nurse were dispatched to Chitwan Medical College to provide assistance in epilepsy surgeries (under the inter-department exchange agreement concluded on August 29, 2016).

Three radiotherapy physicians and one medical physicist were dispatched to the National Cancer Center of Mongolia (under the inter-department exchange agreement concluded on March 28, 2018).

- Development of a world-top-class radiation therapy team [Project No. 37] ii) 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 of 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. It also 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.
- iii) Development of globally competent medical professionals for the future [Project No. 37] The HU Hospital strives to develop globally competent medical professionals who are able to practice next-generation

achieve this goal, it held meetings with related facilities, aiming to establish a network of Please refer to "3. Actions for Strategic and Ambitious Objectives and Plans" on pp. 30, 31, 32 26h9 [(T)-3 -p(on t)1 institutions of HU and foreign medical institutions mainly ledony the Center for Development human resource development program utiliz the network. To promote the blend0.002 Tcg of advann tedicine and regional medicine, the Hospital held the World Health Summit

U.S.A. It also held 14 sessions of open seminars to disseminate information to doctors, residents, and medical professionals at the HU Hospital.

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

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

v) Promotion of medical research activities [Project No. 38]

In April 2018, to promote its medical research activities, HU established the Hiroshima University Medical Translational Research Organization, with the Vice President in Charge of Research Ethics appointed as Deputy Director. Under this Organization, the Medical Translational Research Council was formed. The HU Hospital worked with the Translational Research Center, which was established on April 1 to consider measures to promote the following activities: establishment of an ARO (Academic Research Organization) that organically integrates medical research activities at HU to maximize their functions; translational research that turns the results of basic medical research into clinical use; acquisition of additional competitive funds from the Japan Agency for Medical Research and Development (AMED) and MEXT subsidy programs; and IR (Investor Relations) for medical research.

vi) Support for Paralympic athletes [Project No. 38]

Toward the Olympic and Paralympic Games in 2020, the Hospital, mainly via its Sports Medical Center, provides 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 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 on 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 2019 and the Sports Experience for the Disabled event were conducted.

(ii) Activities to ensure quality of medicine

i) Expansion and improvement of the function of the Liver Disease Consulting Office [Project No. 35]

The Hospital's role as a medical collaboration center for liver diseases is diversifying. The government's incentive project for hepatitis control centers accepted the Hospital's proposal to assign liver disease supervising coordinators at the Hospital who oversee liver disease coordinators at other centers in the prefecture. To cope with the expected expansion of

activities and ensure the efficient operation of the project under these circumstances, we now position the Liver Disease Consulting Office as one of the central clinical divisions of the Hospital because nurses should be stationed at the Office.

ii) Establishment of the AYA Generation Cancer Department at the Cancer Treatment Center [Project No. 35]

AYA stands for adolescent and young adult. It is the generation after the childhood period and before the middle-aged period and is the most dynamic generation that experiences active life events, such as schooling, working, marriage, and childbirth. The Cancer Treatment Center established the AYA Generation Cancer Division, which specializes in cancers of the AYA generation. A multi-disciplinary team, comprised of doctors, dentists, nurses, pharmacists, physical therapists, occupational therapists, speech therapists, medical social workers (MSWs), child life specialists (CLSs), psychologists, nutritionists, and other medical specialists, has started providing multi-layered medical services to ensure that proper treatment and support are provided continuously to AYA patients who grow and experience changes in their living environment while they receive treatment and post-treatment care.

- iii) Art museum on the hospital premises [Project No. 35] The YHRP Museum, an art museum that houses approximately 1,300 works donated by collectors, opened in October on the premises of the University Hospital to provide a peaceful and healing environment not only for patients but also for a wide range of local citizens. (The name "YHRP" comes from the words "Yasuragi (serenity)," "Heiwa (peace)," "Rehabilitation,"
- iv) Support to female doctors to stay on their career path [Project Nos. 35 and 37] Following the previous year, HU Hospital was selected again in 2018 as one of the implementers of the "Female Doctor Career Support Model Promotion Project" of the Ministry of Health, Labor and Welfare. This project set up the "Hiroshima University Hospital Hiring Quota for Female Doctors 2018," an additional quota besides the regular recruitment quota of the Hospital, to provide tailored support to female doctors who want to return to work under various situations.. All four applicants under this quota were hired. The project provided female doctors opportunities and support to return to work and also resulted in securing doctors for the Hospital.
- v) Designation as the first allergic disease medical center in Hiroshima Prefecture [Project No. 36]

The Hospital has a total of 11 allergy specialists in three departments: dermatology, internal medicine, and otolaryngology. It accepts, diagnoses, and treats patients with serious or refractory symptoms. In February 2019, recognizing these advantages, the government of <u>Hiroshima Prefecture designated Hiroshima University Hospital as a center for allergic</u> <u>diseases, the first in the prefecture,</u> where patients with atopic dermatitis and other severe allergic symptoms are diagnosed and treated and medical professionals specializing in allergy are developed.

and "Poland.")

vi) Conclusion of a medical support agreement with Sanfrecce Hiroshima [Project No. 36] In May 2017, to support J1 Sanfrecce Hiroshima, a professional soccer team, in the area of medical care, the Hospital, Mazda Hospital and Sanfrecce Hiroshima signed a medical support agreement. Doctors from the Department of Orthopedic Surgery have provided medical treatments to and performed surgical operations for team members as team doctors of Sanfrecce Hiroshima. The Hospital has also provided support in the psychological and nutritional areas as well as support for everyday health care, such as internal medicine. Also, the Sports For hospitalized and discharged patients treated under the Diagnosis Procedure Combination/Per Diem Payment System (DPC/PDPS), monthly medical treatment fees of each clinical department were analyzed. Surgical technique levels were analyzed by using the system proposed by the "Federation of Social Insurance Committees of Surgical Societies (Gaihoren)."

For hospitalized patients who were treated under the DPC/PDPS and discharged, we analyzed each treatment department regarding its "patient composition," "management indicators," "profit and loss," "average hospitalized days of DPC patients and discharge rate and per-day medical costs of Phase II patients," "distribution of profit and loss of Top 10 Diagnosis Groups by DPC," "use rates of treatment departments by cost," and "Top 10 ranking of quantities and value of drugs by treatment department."

The Hospital conducted a review meeting chaired by the Director once a month to update medical devices according to a predetermined schedule. Based on the inspection of medical equipment conducted in 2017, the review meeting also discussed renewal plans for aged large medical equipment by using various financial resources.

In April 2018, the Hospital established a new manager post in charge of management improvement. This manager worked with relevant departments to reduce costs, including negotiating discounts with suppliers of medical and other materials.

We analyzed the inventories of pharmaceuticals and medical materials based on the results of physical inventory-taking. We notified departments of unconsumed medical materials with expired dates of record and collected them from the relevant departments to reduce inventory differences and reduce the inventory size.

In an effort to reduce costs, HU Hospital, as a member of the National University Hospital Council of Japan, joined the joint price negotiation with manufacturers on nine categories of high-performance medical materials, with the cooperation of the National University Hospital Purchasing Manager Council and other interested parties.

vi) Activities for proper deployment of doctors [Project No. 40]

In June and August 2018, the Hospital held the Meeting of Directors and Clinical Professors of University Hospitals in Hiroshima Prefecture, with the participation of representatives from the Hiroshima Prefectural Hospital Office, the Hiroshima City Hospital Organization, the heads of hospitals in the area, and professors from clinical departments of HU. The meetings confirmed the situation of the medical supply system and shared issues in Hiroshima Prefecture.

(7) Activities of schools attached to the University(i) Activities to tackle educational tasks

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

Attached schools worked on two projects under the "MEXT Education, Research & Development Program," one project under the MEXT "Super Global High School Program (SGH)" and one project under the "Super Science High School Support Program" (SSH) of the Japan Science and Technology Agency. <u>As a result, HU high schools won various prizes,</u> including the Silver Award in the "29th Japan Mathematical Olympiad (JMO)," the Bronze Medal in the "59th International Mathematical Olympiad (IMO)," the JFE Steel Prize in the"16th Japan Science & Engineering Challenge JSEC2018," the Prime Minister Award in the <u>"Statistical Data Analysis Competition," and the Gold Prize in the "Hiroshima Prefecture</u> <u>Science Olympiad."</u>

HU also published a book that summarizes the philosophy, practice, and research of childcare and education of HU kindergartens to disseminate the information to childcare givers and researchers in Japan and overseas.

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

On July 21, September 29, October 27, and December 8, 2018, and January 12, 2019, HU Fukuyama Junior High School and Fukuyama Senior High School conducted the IDEC Cooperation Program. In this program, high school students in the second year conducted group discussions, together with international students from the Graduate School for International Development and Cooperation, about the <u>Environment</u>, <u>Peace and Education</u> [five sessions, a total of 16 international students, a total of 18 high school students]. Attached schools concluded partnership agreements with foreign schools. Exchange activities were conducted with these foreign schools, such as joint research, collaborative learning, and mutual school visits (two schools in Korea, one in Thailand, one in China, one in Australia, one in Indonesia, two in Singapore, and two in Germany).

One teacher from an HU high school participated in the "Program to send teachers of high schools and integrated junior/senior high schools to India," aimed to promote exchange between India and Japan.

(ii) Collaboration with the University and individual departments

i) Development of a rubric to evaluate qualities and abilities necessary for a globally competent person [Project Nos. 41, 42 and 43]

We thoroughly examined the draft of the rubric developed in AY2017 by developing specific evaluation methods and materials through class exercises at attached schools and kindergartens. On February 18, 2019, the Research Promotion Committee held a meeting, in which teachers from the Graduate School of Education participated as members, to verify the adequacy of the rubric based on the activities at attached schools and kindergartens.

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

The schools attached to Hiroshima University cooperate in educational and research activities of HU in accordance with the "Procedures for Requesting Cooperation of Attached Schools in Educational and Research Activities of the University." In AY2018, attached schools cooperated in nine teaching projects and six research projects of HU.

At HU junior and senior high schools which have been designated as super science high schools (SSHs), the "Program to Connect Education between SSHs and the University" was also conducted. The students in the second year of HU high school were divided into groups of three to four by the type of "assigned study." A total of 11 university teachers, seven from the Graduate School of Education and four from the Department of Integrated Global Studies of the School of Integrated Arts and Sciences, participated in this project and provided support to the students, helping them work on their assigned study in three sessions.

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As collaborative schools of HU, the attached schools accepted eight graduate students from the Professional Development Program for Teachers and School Leaders (Graduate School of Education) of the University. Four teachers from attached schools were also dispatched as trainees to graduate schools of HU (one to the Professional Development Program for

Fourteen world-leading experts (including six experts from abroad) were invited as speakers to share information and insights on the latest developments in radiation accidents and medical science research activities. The meeting gathered 261 participants. This symposium also provided development opportunities for young researchers. A hybrid session for young researchers was held, a combination of a short speech presentation with a poster presentation. The Young Researcher Poster Prize was awarded to the most outstanding presenter.

- iv) Implementation of Fukushima Prefecture Citizen University Open Forum [Project No. 27] Under the theme of "Think Recovery. Change the Perspective from Receiver to Provider of Support - What Messages Can We Deliver?, "the Fukushima Prefecture Citizen University Open Forum was held in Fukushima City in February 2019. About 130 citizens attended this program. <u>The Forum included keynote lectures</u>, proposal presentations from students, panel discussions and other events. Participants shared lessons learned from disasters and reconstruction experience as globally valuable assets, discussed reconstruction from a disaster from the viewpoint of contributing to the creation of a sustainable society, and explored ways to make the experience of reconstruction in Fukushima a universal asset that should be shared globally.
- v) Loose collaboration between network-type joint research centers
 In AY2017, to promote cooperation and exchange between network-type joint research centers of the 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. Under this agreement, we held a mutual achievement report meeting and made a poster presentation at an international symposium.

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

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

From August 3 to September 20, 2018, HU held the exhibition "Pathologist Chuta Tamagawa Goes to the Nuclear Field - Atomic-Bomb Sickness, Challenges Faced by Professor of Hiroshima University School of Medicine" at the Medical Museum of the School of Medicine. The exhibition included materials and panels featuring medical and research activities conducted by Chuta Tamagawa and other medical professionals who were committed to medical activities at the time of the nuclear bombing and subsequent research activities at the University and the Institute. More than 1,100 people visited the exhibition.

ii) Seminars [Project No. 27]

Seminars were held almost every month, for both internal and external researchers and students, by inviting Japanese and foreign researchers from inside and outside the University as lecturers. These seminars contributed to improving research capabilities of participants and promoted active exchanges between researchers.

ii) Discovery of individual differences in sensitivity to low-dose radiation [Project No. 27]

A joint research team led by Hiroshima University performed chromosomal analysis of lymphocytes before and after CT to examine the effects of low-dose radiation exposure on the human body. As a result, the team found that there is an individual difference in the increase of chromosomal abnormalities in low-dose radiation exposure. This research result is expected to lead to the establishment of personalized radiotherapy based on individual differences in sensitivity to low-dose radiation.

iv) Discovery of molecular mechanisms that prevent chromosomal abnormalities caused by radiation and anticancer drugs [Project No. 27]
 A joint research team led by Hiroshima University found that ATM, a DNA damage signal regulator, moderately suppresses the binding of repair factors to damaged DNA by phosphorylating ARP8, a component of the chromatin remodeling complex. In other words, the team proved that ATM not only acts as a repair accelerator but also as a brake, adjusting the repair activity to an appropriate range and preventing chromosomal abnormalities. The results of this research are expected to lead to the establishment of new medical treatment that prevents cancer induced by radiation exposure or drugs by controlling the DNA's repair mechanism.

Hiroshima Synchrotron Radiation Center

(1) Activities and achievements as a joint usage/research center (including activities to strengthen the joint usage/research system and activities conducted in line with the purpose of the Center)

i) Status of the joint use/joint research activities [Project No. 21] The Hiroshima Synchrotron Radiation Center accepted a total of 127 proposals for joint use/joint research projects (136 applications, acceptance rate of 93%), including 93 proposals for general projects (solicited twice a year) and 34 proposals for academically urgent tasks (solicited throughout the year), exceeding the target number of acceptances (120 projects) projected in the action plan. <u>The Center also actively implemented international joint research projects</u>. <u>Thirty-six proposals (24%) out of all accepted proposals were from overseas</u>, <u>exceeding 31 projects (29% out of 131 proposals) accepted in AY2017</u>. Of the 228 users (actual number) in AY2018, 75, or 33%, were non-Japanese users. In AY2018, seven foreign organizations joined the network. The network of international joint research has expanded to 73 institutions.

ii) Research results [Project No. 21]

In AY2018 the Center published 38 peer-reviewed papers. Papers published in journals with seven or more impact factors (IFs) amounted to three papers: one paper on Advanced Materials (IF=22.0), one paper on Computational Materials (IF=8.9), and one paper on Physical Review Letters (IF=8.8). Papers published in journals with 3.5 or more impact factors (IFs) amounted to 19 papers (50% of all papers). We published 25 international joint papers during AY2018 (66% of all papers). We issued one press release on ultra-high-resolution angle-resolved photoemission spectroscopy and one on the generation of vector radiation beams.

iii) Joint international research [Project No. 22]

<u>The Center invited a professor from the loffe Physical Technical Institute of the Russian</u> <u>Academy of Sciences under an inter-department agreement as a specially appointed foreign</u> <u>professor for three months</u>, who engaged in research on nanomagnetic materials and the development of soft X-ray reflection spectrometers. <u>The Center invited a professor from the</u> <u>University of Science and Technology of China as a specially appointed professor for one</u> <u>month</u>, who engaged in research on the fine electronic structure of strongly correlated materials.

iv) International symposium [Project No. 27]

The Center held the International Workshop on Trends in Advanced Spectroscopy in Materials Science (TASPEC) on October 4-6, 2018. Participants totaling 110 (including 22 foreigners) from 11 countries exchanged information on the latest trends in advanced spectroscopy in materials science and discussed future prospects. On March 7 and 8, 2019, the Center held the 23rd Hiroshima International Symposium on Synchrotron Radiation. A total of 84 participants from ten countries (including seven foreign researchers) discussed trends in advanced research projects in the materials science and biomolecular science fields, which use radiation in the vacuum ultraviolet and soft X-ray range. The Symposium also summarized

research activities to realize practical use of bio materials and medical equipment. The total number of joint research projects by the four universities has increased steadily, 157 in AY2016, 195 in AY2017 and 211 in AY2018, suggesting the importance of this field.

ii) Status of joint use/joint research [Project No. 27]

HU conducted 41 joint research projects (including four projects with foreign organizations) at the Research Institute for Nanodevice and Bio Systems in AY2018, an increase by two from the previous year. It also conducted 4 unique joint research projects.

iii) Human resource development [Project No. 27]

In AY2018, HU granted 12 awards to the Institute: seven awards to students supervised by teachers of the Institute (two at international symposiums, three at symposiums and academic conferences in Japan, and two cases of excellent student scholarships) and five awards to teachers, researchers, and researcher groups.

 iv) Activities to provide information [Project No. 27] Research results and information on exercise sessions and lectures were communicated via thow objice of the Institute and via the website of the Graduate School of Advanced Study of T2)1.f .916 -1.157 Td [(iv.91422(at)1.1 (t)Di67 w 0.()Tj 0.002458 -0.001 Tw 0.229 0 Td [(of)1.1 1.012 -0.00)-2.1 (c)2.4 Matter, where institute teachers concurrently serve as teachers. A newsletter (annual, 216 copies), an annual research report (annual, 177 copies), and a research institute newsletter

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programs. The programs received positive comments, such as "The subject was very interesting," "I think you should continue this program next year and after," and "I will recommend this program to my younger friends." For the requests for program contents received in the survey, we have continued making improvements to provide education of higher quality. In November, the vessel was also used to transport freshwater of about 20 tons to Suo-Oshima,

where the water supply was shut down for a considerable period. All information about the voyages of the vessel is published on the website to promote its shared use.

Marine Biological Laboratory

The Marine Biological Laboratory provided four intensive field work and lodging programs to a total of 26 students from other universities. Under the JST's Sakura Science Plan, the Laboratory conducted a program to promote the internationalization of higher education that accepted ten students from two universities in the Republic of Indonesia, including one partner university under an inter-university exchange agreement. <u>The Laboratory also provided "Rinkai Hack," a hands-on training course, in cooperation with genome informatics researchers from Japan and abroad. In AY2018, which was the second year of this program, to promote the internationalization of the program, the range of participants, which had been graduate students and postdoctoral students in Japan, was expanded to include international students, and the course was provided mainly in English. Thirty-two students from various universities participated.</u>

As part of community contribution activities, the Laboratory has continued to provide programs for students of Onomichi City Takami Elementary School since AY2010. In AY2018, it provided four educational programs, including an event to collect and classify organisms and a class to create bookmarks by using seaweed. It also provided one laboratory program for students from a private junior high school in Osaka. A super science high school laboratory program was provided for students from Seishin Girl 's High School in Okayama, which started in 2016. The laboratory was also actively offered for joint use and public use, including visits of representatives from foreign educational institutions and survey and research activities of research institutions, aquariums and a wide range of other organizations. Preparations were made for laboratory programs, which will start from the next academic year, for students from other universities. The website was improved to promote the use of the Laboratory. The Laboratory held meetings of the operation committee with the participation of all members from inside and outside the University and exchanged opinions to ensure the efficient and effective operation of its activities for the next four years.

Saijo Farming Station, the Setouchi Field Science Center

The Saijo Farming Station provided six field work programs for students from other universities, exchange students from South East Asia, and adults, which were participated in by 139 people. In the questionnaire survey conducted every year, participants have expressed positive opinions, such as "I discovered the comprehensiveness and fun of field science," "It was an opportunity to think about the relationship between food and agriculture," and "It was an opportunity to think about the relationship between food and life." Again, in AY2018, the number of applicants to these programs far exceeded the enrollment limits. However, the actual number of participants was fewer than a usual year because many students canceled their enrollment due to the damage caused by the heavy rain in July. Students from the Kansai and Kanto areas also took these programs, not only students in the Chugoku/Shikoku areas. The Farming Station fulfilled its function as a national educational joint use center.

In addition to the six field work programs mentioned above, the Farming Station also provided field work sessions to about 26 students from universities specialized in partner animals and laboratory animals (such as schools for laboratory animal managers, veterinary technicians, trimmers and animal trainers) and students from animal-related vocational schools to provide them opportunities to learn about farm animals they don't handle in their classes. As part of the Super Science High School program, the Farming Station has also continuously given educational guidance to students from Hiroshima Prefectural Saijo Agriculture High School.

Specifically, under the "Study on the effect of a horse-mediated education program for high school students" project, the Farming Station gives guidance on research planning and analysis about 4 to 5 times a year to 5 to 10 students every year. The results of the research are presented at an academic conference every year. The Farming Station also offered educational tours and work experience to children and students from kindergartens, elementary schools, and junior and senior high schools as requested. The Farming Station accepted about 230 students in AY2018, compared to about 190 in the past.

Information about the education programs of this Farming Station is published on the website to promote its shared use.

Takehara Marine Science Station, Setouchi Field Science Center

The Takehara Marine Science Station provided two intensive field work and lodging programs designed mainly for students from other universities. A total of 30 students from 11 universities in and outside Japan enrolled in these programs. All programs were participated by students from HU and other universities. In a questionnaire survey, about 60% of participants from HU positively evaluated the participation of students from other universities. About 96% of students from other universities were satisfied with the exchange between students. They expressed such opinions as "It was inspiring to exchange opinions with students from other universities," "I was motivated by the high motivation of students from other universities," and "The program was beneficial as I could ask questions of senior students from other universities," and they provided many other positive opinions. The survey results show that the program was mutually beneficial for students from HU and from other universities. The Station was actively offered for joint use and public use by both Japanese and foreign institutions. It was used for field work and summer school programs of Japanese and foreign educational institutions. It was also used for investigation and research activities by research institutions and a wide range of organizations. It provided a total of six community awareness programs for a wide range of students, from elementary school to senior high school students, including field activities, exercises and lectures. It accepted 32 high school students under two Sakura Science Plan projects (from the Philippines and China). 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 42 and 43.

(2) Objectives relating to improvement of financial conditions Please refer to special notes on pp. 47 and 48.

- (3) Objectives relating to self-check/evaluation and provision of information Please refer to special notes on pp 51 and 52.
- (4) Objectives relating to other operation-related matters Please refer to special notes on pp. 56, 57, 58 and 59.



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.			
Medium-Term Plan [1]	The numbering of curricular subjects and English translation of syllabuses, which started in the Second Medium-Term Period, should be further expanded to all subjects in order to establish an internationalized education system.			
Plan for AY2018 [1]	Improve the numbering method and presentation in the syllabuses based on the results of the examination conducted last year.			
Progress	Following AY2017, we achieved numbering and input (English translation) (100%) of all syllabuses (April 2018).Aiming to achieve numbering and input of all syllabuses (English translation) (100%) in AY2019, we have set the target to achieve about 90% as of the end of AY2018. In fact, as of the end of AY2018, we achieved this target. Input of 93.3% of syllabuses in Japanese was completed and input of 93.0% of syllabuses in English was completed. In the examination conducted in AY2017, we found inconsistency between the "Semester/Term" of the subject and the "Course Level" in the numbering for some syllabuses. We urged the relevant undergraduate departments and graduate schools to correct this inconsistency via the Curriculum Committee of the Headquarters for Education. As a result, the inconsistency was eliminated in the syllabuses for AY2019.			
Medium-Term Plan [2]	To realize globalized education, all undergraduate schools should introduce degree courses all taught in English by AY2019 and verify their effectiveness for the globalization of students.			
Plan for AY2018 [2]	The School of Integrated Arts and Sciences introduces degree courses all taught in English. It also considers and makes preparations for new degree courses that will start in AY2019.			
Progress	In April 2018, the University established the Department of Integrated Global Studies, under the School of Integrated Arts and Sciences, which offers a degree program consisting of only subjects taught in English. The purpose of this department is to develop people capable of thinking about various problems in the international community from a global viewpoint, being open to different nations, ethnicities, cultures and religions, and cooperating with others. The globalization of education has steadily progressed at Hiroshima University. Eight departments (other than the School of Integrated Arts and Sciences) created detailed descriptions and made other preparations for 18 programs that will start in April 2019 (1 program each at the School of Law, School of Economics, School of Science, School of Medicine, School of Dentistry, School of Pharmaceutical Sciences, and School of Applied Biological Science and 11 Programs at the School of Engineering). Other departments are also continuing to review and make preparation for programs to be started in AY2020. For liberal arts subjects under these programs, the General Education Control Department further increased the use of English in liberal arts subjects. As a result, liberal arts subjects taught mainly in English increased from 36 subjects (AY2018) to 141 subjects (AY2019).			
Medium-Term Plan [3]	Train students to acquire the communication and presentation skills required in a globalized society. To achieve this objective, HU should add and expand subjects taught in English and special training programs for developing professionals with English skills. In addition, periodic English proficiency measurements should be conducted, aiming to bring about 25% of all undergraduate school students up to the level of TOEFL® BT80.			
Plan for AY2018 [3]	We should consider and implement measures to achieve the goal of about 25% of undergraduate students reaching the TOEFLiBT80 level in AY2019 based on the achievement level of students. The measures include an increase of subjects taught in English and special programs for English professional training and regular measurement of English proficiency of students.			

	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 Japanese culture and peace, to acquire English abilities, the ability to identify and solve problems in a multicultural society, and leadership skills, and foster career path development. In AY2018, HU received 28 enrollment applications for this program and selected 20 students by document screening and interviews. Four students enrolled in this program in 2017 were sent to the University of Nevada, Reno (2), the US, the University of Edinburgh (1), the UK, and Chulalongkorn University (1), Thailand, for about four months. Three students sent abroad under this program made debriefing presentations in English after they came home to stimulate the motivation of other students under this program to study abroad. To improve English proficiency, an opportunity to take the IELTS TM (a test to evaluate whether a person has the English ability necessary for studying abroad) free of charge was offered to all 38 students enrolled in the program, and 24 students took the exam. Continuing from FY2017, liberal arts subjects designed to improve the TOEIC® score of students to 730 points were provided: Communication Seminar I in the third term. Because the effectiveness was confirmed as explained below, we decided to continue Communication Seminar I and II in AY2019.
	 Of the students who took Communication Seminar I, 208 students took the TOEIC® L&R IP test in both April and May. The average scores of these students increased by about 161 points from April to May. There were 69 students whose scores improved to more than 730 points in the May test from less than 730 in the April test. Of the students who took Communication Seminar II, <u>134 students took the TOEIC® L&R IP test in both October and November. The average scores of these students increased by about 72 points from October to November. There were 19 students whose scores improved to more than 730 points in the November test from less than 730 in the October test.</u>
	 O of the students who took both Communication Seminar I and II, the average score of 133 students who took TOEIC[®] L&R IP tests in April, May, October, and November was analyzed. It improved 144 points from April to May, 72 points from October to November, and 165 points from April to November.
Progress	From mid-June to mid-November, the TOEIC [®] Skill Up Class was offered, which was a non-curricular program designed to improve skills of students to communicate in English and to help them to achieve 730 points in the TOEIC [®] tests. There were 109 enrollments (95 at Higashi-Hiroshima Campus, 14 at Kasumi Campus). To verify the effectiveness of the TOEIC [®] Skill Up Class, enrolled students were required to take the TOEIC [®] L&R IP test in November. Of 75 undergraduate students who attended the class at least once, 46 students (about 60%) took the test. Of these 46 students, 27 improved their scores from the time of their enrollment in this program.
	In late September, 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 the HU Higashi-Hiroshima and Kasumi campuses. There were 41 enrollments on the Higashi-Hiroshima Campus and 12 on the Kasumi Campus. A questionnaire survey was conducted regarding satisfaction with the program. Of 21 undergraduate and graduate students who responded, 20 responded that they were "very satisfied." Because we received the following positive comments in the free description box of the questionnaire, we will continue this program next
	 year. I didn't feel comfortable speaking in front of people in the past. However, in the presentation, I could speak in English. The program was a good opportunity that opened the path to my future. I hope you provide this type of program more frequently in the future. You should design a program such that students who are not good at English don't feel uncomfortable.
	 Because I did not have much time to learn English during the summer vacation, the program was helpful to raise my motivation to learn before the school restart in autumn. The Institute for Foreign Language Research and Education offers the online English learning program "NEXT" (comprising the General English Training Course, the TOEIC®L R Test Course, and the English Word Power Enhancement Course, a total of six courses). A total of 933 students enrolled in the program for the period from April to September (629 undergraduate students, 287 graduate students, and 17 other students). The number of students enrolled in the program for the period from October to March totaled 827 (616 undergraduate students, 197 graduate students, and 14 other students).
	In AY2018, the percentage of undergraduate students who reached the TOEFLIBT80 level was 11.1% (1,222 students/11,020 students in total).

can play active roles globally in identifying and solving unforeseeable problems for humankind and in pursuing peace, by creating advanced knowledge.				Medium-Term Objectives [2]	
ses all taught in English in all graduate schools, targeting an increase to 66 courses by AY2019, to develop experts with advanced lay active roles in modern society, by providing a globalized graduate school education. Results of these programs should be	Medium-Term Plan [7]				
I taught in English and verify the results of the existing degree courses in light of their intended purposes.	lish and verify the results of the	es all taught in Eng	Add degree course	Plan for AY2018 [7]	
had 69 degree courses all taught in English, achieving the target for AY2019 (66 courses).	e courses all taught in English, a	, we had 69 degree	As of April 2018	Progress	
and experts who can work independently with the communication and presentation skills required in a globalized society. To HU should encourage students to make presentations at international academic conferences. HU should also add and expand ght in English. By these programs, HU should bring about 30% of all graduate school students up to the level of TOEFL® BT86.	ncourage students to make pre	ctive, HU should ei	achieve this object	Medium-Term Plan [8]	
achieve the goals of improving the English abilities of about 30% of graduate students to the TOEFL® i BT86 level by AY2019 by e specialty of their major fields and of helping them develop into globally competent and independent persons. To achieve these nould encourage students to make presentations at international academic conferences. HU should also consider and add subjects legree courses all taught in English.	oals of improving the English at their major fields and of helping ge students to make presentatio	ns to achieve the g nt the specialty of t sity should encoura	The University ain taking into accour goals, the Univers	Plan for AY2018 [8]	
d-November, the TOEIC [®] Skill Up Class was offered, which was a non-curricular program designed to improve skills of students to ish and to help them to achieve 730 points in the TOEIC [®] tests. There were 70 enrollments (54 at Higashi-Hiroshima Campus, 16 To verify the effectiveness of the TOEIC [®] Skill Up Class, enrolled students were required to take the TOEIC [®] L&R IP test in aduate students who attended the class at least once, 21 students (about 50%) took the test. <u>Of these 21 graduate students, 9 s from the time of their enrollment in this program.</u> graduate students, via the online Student Information System and other ways, that they could take the TOEIC [®] L&R IP tests in for free. The following table shows the number of graduate students who took the tests and the number of students who scored in the TOEIC [®] test.	p them to achieve 730 points in effectiveness of the TOEIC® s its who attended the class at le <u>e of their enrollment in this progr</u> lents, via the online Student Inf following table shows the numb e test.	English and to helpus). To verify the 2 graduate studen accres from the time med graduate studen ober for free. The f	communicate in at Kasumi Cam November. Of 4 improved their s HU widely infor May and Novem		
Students who scored Test takers TOEIC® 780 points or higher	TOEIC [®] 780 points or	Test takers	Test time	Progress	
The number of test takers increased by 69 to 333 students. There were 64	N N	402	Мау		
7 62 The number of test takers increased by 108 to 349 students. There were 48 students of TOEFL i BT86 level (TOEIC® 780 points) or higher last year.	62	457	November		

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	Progress	 In late September, to improve the 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 the HU Higashi-Hiroshima and Kasumi campuses. There were 24 enrollments on the Higashi-Hiroshima Campus and 5 on the Kasumi Campus. A questionnaire survey was conducted regarding satisfaction with the program. Of 21 undergraduate and graduate students who responded, 20 responded that they were "very satisfied." From the following positive comments in the free description field of the questionnaire, we could confirm that the program led to the improvement of the English proficiency of participants: I didn't feel comfortable speaking in front of people in the past. However, in the presentation, I could speak in English. The program was a good opportunity that opened the path to my future. I hope you provide this type of program more frequently in the future. You should design a program such that students who are not good at English don't feel uncomfortable. Because I did not have much time to learn English during the summer vacation, the program was helpful to raise my motivation to learn before the school restart in autumn. The Institute for Foreign Language Research and Education offers the online English learning program "NEXT" (comprising the General English Training Course, the TOEIC®L R Test Course, and the English Word Power Enhancement Course, a total of six courses). A total of 933 students enrolled in the program for the period from April to September (629 undergraduate students, 287 graduate students, and 17 other students). The number of students). As of the end of AY2018, the percentage of subjects taught in English was 27.4%, an increase of 3.6% from the previous year. As of April 2018, there were 69 degree courses all taught in English, an increase of seven courses from last year.
Me	edium-Term Objectives [5]	Promote global standardization of education in collaboration with other universities to improve the quality of education, and reinforce the campus-wide system for global standardization.
	Medium-Term Plan [12]	Based on the attainment target-type education program implemented in the Second Medium-Term Period, to pursue global standardization of education and improve the quality of education, HU should improve its internal education evaluation systems for undergraduate and graduate schools under the supervision of the Education Promotion Organization, and improve the internationality of the education system based on these evaluations. It should also receive international evaluation of its educational quality assurance systems by the SERU (Student Experience in the Research University), an international consortium of universities.
	Plan for AY2018 [12]	Conduct self-check and evaluation of education in undergraduate and graduate schools. Undergraduate schools should conduct self-check and evaluation by referring to their improvement plans formulated in the previous year. We should examine the proposals related to international evaluation of educational quality assurance conducted last year by the Student Experience in the Research University (SERU) consortium.
	Progress	In the internal educational quality assurance system of Hiroshima University, undergraduate and graduate schools conduct self-check and evaluation as a part of the preparation of an annual report. The Committee of Educational Quality Assurance verifies the appropriateness of their self-check and evaluation and reports the results of the verification to individual undergraduate and graduate schools. Then, based on the results of the verification, undergraduate and graduate schools make improvements to their educational programs and systems and report the results of their improvement activities to the Committee of Educational Quality Assurance in an improvement report. Finally, the Committee of Educational Quality Assurance checks the improvement reports to confirm the results of improvements.

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	Progress	In AY2018, undergraduate and graduate schools conducted self-check and evaluation of their education during AY2017. The Committee of Educational Quality Assurance created a report of the evaluation results. Undergraduate schools conducted self-check and evaluation with an awareness of global competency, in accordance with their respective improvement plans formulated last year, based on evidential common data (such as the percentage of students proceeding to graduate schools and the credit acquisition rate) and the results of the student survey conducted by the Student Experience in the Research University (SERU) consortium. Members of major universities comprising the Student Experience in the Research University (SERU) consortium Team Field Survey Report. We considered actions for proposals made in that report.
Medium-Term Ob	jectives [6]	Expand support to students with various needs (including international students, adult students and students with disabilities) and create and improve the learning environments for these students.
Mediur	n-Term Plan [14]	Introduce a new "pre-enrollment scholarship program" by AY2019. In this program, scholarship students are selected based on the results of admission examinations conducted at overseas satellite centers of the University. The results of the scholarship screening will be notified to the international students before they come to Japan. Expansion of financial support to students should be considered, including the number of students who receive scholarships and the amount and the duration of the scholarships.
Plant	or AY2018 [14]	Graduate schools that have adopted the pre-arrival admission exam system for international students should implement a new pre-enrollment scholarship program and verify the number of recipients and the amounts of scholarships granted in the previous year.
	Progress	In AY2017, the Hiroshima University Pre-Enrollment Scholarship Program was introduced. In the same year, a questionnaire survey was conducted of the recipients of the scholarship. The survey results showed that the recipients were generally satisfied with the number of recipients and the amount of the scholarship. Judging that the current system needed no revision, HU announced the autumn program of the scholarship in August. Five students were recommended from five graduate schools as recipient candidates. In September, as a result of the examination of the candidates, it was decided to provide scholarship to these five students. Combined with the two recipients selected in the spring program, the number of recipients increased to seven in AY2018. In AY2018, information on this scholarship program was posted on the University's website (Japanese and English) and the Student Information System site to ensure that the program would be widely recognized by international applicants under the Pre-Arrival Admission Examination System. As a result, seven students were recommended as recipient candidates in AY2018, an increase by one from AY2017. The University will continue to publicize this scholarship program widely next year and thereafter to pre-enrollment students abroad.
Medium-Term Oh	ioctivos [7]	Introduce a new screening system to accept excellent Japanese and international students with diverse backgrounds from within and outside Japan.

Medium-Term Objectives [7]

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Progress

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	Progress	To develop young researchers and human resources for innovative research, HU should build <u>a system to evaluate and highly recognize ambitious and creative researchers</u> . To achieve this, young researchers <u>need to develop their diversity in a research environment that promotes interdisciplinary research projects</u> , not just silo-type research activities. Based on this idea, in AY2018, HU carried out a project to vitalize the organization in collaboration with a project to expand the international research network (Project No. 21). Specifically, HU has a system to develop global research centers on its campus. Under this system, young researchers were encouraged to form research groups and become the leaders of these groups. Moreover, <u>in addition to the evaluation using AKPI®</u> and other indicators, <u>HU established an evaluation system that appropriately evaluates the potential of young researchers</u> . The international research activities of HU's young researcher group were highly evaluated in AY2018. Specifically, HU encouraged international research activities and disciplinary combination in the interim evaluation of the incubation research center for functional nano-oxides led by a young researcher. This project was designated by the Japan Society for the Promotion of Science (JSPS) as a research center formation project in AY2018. <u>The University also recognized these activities appropriately and promoted the young leader of the research center from associate professor to professor</u> . Similarly, the Genome Editing Innovation Center (a joint education and research facility on campus). Young researchers were intensively allocated to this center as a strategic focus field of the University.
Mediun	n-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 international students, aiming to increase the percentage of international students to over 12% of all students. Increase the percentage of Japanese students with study abroad experience to over 8% of all students. To achieve this objective, HU should encourage students who participated in the START program (a short-stay-abroad program for students in the first year) and other short-stay programs to participate in longer-period study abroad programs.
	Plan for AY2018 [30]	To increase the percentage of international students among all students from the previous year, measures for increasing international students should be reviewed and improved based on verification of measures taken in the previous year. 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. The effect of each study abroad program on the increase in the number of Japanese students sent overseas should be verified.
	Progress	 Quantitative expansion was promoted while maintaining the quality of the study abroad programs. As a result of this effort, the percentage of international students among all students reached 12.5% (as of May 1, 2019), and the percentage of Japanese students sent to foreign universities reached 4.7% (during AY2018). Development of foundations for the development of globally competent people To steadily implement our long-term plan, SPLENDOR PLAN 2017, and to achieve the goals of "Development of Globally Competent People Who Pursue Peace With Their International Education" and "University of World-wide Repute and Splendor for Years into the Future," we repeated discussions on the self-evaluation and the third party's evaluation of the current international strategy and formulated the new "Hiroshima University International Strategy 2022" with AY2022 as the final year. To operate and implement the study abroad exchange programs of the University efficiently and effectively, and to further improve the programs, the Study Abroad and Exchange Program Review Group was established under the International Exchange Promotion Organization to review these programs. The new strategy and the new operating system are expected to promote the development of globally competent people backed by the philosophy and quality assurance of education, not by emphasizing too much on the achievement of numerical targets.

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Progress	 Utilization and dissemination of a Japanese version of the BEVI test (an attribute test that measures adaptability to different cultures) BEVI-J, the Japanese version of the BEVI test developed and introduced in AY2016, enables objective and direct evaluation of study abroad programs and optimizes programs based on the results. Therefore, it has attracted the interest of many universities. In FV2018, we held 29 workshops (with the participation of about 430 people from about 130 universities/institutions/companies) and three presentations at academic conferences (including two overseas). By the end of AY2018, the BEVI-J test was adopted by a total of 11 national and private universities. Including Tsukuba University, and Risumesity, and Risumekian University, and Soka University. Full anoyatate, University, Magoya University, Kansai University, and Risumekian University, and Soka University. The USS, including Osaka-University, Nagoya University in Sweden under a collaboration agreement. During AY2018, the University of the Cultaboration agreement. During AY2018, the University conducted a total of about 4.000 BEVI jests before and after the 38 study abroad programs. All first-year students (about 2,500 students) also took the BEV-I jest. We analyzed the characteristics of students of each department and made a comparison between students who participation in study abroad programs and students who idint. Based on these objective data, we identified what types of students were steleated for these study abroad programs and students who idint: Based on these objective data, we identified what types of students in proved as projected in many programs. To further enhance the contents of the programs, we drew an evaluation report analyzing the score distribution of the students and informed the results to the program maticipating in the study abroad programs. Stance 2010, HU has offered the START Program, a short stay-abroad program for first-yeear undergraduate stu



Provision of special Japanese language and culture study programs to motivate international 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 AY2018, 11 courses were offered and 290 international students were accepted (an increase of 44 from 246 students in AY2017).

In AY2017, the program accepted international students with a hearing disability for the first time. In AY2018, it accepted Chinese students with visual impairments. The program added elements of special support education.

Two of the eight students with hearing disabilities who participated in this program in AY2017 entered HU as research students in AY2018, aiming to proceed to graduate schools next year.

Reinforcement and expansion of overseas satellite centers

In addition to the 16 overseas satellite centers established in fourteen countries/regions by AY2017, two satellite centers were added in AY2018 to strengthen their functions further (a total of 18 satellite centers in 15 countries/regions as of the end of AY2018). In August 2018, HU established the

Progress

Expansion of medium- and long-term student exchange programs
As a part of the Project to Promote Globalization of Universities, the PEACE program and the ILDP Program have been implemented. The PEACE
Student Exchange 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 "ILDP (International Linkage Degree Program) for Implementing Leading-Edge
Technology in Society" started in AY2017, and about 36 students a year are exchanged with universities in India. Through these programs, the
University has promoted short-, medium- and long-term student exchange with universities in Asia with cross granting of curricular credits.
As for the "AIMS-HU Program," which was adopted in AY2013 and whose subsidy period ended in AY2017, HU continued a student exchange
program in AY2018 by finding personnel and financial sources from within HU.

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Plan for AY2	With the introduction of degree courses taught in English, HU should increase subjects taught in foreign languages to about 30% of all subjects both in undergraduate and graduate schools in AY2020. Japanese language classes by proficiency level should also be offered, and a questionnaire survey should be conducted regarding the proficiency levels of students.
Progre	 The Curriculum Committee of the Headquarters for Education urged the expansion of graduate courses all taught in English. As a result, seven courses taught in English were added in AY2018, totaling 69 courses. Participants in the "How to Teach in English" FD increased from 34 in AY2015 to 65 in AY2016, to 109 in AY2017 and to 111 in AY2018. By these efforts, the percentage of subjects taught in foreign languages had reached 29.2% of all subjects of undergraduate and graduate schools (3,647 of 12,492 subjects) as of March 2019, significantly exceeding the target of 20% for AY2018. In AY2019 the number of subjects taught in foreign languages will further increase. The Department of Integrated Global Studies, School of Integrated Arts and Sciences, will start specialty subjects taught in English. A total of 141 subjects in liberal arts will be taught mainly in English (Peace Education: 4 subjects, University Education Basics: 8 subjects). Brush-up seminar for Japanese teachers residing overseas The Morito Institute of Global Higher Education, established in October 2018, aims to become an education center for the Japanese language and culture where sophisticated Japanese Teachers Brush-up Seminar, designed to retrain overseas. In May 2018, the Morito Institute implemented the first Overseas Japanese Teachers Brush-up Seminar, designed to retrain overseas Japanese teachers at HU. Six overseas Japanese Teachers Brush-up Seminar, designed to retrain overseas Japanese teachers at HU. Six overseas Japanese Teachers Brush-up Seminar, designed to retrain overseas Japanese teachers at Hu. Six overseas Japanese Teachers Brush-up Seminar, designed to retrain overseas Japanese teachers at HU. Six overseas Japanese Teachers Brush-up Seminar, designed to retrain overseas Japanese teachers at HU. Six overseas Japanese Teachers Brush-up Seminar, designed to retrain overseas Japanese teachers at HU. Six overseas Japanese Teachers Brush-up Seminar, designed to retrain overseas Japanese teache
Medium-Term	By AY2019, encourage, Japanese students (about 12% of all Japanese students at HU) to live in boarding houses with international students to promote
Plan for AY2	018 [34] Improve the status of the university-leased mixed-boarding student houses based on the verification conducted last year.

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The goal for this year was to reduce operating expenses while securing the same number of occupants as the previous year by considering the results of the previous year's verification (i.e., the occupancy rates of international students and Japanese students in the mixed-boarding houses) and the creation of a new housing program for international students.

To broaden the range of choices of housing for international students, besides the existing Ikenoue Dormitory, the International House, Sun Square Higashi-Hiroshima, designated international student apartment houses with life support (new housing program) and affiliated apartment houses were added. The solicitation for application was announced in April.

With the introduction of designated international student apartment houses with life support (new housing program), Wit

Progress

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Progres	To increase the number of teachers who work under the annual compensation system, HU distributed a leaflet that outlines the annual compensation system 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 reached 23.4% of all teachers as of March 31, 2019 (an increase of 1.1% from the previous year), significantly exceeding the target of 17.4%. 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 21.7% (an increase of 1.5% from the previous year). Based on the guidelines published by MEXT in February 2019 and the statuses of other universities, HU is considering new salary systems, including a new annual compensation system, as part of the reform of personnel and salary management affairs. The new annual compensation system will be introduced by the end of AY2019. An English leaflet was created to promote the use of the Cross Appointment System among organizations abroad. It was decided that, in principle, the Cross Appointment System applies to foreign teachers who are hired for a short term under the labor cost point hiring quota. The use status of the Cross Appointment System as of March 31, 2019 increased to 18 agreements (seven agreements with foreign organizations). To promote further use of the Cross Appointment System, in April 2018, "researchers" and "education and research promoters" (coordinators, managers, etc.)" were added to the range of applicable employees. In April 2019, "teachers providing donated lectures and other similar teachers" will be added to the range of applicable employees. In April 2019, "teachers providing donated lectures and other similar teachers" will be added to the range of applicable employees. In April 2019, "teachers providing donated lectures and other similar teachers" w
Medium-Term F	teacher employment plan.
Plan for AY20	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 31% (or 17.6% for teachers to whom the accumulation of operating cost subsidies for severance benefits applies) by implementing personnel deployment in accordance with the Teacher Deployment Policy based on the plan for hiring young researchers.

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Progress	Loc 出た 生 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 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. 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 education and research aclivities by hiring young researchers and contribute to the development of science by developing their abilities, a "Young Assistant Professor (35 years and under) Recruitment Quota' was set. Under this quota, 26 researchers were examined 16 applicants for employment of young teachers, HU offered young assistant professor positions for AY2019 and examined 16 applicants for employment until May 2019. The examination for employment will be conducted by October 2019. By utilizing the subsidies from the MEXT "Building of Consortia for the Development of Human Resources in Science and Technology" project, HU decided to select three candidates for employment in the 10th period (AY2019 first term) and select seven posts for a public job offer in the 11th period (AY2019 second term) and 12th period (AY2020 first term). By utilizing subsidies from the MEXT "Leading Initiative for Excellent Young Researchers' program (for researchers newly hired in AY2019). HU decided to select two posts for a public job offer in the 11th period (AY2019 second term) and 12th period (AY2020 first term). By utilizing subsi
	 (4) Utilize the Reserve for Special Purpose to add more young teachers (5) 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" (approved by the Board on November 21, 2017). In accordance with this policy, HU should recruit tenure-track teachers. (6) 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 to promote medium- and long-term employment of young researchers.

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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 AY2018 [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 17.1% of all teachers and female managers should be increased to about 15.5% of all managers by implementing personnel deployment in accordance with the Teacher Deployment Policy.
Progress	The percentage of female teachers at the end of March was 17.0% (an increase of 0.9% from the previous year) against the target of 17.1%. Under the central management of personnel affairs of teachers, as a part of the effort to recruit diverse human resources, HU continued to set the "Female Teachers Recruitment Quota" when it submitted a personnel request and offered 28 posts to female teachers. In <u>AY2018, HU continued</u> the Positive Action in Recruiting Teachers Program. It is a program to choose a female teacher preferentially if the achievement and other evaluation results are on the same level. HU also continued open job offers targeting women only as a part of the MEXT "Building of Consortia for the Development of Human Resources in Science and Technology" program. <u>HU created new internal promotion, which will take effect from AY2020</u> . As one of the request categories, the <u>Female Manager Recruitment Quota was set to secure diverse human resources</u> by improving gender equality and the percentage of female teachers in the Third Medium-Term Plan and the "Initiative for the Implementation of Diversity in Research Environment" (leading type) of MEXT. At the meetings of the Committee, members exchanged opinions for active recruitment of female researchers and requested cooperation in research on excellent female researchers that would lead to future human resource requirements. The Education and Research Council announced the percentage of female teachers among all positions offered and the percentage of texisting female teachers every quarter. Under the "Initiative for the Implementation of Diversity in Research Environment" (leading type) of MEXT, to broaden the base of future female researchers. HU has started the Career Advancement Project (CAP) Researcher Program, which is an initiative to support the career restart of female researchers. The Education and Research Council and other decision-maker positions relating to the University and to increase the number of female senior managers, the Central Perso

I. Operations and financial conditions

(1) Objectives relating to improvement of operation and efficiency

(i) Improvement of operation of the organization

[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. [20] Improve the environment for stronger leadership by the President and allocate internal resources strategically by utilizing IR. [21] Enhance the international competence of teachers and staff members capable of providing excellent education and conducting research activities in the competitive international

Medium-Term Objectives

- environment.
- [22] Develop administrative staff members having knowledge on specialty fields who can provide stronger support to educational and research activities. [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.

Medium-Term Plan	Annual Plan	Progress
[44] To realize independent operation with a wide range of perspectives, opinions from external members of the Administrative Council (including foreign members) should be collected and reflected in the operation of the University as a corporation via interviews between the President and deans/directors of departments.	[44] 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.	IV
decision-making processes. The President and Auditors should hold regular	results of audits by auditors, and these results should be reflected in the operation of the University as a	111
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[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.	[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 31% (or 17.6% for teachers to whom the accumulation of operating cost subsidies for severance benefits applies) by implementing personnel deployment in accordance with the Teacher Deployment Policy based on the plan for hiring young researchers.	111
[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.	[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. These activities should be reviewed and, if necessary, improvement measures to be taken in the following years should be developed.	111
[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 AY2019, HU should strive to receive accreditation for compliance with the "General Employer Action Plan" (third period) of the Ministry of Health, Labor and Welfare under the Act on Advancement of Measures to Support Raising Next-Generation Children.	[50] Based on the "General Employer Action Plan" (third period) for the period from AY2014 to AY2019, HU	

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

(ii) Objective relating to restructuring of the education and research organizations

Medium-Term [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.

Medium-Term Plan	Annual Plan	Progress
[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.	[52] Taking advantage of the characteristics and strengths of the University, we should further consider the establishment of educational/research organizations (graduate schools) that would lead to the functional enhancement of all graduate schools, and we should also review the enrollment quotas. Establish the School of Informatics and Data Science and the Department of Integrated Global Studies, School of Integrated Arts and Sciences.	II
[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.	[53] HU should make preparations for the establishment of the Graduate School of Integrated Life Science (tentative name) as an educational and research organization that leads to enhancement of functions of the life and biological fields and the restructuring of the Graduate School of Biomedical & Health Sciences into the Graduate School of Biomedical and Health Sciences (tentative name).	III
[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.	[54] The grade progression of the Professional Development Program for Teachers and School Leaders was completed. Accordingly, the statuses of the curriculum teaching, the progress of the development of students, employment rates of gradated students as teachers and other statuses should be verified. Representatives from relevant boards of education and relevant school officials should join the reviewing organization and discuss the evaluation and improvement of the education contents and methods.	

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

Medium-Term [25] To rationalize and improve the efficiency of administrative operations, the administrative organizations and operations should be reviewed and restructured. The abilities of administrative staff members should also be improved.

Annual Plan

Progress

[55]

Orgoing inspection and review of organizations and overall operations should be conducted. Administrative operations should be rationalized to improve their efficiency, by transferring management of information currently conducted by different systems to a central management system, expanding the on-line application system, establishing an ICT system, and improving the abilities of administrative staff members by practical job training and training programs by a3 (s)-9 (by)-9.a aogrT Q BT14.9 ()]Tt.9 (y 52.080313.9ITc 0.168 v080362 Tc 0.168

Strengthening of governance

i) 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 2018. 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. As for points that require improvement in the education area in the School of Dentistry, it was pointed out that the School should set a target for the national examination pass rate and work on education to achieve this target. To address this, the School of Dentistry now keeps the self-study room open until 22:00 for all students except 6th-year students. Security cameras were newly installed in each passage to ensure the safety of students.

To reflect constructive opinions of young teachers (under 40) in the operation of the University as a corporation, an opinion exchange meeting was held in September between external reviewers (including one or more external members of the Administrative Council) and young teachers.

ii) Activities to establish new operating structure [Project No. 45]

In response to "Operating Structure for New Education and Research Organizations (Report)" (May 22, 2018), HU took actions to establish a new operating structure. To conduct specific examinations, a new Working Group was formed and discussed the detailed design of the new operating structure, improvement of the educational and research environment, operating organizations, budget allocation, personnel system, and other issues. Before the discussion of the Working Group, a university-wide information exchange meeting (once) and opinion exchange meetings at individual graduate schools (four times) were also conducted to share information and listen to opinions.

iii) Activities to review and improve the operating structure [Project No. 45] To strategically manage the University, the Vice President in Charge of University Management Planning was reappointed as the Vice President in Charge of University Strategy. The Office of the President and the University Management Planning Office were reorganized into the Office of University Strategy. To strengthen regional collaboration and industry-academia collaboration, the posts of Vice Executive in Charge of Regional Cooperation and Vice Executive in Charge of Industry-Academia Collaboration were newly created in the Office of Industry-Academia-Government and Community Collaboration. Special assistants to the President, who can make proposal at the request of the President or autonomously, were appointed from among young teachers and the chairperson of the former committee of teachers and administrative employees. They held an opinion exchange meeting once a month in principle, which led to the improvement of the quality of education and research activities and improvement of university management.

- iv) Strategic allocation of internal resources [Project No. 46]
 Please refer to "Actions for Strategic and Ambitious Objectives and Plans" on p. 35.
- v) Acquisition of diverse and excellent human resources [Project No. 47] Please refer to "Actions for Strategic and Ambitious Objectives and Plans" on p. 35.
- vi) Providing more career opportunities to young excellent teachers in all departments [Project No. 48]
 Please refer to "Actions for Strategic and Ambitious Objectives and Plan" on pp. 35 and 36.

Development of administrative staff members

- i) Global competency of administrative staff members [Project No. 49] To enhance the 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 language training (for TOEIC) and conducted other activities. As a result, as of March 31, 2019, the percentage had increased to 16.3%.
- ii) Activities in accordance with the administrative personnel development plan [Project Nos. 49 and 55]

To recruit persons who enthusiastically wish to work at HU and to retain employees with diverse ambitions, since AY2013, HU has conducted its original employment examination once a year, in addition to the uniform government employment examinations. In AY2018, HU conducted its original employment examination three times a year to provide employment opportunities to students who graduate at different times from others and people who are seeking to change jobs. HU employed by its original employment examinations 15 administrative employees, including those who have foreign nationalities or have work experience at private companies (one by the end of AY2018, and 14 as of April 1, 2019).

To enhance the linguistic abilities and understanding of different cultures of administrative staff members, HU sent 12 employees to overseas training programs in nine countries and conducted a TOEIC®IP test skill development training program (a total of 84 employees took the test), skill development training by on-line English conversation lessons (with the participation of 41 employees) and a TOEIC® English training program (with the participation of 12 employees).

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these courses in April 2019, HU negotiated with MEXT. As a result, HU submitted a school establishment report to MEXT on August 17. As it was accepted on August 20, the establishment of the Graduate School of Integrated Life Science and the Graduate School of Directors decided to establish the Committee for Establishment of the Graduate School of Integrated Life Science and the Graduate School of Integrated Life Science and the Graduate School of Directors decided to establish the Committee for Establishment of the Graduate School of Integrated Life Science and the Committee for Establishment of the Graduate School of Biomedical and Health Sciences and began specific preparations for the establishment of these two schools.

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.

Medium-Term Plan	Annual Plan	Progress
outside Japan. Based on an analysis of the investigation, a more efficient funding	[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, we should review and improve the issues identified in the verification of funding strategies, such as donation methods and public relations, which were compiled in the previous year.	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
conduct financial analysis of expenses of each segment, set the cost reduction	[58] To hold down the percentage of general administrative expenses, based on the financial analysis of expenses of each segment, HU should 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.	

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.

Medium-Term Plan

Annual Plan

Progress

[59] Continue the collection and verification of information regarding the use statuses

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 addition of joint research lectures, the expansion of the "Fund to Vitalize Hiroshima Prefecture where Hiroshima University Can Play Active Roles," and university-wide support for the activities to be adopted as projects under the open subsidy programs of AMED, JST and others, mainly led by URAs. As a result, the amount of external funds per full-time teacher acquired in AY2018 was 7,630,000 yen, an increase to about 128% of the amount at the end of the Second Medium-Term Period (the external funds 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 AY2019 was calculated for each segment (i.e. unit for accounting purposes), and financial analysis of causes for increase/decrease from the previous year and other matters was implemented. The results of the analysis were reported to all accounting controllers of 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 AY2018, the budgets for administrative expenses (including consumable goods) 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 92,648,000 yen).

Electricity service contracts of other universities and their actual costs were examined and analyzed. Based on the results of these examinations and analysis, <u>HU concluded long-term</u> (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. In <u>AY2018</u>, the total annual electricity charge decreased by 45,529,000 yen compared with that before the restructuring of the contracts.

From AY2017, HU adopted the Management Integrated ESCO program for the entire Kashiwa Campus. <u>Systems were updated and renovated in FY2017 and FY2018. From</u> AY2019, an energy cost reduction of 180 million yen is expected over eight years. The energy saving effect is maintained after the project is completed. A reduction of 140 million yen is expected every year from the 9th year (FY2027).

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

In December 2018, HU filed an application with MEXT to obtain approval for lending the former site of employee housing (the Amazuyama Apartment Complex, located in Ushida-Shinmachi, Higashi-ku, Hiroshima City) to third parties as a parking lot, in accordance with Article 34-2 of the Act of National University Corporations. <u>If the land is used as a parking lot, revenues of approximately 30,000 thousand yen are expected in ten years.</u>

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 and offered for an open bidding. As a result, the commission fees received for lending spaces for vending machines increased 11% from AY2017. Revenues in AY2018 were 32,382,000 yen (an increase of 8,417,000 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 and START+, a step-up study abroad program for students in the second and third years that is more focused on development of linguistic abilities of students.

Activities to solicit donations

- i) Establishment of the Office of Funding [Project No. 57] To expand the funds, the Office of Funding was established under the President in April 2018 and dedicated staff members were appointed.
- ii) Change in the bank transfer slip attached to the leaflet and acceptance of transfer by online banking [Project No. 57]

The payment slip for donations attached to the leaflet enclosed with the alumni newsletter and public relations magazines has been a slip exclusively for payment via Japan Post Bank. In AY2018, HU changed the payment slip to a slip that can be used for other banks to improve the convenience for donors. As a result, HU received 37 donations of 20,718,000 yen through other banks than Japan Post Bank. HU also accepted payment of donations by online banking so that donors need not go to the teller counter of a bank. There were 17 donations of 71,385,000 yen via online banking.

- iii) Creation of a new fund, looking forward to the 75th anniversary [Project No. 57] In 2024, HU will celebrate its 75th anniversary. In preparation for the 75th anniversary, HU established the "Fund to Vitalize Hiroshima Prefecture where Hiroshima University Can Play Active Roles" in AY2017. It started raising start-up funds from members within the University. Subsequently, in April 2018, the fund started solicitation of donations from outside parties. In this Fund, donors can also choose to donate to the Student Support Fund. The purposes of the Fund were expanded. In addition to the existing student support and international exchange programs, the Fund added a research support program, an education and research environment improvement program, and a social contribution program. <u>Following</u> the general meeting for the establishment of the Fund Committee in July 2018, to promote the activities of the Committee, meetings of the Fund Committee Vice Chairman were held from November to December to call for donations. As a result, there were 14 donations of <u>72,030,000 yen</u>
- iv) Establishment of a fund for Hiroshima University Satake Memorial Hall [Project No. 57] <u>It has been sixteen years since Satake Memorial Hall was constructed with the donation of</u> <u>one billion yen from Toshiko Satake, the representative of Satake Corporation. The aging of</u>

the Hall is now conspicuous. HU founded the Hiroshima University Satake Memorial Hall Fund to maintain and manage the Hall.

v) Conclusion of an agreement with a local bank for acceptance of donations by bequest [Project No. 57]

HU has concluded an agreement with Hiroshima Bank, a local bank in the region, to prepare for accepting donations by bequest. An open bequest seminar was held in collaboration with Hiroshima Bank, which was participated by 69 interested citizens.

vi) Application for tax exemption of specially approved deemed transfer income tax and special treatment of specified replacement assets [Project No. 57]
 With the FY2018 revision of the taxation system, the scope of tax exemption for specially approved deemed transfer income tax and special treatment of specified replacement assets has been expanded to include national university corporations. In March 2019, HU applied for a certificate of approval to make the acceptance of donations in kind easier.

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
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). HU should also receive an international evaluation of its educational guality assurance systems by SERU	[60] To maintain and improve the quality of its educational and research activities, by using the evaluation items set by HU, HU should conduct a self-check and evaluation. Based on the results of the self-check and evaluation, an evaluation of the organization should also be performed by outside parties (including one or more external members of the Administrative Council). The evaluation items, evaluation details, and the implementation system should also be verified, and the method of the organization evaluation should be modified as necessary. We should examine the proposals related to international evaluation of the educational quality assurance conducted last year by the Student Experience in the Research University (SERU) consortium.	Ξ

- 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

	[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.
Objectives	[31] Implement publicity activities that contribute to enhancement of the recognition and reputation of HU in and outside Japan.

Medium-Term Plan	Annual Plan	
[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] We should disclose and communicate the results of the self-check and evaluation of individual departments positively and in an easy-to-understand manner. To achieve this, we should review the effectiveness of or problems in the communication based on the results of the verification conducted in the previous year. Questionnaires for outsiders related to public relations and other methods should also be used, and their results should be verified.	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] Consider and implement measures for the effective use of social media to effectively communicate information on educational and research activities of the University. The communication of research results of HU implemented in the previous year should be verified. Based on the verification, the functions of the Hiroshima University Institutional Repository should be expanded, and the publication of books by the Hiroshima University Publication Business should also be expanded.	IV
[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] Verify the established information communication system in light of the purpose of disseminating information to overseas academic journals and foreign media.	III

Self-check and evaluation

i) mprovement 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. 27 and 28.

ii) Self-check and evaluation from a holistic viewpoint for the entire University [Project No. 60] In September 2018, individual departments of HU received external evaluations by external reviewers (including at least one member of the Administrative Council) regarding their self-check and evaluation conducted in AY2017. In these evaluations focusing on unique characteristics of education and research activities of individual departments, 160 items that need improvement were pointed out and requests and advice were given to further enhance their characteristics. Based on the requests and advice stated in the evaluation report, individual departments developed and implemented improvement plans. Improvement actions taken by these departments were checked by the all-campus evaluation committee. In addition, from December 2018 to January 2019, the President interviewed deans and directors of individual departments to check the progress of their improvement actions, made requests, and gave advice on improvement of problems as needed to enhance the characteristics of individual departments. As for points that require improvement in the education area in the School of Dentistry, it was pointed out that the School should set a target for the national examination pass rate and work on education to achieve this target. To address this, the School of Dentistry now keeps the self-study room open until 22:00 for all students except 6th-year students. Security cameras were newly installed in each passage to ensure the safety of students.

The results of the self-check and evaluation of individual departments, the results of the external evaluations of individual departments, improvement actions taken, requests and advice given by the President at the interviews with deans/directors, and actions taken for such requests/advice were reported at the opinion exchange meeting held in March 2019 between external members of the Administrative Council and all officers, deans and directors of the University.

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

Regarding proposals for the evaluation conducted by the International Inter-University Consortium (SERU) in AY2017 regarding HU's quality assurance of international education, members of major universities comprising the SERU consortium compiled the peer review results into the SERU Consortium Team Field Survey Report. We considered actions for proposals made in that report.

iv) On-going evaluation of educational and research activities of teachers [Project No. 60] In accordance with the "Basic Policy for Personal Evaluation of Teachers" (established by the Education and Research Council), HU implemented on-going evaluation of activities of individual teachers by expressing the performance of each individual teacher by individual scores. Aiming to stimulate and improve the guality of educational and research activities, the Policy stipulates that all teachers should recognize their research abilities and that the University should correctly and fairly evaluate and treat excellent researchers and urge under-performing teachers to improve their performance by understanding their problems. Engagement and achievements of each teacher in educational and research activities, social activities and university management during the previous year are evaluated for items designated by the department and expressed by individual scores. The results of the evaluation are reflected in the compensation for the teacher.

Provision of information

 i) Creation of websites for new graduate schools [Project No. 61 To enhance the recognition of the Graduate School of Integrated Life Science and the Graduate School of Biomedical and Health Sciences, new schools to be established in April 2019, websites for these schools were created in Japanese and English. (Site setup month: October 2018)

Visits to the websites were as follows:

Graduate School of Integrated Life Science: 322,918 to the Japanese site, 2,981 to the English site

Graduate School of Biomedical and Health Sciences: 13,977 to the Japanese site, 2,101 to the English site

 Multilingual interface of the official website [Project Nos. 61 and 62] To increase the volume of information provided on HU's official website in foreign languages (English, Chinese, Arabic, and Spanish), <u>HU updated the English web pages at least once a</u> week, the Chinese pages about four times a month, and the Arabic and the Spanish pages about once a month.

As of March 31, 2019, visitors to the Arabic web pages were 5,964 (compared to 5,801 in AY2017) and visitors to the Spanish web pages were 6,432 (compared to 6,411 in AY2017).

iii) Utilization of responses to questionnaires from outside the University related to public relations [Project No. 62]

HU recruited 34 people who are outsiders to the University to answer questionnaires about its public relations. Through these questionnaire surveys, HU collected outsiders' opinions about its newsletters and official website. <u>Hiroshima University has participated in the Web</u> <u>Grand Prix hosted by Japan Advertiser Association, Inc. since last year. This year,</u>

Hiroshima University was awarded the second prize of the "Corporate Grand Prix" Asakawa Award for its website accessibility.

In AY2017, HU started the Public Relations Student Directors system to reflect opinions of students in its public relations activities. In AY2018, HU appointed 24 students as Student Directors for the second year (16 in the first year).

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

at HU. These articles were posted on the official website of Hiroshima University and in other publications.

- iv) Establishment of the Public Relations Advisor System [Project No. 62] <u>HU established the Public Relations Advisor System in AY2018.</u> Three advisors were appointed from outside the University and had their first meeting of the Public Relations Advisors on March 11, 2019. The purpose of this system is to receive advanced knowledge and know-how of experts from outside the University in their specialized fields and their unique and non-stereotyped opinions from international and multifaceted perspectives to enhance the brand power and visibility of Hiroshima University.
- v) Active use of SNS for public relation 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 the University. Followers of the HU account reached 3,047. Followers of major national universities are as follows: 7,391 followers for Osaka University (started use in August 2015), 4,668 followers for Tsukuba University (started use in February 2017), and 3,610 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. HU also continued usage of Twitter and Facebook (in Japanese and English) to distribute information to various users. Currently, HU has 13,131 followers on Twitter (compared to 11,753 in AY2017), 14,846 followers on Facebook (in Japanese) (compared to 8,380 in AY2017), and 1,262 followers on Facebook (in English) (compared to 1,014 in AY2017). Followers of major national universities on Twitter are as follows: 36,395 followers for Tokyo University, 21,303 followers for Osaka University, and 20,819 followers for Kyoto University. Followers of major national universities on Facebook are as follows: 34,023 followers for Tokyo University, 21,762 followers for Kyoto University, and 13,785 followers for Osaka University.
- vi) Activities to communicate information via mass media [Project No. 62] HU actively used radio programs and TV programs to communicate information about student activities and research and education activities at Hiroshima University. As for radio programs, HU has a new segment, "Hiroshima University Radio Campus" (twice a month, five minutes each), on a radio program whose major listeners are junior and senior high school students. Students and researchers from Hiroshima University are invited to talk about extracurricular activities, research results, and other information about the daily activities at Hiroshima University.
- vii) Public relations by using the Tokyo Office [Project No. 62]

As one of the activities to disseminate information about the University to the public using the Tokyo office, <u>we started an open seminar</u>, <u>Hiroshima University Tamachi Lab, in</u> <u>December</u>. In AY2018, five seminars of "Wonderland of Information Science" were held on the theme of applications of AI and data science in collaboration with the School of Informatics and Data Science, which was newly established in April 2018.

 viii) Active international public relations [Project No. 63] To actively communicate the research results and activities of Hiroshima University to the world, HU sent 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: 12 sent, 3 published; JSPS: 10 sent, 2 published).

HU also issued HU UPDATE (Hiroshima University e-mail newsletter) twice during AY2018, which delivered information about results of research activities at HU and other latest topics in English. The HU UPDATE newsletter was sent to about 200 overseas partner universities under inter-university exchange agreements. Teachers of HU also sent HU UPDATE to their friends 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!: 10 releases) (AlphaGalileo: 10 releases)

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.

Medium-Term Plan	Annual Plan	
[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 Engineering Education Building 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.	111
[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 space properly for educational activities and research activities. Shared-use spaces for all departmen	

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

Medium-Term Plan	Annual Plan	Progress
Enhance awareness of risk management, safety and health by offering regular	[66] Enhance safety and health management further based on the previous year's inspection and evaluation of the safety management system and confirmation of 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.	

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.

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 and training and education of students, teachers and other employees and should verify them before they will be implemented in AY2019.	111
[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]	1 1

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: (School of Engineering) renovation of B1 and B4 Lecture Buildings; (Higashi-Hiroshima) roof water-proof work of the Central Library; (Higashi-Hiroshima) replacement of lighting fixtures of the West Library; and other works.

The following works were also implemented:

(Midori attached junior and senior high schools) school building renovation; (Kasumi) repair of the air-conditioning system in the animal laboratory; (Kasumi) renovation of the exercise room on the 3rd floor of the Second Basic Research Laboratory; and (School of Science) renovation of the control system for the elevator in the Research Laboratory. Through these works, HU improved its facilities to respond to the needs of more advanced and diversified education and research activities.

- ii) mprovement of facilities by utilizing diverse funding sources [Project No. 64] We appropriated a subsidy of the Hiroshima Prefecture Medical Facility Maintenance Costs Subsidy Program, donations by the Hiroshima Prefecture Medical Association and funds from other external sources to the renovation of the first floor of the Second Clinical Research Laboratory and the maintenance of the Center for Cause of Death Investigation Research (438 m²).
- iii) Activities for environmental preservation and active energy management [Project No. 64] On the Higashi-Hiroshima Campus, HU replaced the 200 W outdoor lights with LED lights (39 lights), renewed air conditioners to the latest energy-saving type (43 units), renewed existing fluorescent lights to LED lights (mainly in the West Library, 269 lights), and renewed the transformers in the F Building of the School of Education and the administrative building of the School of Engineering to energy-saving types. As a result of these efforts, the electricity consumption in AY2018 was reduced by about 113,242 kWh from AY2017. HU has concluded a contract for a new type of management-integrated ESCO system, including management service on the Kasumi Campus. Setting a goal of reducing CO₂ emission by 3,361 tons in AY2019, facilities and equipment were renovated.

iv) Effective use, maintenance and management of facilities [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 activities and to respond to the need for areas for new activities, the Higashi-Hiroshima
Campus created a table of spaces allocated to teachers for the current year and reported it to individual departments. HU will continue this space request/registration system to improve space allocation to teachers further.

(ii) Examination of the actual use statuses of facilities

HU investigated the actual use statuses of the facilities of the Graduate School of Integrated Arts and Sciences (School of Integrated Arts and Science) and the Graduate School for International Development and Cooperation to identify problems. HU requested the administrators of these facilities to improve the identified problems.

(iii) Introduction of a space charge system

To secure financial sources necessary for future facility management and maintenance, HU started a full-scale operation of the space charge system applicable to all departments. As a result, revenues to be appropriated to maintenance/repair increased in AY2018.

(iv) Expansion of shared-use spaces for all departments

As of the end of AY2018, shared-use spaces were expanded to 12,267 m² from 7,689 m² as of the end of AY2017 (an increase of 59%).

Enhancement of the safety and health management system

No smoking in all areas on the campus [Project No. 66]

In AY2018, HU took thorough action against passive smoking as one of its safety and health goals. On August 1, 2018, HU established the Working Group on No Smoking on Campus under the Safety and Health Committee. Based on the deliberations by the Working Group, the Board of Directors decided to adopt the rule of no smoking in all areas on campus from January 2020. <u>On</u> January 25, 2019, HU announced inside and outside the University the "Hiroshima University" Declaration of No Smoking on Campus" and a road map that outlined the activities to be taken until the effectuation of the no-smoking rule.

Improvement of the Risk Management System

Confirmation of the safety of people of Hiroshima University [Project No. 66] HU conducted safety confirmation drills using the safety confirmation system twice for its students, teachers, and administrative staff members. The response rate within 24 hours after sending a drill e-mail improved in the second drill, indicating that people at HU understood the importance of safety confirmation and response to a confirmation e-mail.

When torrential rain hit the Chugoku Region before dawn on July 6, 2018, HU confirmed the safety of HU people using the safety confirmation system on the following day, quickly identified HU people who suffered injuries or damage to their properties, and considered what support the University could provide to them.

HU verified the safety confirmation method in the event of a torrential rainfall disaster. Moreover, to raise the awareness of risk management, HU revised the safety confirmation manual, established safety confirmation procedures, and communicated these procedures to people in HU.

Activities relating to compliance

 Improvement of the system to prevent dishonest acts in research activities [Project No. 67] A research ethics education seminar, including compliance education, was conducted as a university-wide FD. From August 2018 to January 2019, the Dishonest Act Prevention Action

(i) A series of information security and compliance education programs, which have been implemented since 2011, were provided to all people within the University. <u>As a result</u>, we could minimize the occurrence of serious information security incidents:

[Freshman Course (lectures)]: for students in the first year (3,463 students, 93.7% participation rate in AY2018)

[Freshman Course (online)]: for students in the first year (4,915 students, 96.2% participation rate in AY2018)

[Follow-up Course]: 16,106 participants, 85.7% in AY2018).

For teachers and administrative staff members, ten sessions of information security training were also provided to raise their awareness and acquire knowledge about information security (736 participants in AY2017 \rightarrow 740 in AY2018).

(ii) HU has implemented information security incident response training. The scope of participants was expanded in AY2018. As a result, the occurrence of serious information security incidents could be minimized.

Applicable employees: 3,496 full-time teachers and administrative staff members) in FY2017

 \rightarrow 20,184 officers, teachers and administrative staff members (excluding part-time employees and employees on leave) and students (excluding part-time students, students)

on leave, students studying abroad) in AY2018).

Typical drills of this kind usually send a suspicious e-mail to users and check how many users opened the e-mail (aiming at a goal of 0%). In the training of the University, we emphasize a perfect initial response so that users can take appropriate action promptly when an information security incident occurs. We will continue to implement this training in the future, aiming to achieve 100% participation of applicable users.

[Pre-drill education]: 1,986 teachers and administrative staff members, 56.8% in AY2017 \rightarrow 2,852, 52.3% in AY2018; 2,656 students, 18.0% in AY2018

[Drill] 1,919 teachers and administrative staff members, 54.9% in AY2017 \rightarrow 4,109, 75.3%

in AY2018 (*an increase of 22.2% in a comparison based on the number of applicable users in AY2017); 5,858 students, 39.8% in AY2018.

(iii) An information website for pre-enrollees was created as the first initiative of the University to provide enrollees of undergraduate schools with various types of information that they need to know before they start their campus life at the University. The website is also equipped with the function to check the viewers and their understanding. The contents include information on requisite laptop computers and educational materials related to information security and compliance. The website was visited by 58.4% of enrollees before their first term started.

Establishment of procedures for quick responses (activities to minimize damage) 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 within one hour from receipt of the notification. In AY2018, HU received 178 notifications from NII-SOCS. It responded to all of these incidents in accordance with this system. As a result, serious information security incidents could be minimized.

In addition to the network zone-based blocking of communications from specific IP addresses implemented in the past, in March 2019, device-based blocking of communications from specific MAC addresses was started. As a result, HU could maintain information security while minimizing the impact on its education and research activities.

(ii) HU provided the CSIRT (Computer Security Incident Response Team) members with 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 92.8% in AY2018. As a measure to minimize damage, this training will be continued in AY2019.

Actions for the Torrential Rainfall Disaster in July 2018

i) Establishment of an organization for support and recovery led by the President [No project number]

To cope with the torrential rainfall damage that occurred before dawn on July 6, HU established the Disaster Action Task Force led by the President on July 7, the day following the incident. It confirmed the safety of people at HU, took actions to resume classes, and made and implemented decisions on support for disaster victims, including international students. The Task Force held a total of seven meetings from July to October to share information on the damage situation and the University's response and communicated the progress on the official website of HU. On July 8, the President sent a message to all people within HU. The president sent a letter to partner schools under inter-university agreements. The president also sent a message to parents/families of current students (about 14,000 students, excluding international students).

ii) Actions to resume classes [No project number]

Considering the damage situation at HU and the progress of the resumption of public transportation, HU changed the school year calendar. For students and employees who had difficulty in commuting, transportation from the station was secured, such as public buses borrowed for a short period. For students who were totally unable to commute to school, student housing was urgently offered. Out of 27 applicants (9 male students, 18 female students), six students moved to the Ikenoue Dormitory (which can accommodate 54 male students), and six moved to housing with furniture provided by the co-op.

iii) Support for international students [No project number]

On July 9, HU offered 120 free emergency meals and 770 halal *momiji manju* (bean-jam buns) to about 150 international students. Information was quickly disseminated on the official website of HU in three languages: Japanese, English, and Chinese. <u>HU received many</u> comments from international students that they were satisfied with the actions of HU, such as "It was very kind of you to provide support to international students. Thank you very much for your support." and "I felt relieved as you provided disaster information in Chinese."

iv) Student volunteers [No project number]

A total of over 1,300 students participated in volunteer activities through the student volunteer groups "Operation Tsunagari (Higashi-Hiroshima)" and "COCO (Kasumi)." The University borrowed 40 buses to support their volunteer activities. It also conducted a questionnaire survey of students about their volunteer activities and compiled them into a report. On the morning of July 7 soon after the torrential rainfall disaster, fifteen HU students, who saw postings on SNSs that cars were stuck on the road, purchased snacks and drinks, went out to the scene, handed them to the stuck drivers, and volunteered to guide traffic. The activities of these students were reported in the Chugoku Shimbun newspaper dated July 10.

v) Medical support [No project number]

The Hiroshima University Hospital established the Disaster Taskforce after the disaster on July 6 and accepted 18 patients until July 8.

The Hospital dispatched a total of 260 medical professionals to the disaster-stricken areas for 97 days, including DMAT (disaster medical assistance team), coordinators of the Hiroshima Medical Rescue Team Coordination Group, JMAT (Japan Medical Association Team), an infection control team, disaster assistance nurses, DPAT (disaster psychiatric assistance team), JRAT (Japan Rehabilitation Assistance Team), an oral care team and others.

- vi) Investigation and research [No project number]
- (i) Establishment of the Hiroshima University July 2018 Heavy Rain Disaster Investigation Group (July 11)

HU established a disaster investigation group headed by the President, comprising experts in the field of disaster prevention research from within the University, to contribute to the disaster management of the local governments and regional reconstruction by investigating and analyzing the damage caused by the record torrential rainfall and making proposals to reconstruct the damaged communities. The Group formed four investigation teams: debris flow/slope disaster, hydrological meteorology/flood/inundation, life infrastructure damage, and public health/medical.

It also exchanged opinions with local governments (Hiroshima Prefecture, Hiroshima City, Higashi-Hiroshima City) regarding cooperation in disaster management.

The Investigation Group also made a proposal to the Mayor of Higashi-hiroshima, "Proposal for Traffic Administration in Higashi-Hiroshima City for July 2018 Heavy Rain Disaster - To Resolve Congestion and Confusion of Shinkansen Higashi-Hiroshima Station." It held two briefings on the progress of the investigation and future issues, contributing to the disaster management of local governments and the promotion of regional recovery.

(ii) Establishment of the Hiroshima University Resilience Research Center (September 20) <u>HU established a new interdisciplinary research group organization, the Hiroshima University</u> <u>Resilience Research Center (HRRC), to investigate and research torrential rainfall disasters</u> <u>that cannot be handled by conventional disaster prevention and mitigation sciences</u>. The Center established a world-class research base centered on the synergistic torrential rainfall disaster and is conducting cutting-edge interdisciplinary research on disaster science by forming a network with leading research institutions in Japan and overseas. On November 14, the HRRC held the Conference of the Resilience Research Center with Allied Local Governments. Forty representatives from Hiroshima Prefecture and 23 local governments in Hiroshima Prefecture and representatives from risk management departments of Kasaoka City (Okayama), Iwakuni City (Yamaguchi), and Waki Town (Yamaguchi) participated in the event and exchanged opinions.

On January 10, 2019, HU concluded a memorandum of understanding on disaster prevention and mitigation with the Chugoku Regional Development Bureau as a new disaster prevention/reduction initiative after the July 2018 torrential rainfall disaster. As a result, research collaboration between HRRC and the Chugoku Regional Development Bureau was further deepened and an environment that promotes the return of research results to the region was created.

vii) Lecturers and promotional activities [No project number]

September 10, 2018: "Conference on Immediate Report of Torrential Rainfall Disaster in West Japan" of the Science Council of Japan September 15, 2018: "Lessons from West Japan Torrential Rainfall Disaster" in the MIRAI Doctor 3-Minute Competition 2018 Special Session October 10, 2018: 14th GIS Community Forum in Kansai October 27, 2018: Academic Lecture 2018 of the City Planning Institute of Japan, Chugoku/Shikoku Branch November 1, 2018: Construction Technology Forum 2018 in Hiroshima November 9, 2018: Lecture meeting of the Hiroshima Association of Real Estate Appraisers November 12, 2018: Lecture meeting of the Chugoku Region Disaster Control Study Group February 16, 2019: Open lecture of the Open University of Japan February 24, 2019: 36th Citizen Open Lecture of the Hiroshima Medical Inspection Conference March 13, 2019: Open lecture by the Hiroshima University Resilience Research Center, "Learn from the July 2018 torrential rainfall disaster - The forefront of research on synergistic torrential

rainfall disaster"

II. Budgeting (includidudio prome long

* 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
 Limit for short-term borrowings 6,222,074,000 yen 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. 	delay in receipt of government subsidies or because	

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 or provide as collateral important assets	Not applicable	Not applicable
(1) A part of the land for the Amazuyama Apartment		
Complex (226-101 Ushida Shin-machi 4-chome,		
Higashi Ward, Hiroshima City, Hiroshima, 117.63m 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		
(3) A part of the land for the Kasuga Apartment Complex		
(5-315-1 Kasuga-cho, Fukuyama City, Hiroshima,		
216.00 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.		

V. Appropriation of surpluses

Medium-Term Plan Attachment	Annual Plan based on the Medium-Term Plan Attachment	Actual Results

Any surpluses recorded in the annual account settlement should be appropriated to activities to improve the qualit(or)-2.10.56 1.44 1.4-0 Tc o ided in the annua8D 15 >>BDC [(T)P26g5dud ti the annu4 (es)2.3(ount)1.a4 (es)2.3 (ac)h(ed -9l)3..2 (i)3.4 (t) (pr)-23.3 (v)2

VI Others 1. Facility and equipment plan

Medium-Term Plan Attac	chment	Annual Plan bas	sed on the Medium-	Term Plan Attachment		Actual Result	5
Description of Expected amount (millions of yen)	Funding source	Description of facility/equipment	Expected amount (millions of yen)	Funding source	Description of facility/equipment	Expected amount (millions of yen)	Funding source
Renovation of 923 S life-supporting facilities (including electric facilities) (Kasumi) Renovation of life-supporting facilities (disaster control facilities) L (Medical) Improvement of the infrastructure and environment (renewal of disaster control systems) F	ary, considering the progress of the ives or the deterioration degree of 6 are estimated to remain the same r Improvement Subsidy, the Facility nic Degrees and Quality owings for each year will vary ersity. Therefore, concrete amounts			MEXT Facility Improvement Subsidy (804) Facility Expense Subsidy of the National Institution for Academic Degrees and Quality Enhancement of Higher Education (72) ent or renovation works may become deterioration degree of aged facilities.	 (Kasumi) Renovation of the general laboratory building (dentistry) (Higashi-Hiroshima) Renovation of the general laboratory building (engineering) (Midori) (Attached junior and senior high schools) Renovation of school buildings (Higashi-Hiroshima) Disaster restoration work (Higashi-Hiroshima attached kindergarten) Life-supporting facility renovation (air-conditioning system) (Saijo Minaga and others) Maintenance of basic facilities and environment (block fence improvement) Minor repairs 	Total 871	MEXT Facility Improvement Subsidy (799) Facility Expense Subsidy of the National Institution for Academic Degrees and Quality Enhancement of Higher Education (72)

Progress of the Plan

As a result of bidding, the actual cost of the renovation of the general laboratory building (dentistry) was lower than the budgeted amount by 58,609,000 yen.

(Higashi-Hiroshima) As the renovation of the general laboratory building (engineering) was postponed to AY2019, there was a difference of 22,767,000 yen between the budget and the actual amount.

(Midori attached junior and senior high schools) Because incidental administrative expenses were not necessary, the actual cost of the renovation of school buildings was lower than the budget by 56,000 yen.

(Higashi-Hiroshima) The disaster restoration work was not included in the annual plan, but 746,325,000 yen was received as a supplemental budget in AY2018. A total of 669,710,000 yen was carried forward to AY2019. (Higashi-Hiroshima attached kindergarten) The life-supporting facility renovation (air-conditioning systems) was not included in the annual plan. But the original budget of 19,980,000 yen was received in AY2018. All this amount was carried forward to AY2019.

(Saijo Minaga and others) The maintenance of basic facilities and the environment (block fence improvement) was not included in the annual plan, but 37,800,000 yen was received as a supplemental budget in AY2018. All of this amount was carried forward to AY2019.

Minor repair works were completed as scheduled.

VI. Others 2. Personnel plan

Medium-Term Plan Attachment	Annual Plan based on the Medium-Term Plan Attachment	Actual Results
(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 exhibition and (VIC).	(1) Strategic allocation of internal resources 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.	Please refer to "3. Actions for Strategic and Ambitious Objectives and Plans" on p. 35.
 achievement-motivated key performance indicators (AKPI®) and other methods that evaluate personal performance of teachers in educational and research activities. (2) Acquisition of diverse and excellent human resources 	(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	Please refer to "3. Actions for Strategic and Ambitious Objectives and Plans" on pp. 33, 35 and 36
(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).	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).	Please refer to "3. Actions for Strategic and Ambitious Objectives and Plans" on p. 33. Please refer to "(1) Notes relating to improvement of operation and efficiency" on p. 42.
 (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. (3) Realize gender equality 	(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.	Please refer to "(1) Notes relating to improvement of operation and efficiency" on pp. 42 and 43
 (i) 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. (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. 	 (3) Realize gender equality (i) Based on the "General Employer Action Plan" (third period) for the period from AY2014 to AY2019, HU should promote the use of Work-Life Balance support programs for employees by actively communicating and holding seminars about these programs and should verify the use status of these programs. Based on the results of the verification, HU should also develop an environment where employees find it easy to use these programs. 	Please refer to "3. Actions for Strategic and Ambitious Objectives and Plans" on pp. 36 and 37.

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(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.	
teachers and remain managers should be increased.	

					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 Pharmaceutical Sciences, Pharmaceutical Science	228	235	103.0
[Bachelor's Courses]	(a)	(b)	(b)/(a)×10	0	Medicinal Sciences	88	101	114.7
		(students)	(students)	(%)	Total	316	336	106.3
School of Integrated Arts and Sciences, Integrated Arts and Sciences		510	567	111.1				
Department of integrated Global Studies		40	44	110.0	School of Engineering, Cluster 1 (Mechanical Systems, Transportation, Materials and Energy)	150	155	103.3
Total		550	611	111.0	Cluster 2 (Electrical, Electronic and System Engineering)	90	93	103.3
					Cluster 3 (Applied Chemistry, Biotechnology and Chemical Engineering)	115	116	100.8
School of Letters, Humanities		570	642	112.6	Cluster 4 (Civil Engineering and Architecture)	90	95	105.5
					Cluster I (Mechanical System Engineering)	315	360	114.2
School of Education, Cluster 1 (School Education)		657	682	103.8	Cluster 2 (Electrical, Computer and Systems Engineering)	405	454	112.0
Cluster 2 (Science, Technology and Society Education)		346	366	105.7	Cluster 3 (Chemistry, Biotechnology and Process Engineering)	345	376	108.9
Cluster 3 (Language and Culture Education)		325	349	107.3	Cluster 4 (Social and Environmental Engineering)	405	434	107.1
Cluster 4 (Lifelong Activities Education)		345	375	108.6	Transfer in the third year within the Department	20	37	185.0
Cluster 5 (Fundamentals for Education and Human Development		217	235	108.2	Total	1,935	2,120	109.5
Total		1,890	2,007	106.1				
					School of Applied Biological Science, Applied Biological Science	380	445	117.1
					School of Informatics and Data Science	80	85	106.2
School of Law, Law Day Program		580	624	107.5				
Evening Main Program		170	190	111.7				
Total		750	814	108.5				
					[Master's Courses]			
School of Economics, Economics Day Program		615	675	109.7	Graduate School of Integrated Arts and Sciences, Integrated Arts and Sciences	120	136	113.3
Evening Main Program		240	272	113.3				
Total		855	947	110.7	Graduate School of Letters, Humanities	128	161	125.7
School of Science, Mathematics		188	213	113.2	Graduate School of Education, Learning and Curriculum Development	40	59	147.5
Physical Science		264	302	114.3	Curriculum and Instruction Sciences	160	192	120.0
Chemistry Bioscience		236	275	116.5	Teaching Japanese as a Second Language	28	38	135.7



Name of Course of Undergraduate or Graduate School	Enrollment Quota	Actual Enrollment	Enrollment Rate	Name of Course of Undergraduate or Graduate School
	(a)	(b)	(b)/(a)×100	[Doctoral Courses]
	(students)	(students)		
Graduate School of Science, Mathematics	44	34	77.2	Graduate School of Integrated Arts and Sciences, Integrated Arts and Sciences
Physical Science	60	72	120.0	i l
Chemistry	46	87	189.1	Graduate School of Letters, Humanities
Bioscience	48	42	87.5	
Earth and Planet Systems Science	20	25	125.0	Graduate School of Education, Education and Learning Science
Mathematical and Life Science	46	50	108.6	Learning Development (Note 2)
Total	264	310	117.4	Cultural Education Development (Note 2)
	201			Educational Human Science (Note 2)
Graduate School of Advanced Study of Matter, Quantum Matters	50	61	122.0	Total
Advanced Study of Molecular Biotechnology	48	77	160.4	
Advanced Study in Notecular Biotechnology Advanced Study in Semiconductor Electronics and Integration Science	30	33	110.0	Graduate School of Social Sciences, Law and Politics
Total	128	171	133.5	Economics
i ulai	120	1/1	100.0	Management Studies
Graduate School of Biomedical & Health Sciences, Oral Health Sciences	24	22	137.5	I Total
	36	33		l lotai
Medicinal Sciences		33	91.6	Craduate Cabael of Colonea Mathematica
Health Sciences	68	80	117.6	Graduate School of Science, Mathematics
Medical and Dental Sciences	24	23	95.8	Physical Science
Total	152	169	111.1	Chemistry
				Bioscience
Graduate School of Engineering, Mechanical Systems Engineering	56	75	133.9	Earth and Planet Systems Science
Mechanical Science	60	115	191.6	Mathematical and Life Science
System Cybernetics	68	109	160.2	I Total
Information Engineering	74	107	144.5	
Chemical Engineering	48	64	133.3	Graduate School of Advanced Study of Matter, Quantum Matters
Applied Chemistry	52	77	148.0	Advanced Study of Molecular Biotechnology
Civil and Environmental Engineering	40	68	170.0	Advanced Study in Semiconductor Electronics and Integration Science
Transportation and Environmental Systems	40	55	137.5	Total
Architecture	42	58	138.0	i
Total	480	728	151.6	Graduate School of Health Sciences, Health Sciences
Graduate School of Biosphere Science, Bioresource Science	60	57	95.0	Graduate School of Biomedical & Health Sciences, Biomedical Sciences
Biofunctional Science and Technology	48	86	179.1	Oral Health Sciences
Environmental Dynamics and Management	38	26	68.4	Medicinal Sciences
Total	146	169	115.7	Health Sciences
				Total
Graduate School for International Development and Cooperation, Development Science	86	135	156.9	
Educational Development and Cultural and Regional Studies	56	100	178.5	I Graduate School of Engineering, Mechanical Systems Engineering
Total	142	235	165.4	Mechanical Science
		200		System Cybernetics
				I Information Engineering
Master's Course Total	2,024	2,646	130.7	Chemical Engineering
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Enrollment Quota	Actual Enrollment	Enrollment Rate		
(a)	(b)	(b)/(a)×100		
(students)		(%)		
60	84	140.0		
96	110	114.5		
147	191	129.9		
	11	#DIV/0!		
	46	#DIV/0!		
	32	#DIV/0!		
147	280	190.4		
15	16	106.6		
24	10	41.6		
42	43	102.3		
81	69	85.1		
33	17	51.5		
39	32	82.0		
33	27	81.8		
36	8	22.2		
15	7	46.6		
33	19	57.5		
189	110	58.2		
36	11	30.5		
33	13	39.3		
21	8	38.0		
90	32	35.5		
(Note	11			
388	535	137.8		
12	8	66.6		
9	16	177.7		
45	125	277.7		
454	684	150.6		
27	24	88.8		
30	30	100.0		
33	42	127.2		
39	26	66.6		
24	25	104.1		

Name of Course of Undergraduate or Graduate School	Enrollment Quota	Actual Enrollment	Enrollment Rate
	(a)	(b)	(b)/(a)×100
	(students)		
Graduate School of Engineering, Applied Chemistry	27	13	48.1
Civil and Environmental Engineering	21	31	147.6
Transportation and Environmental Systems	21	19	90.4
Architecture	21	17	80.9
Total	243	227	93.4
Graduate School of Biosphere Science, Bioresource Science	36	40	111.1
Biofunctional Science and Technology	36	26	72.2
Environmental Dynamics and Management	27	17	62.9
Total	99	83	83.8
Graduate School of Biomedical Sciences and Graduate School of Health Sciences, Biomedical Research	(Note 2)	24	
Applied Biomedicine	(Note 2)	11	
Oral Health Sciences	(Note 2)	2	
Total		37	
Graduate School for International Development and Cooperation, Development Science	66	60	90.9
Educational Development and Cultural and Regional Studies	42	49	116.6
Total	108	109	100.9
Doctoral Course Total	1,567	1,836	117.1
[Expert Degree Courses]			
Hiroshima University Law School, Law	40	39	97.5
Graduate School of Education, Professional Development Program for Teachers and School Leaders	60	38	63.3
Expert Degree Course Total	100	77	77
[Special Course]			
Special Course on Special Support Education	30	15	50.0
Special Course Total	30	15	50

			all the second second second second second			
Name of Course of Undergraduate or Graduate School	Enrollment Quota	Actual Enrollment	Enrollment Rate			
[Attached Schools]	(a)	(b)	(b)/(a)×100			
	(students)	(students)	(%)			
Hiroshima University Elementary School 12 classes	384	377	98.1			
Hiroshima University Elementary School, Shinonome 18 classes	456	429	94.0			
Hiroshima University Elementary School, Mihara 12 classes	384	374	97.3			
Hiroshima University Junior High School 9 classes	360	368	102.2			
Hiroshima University Junior High School, Shinonome 9 classes	264	254	96.2			
Hiroshima University Junior High School, Mihara 6 classes	240	236	98.3			
Hiroshima University Junior High School, Fukuyama 9 classes	360	366	101.6			
Hiroshima University Senior High School 15 classes	600	606	101.0			
Hiroshima University Senior High School, Fukuyama 15 classes	600	601	100.1			
Hiroshima University Kindergarten 3 classes	80	76	95.0			
Hiroshima University Kindergarten, Mihara 3 classes	80	77	96.2			
Attached School Total	3,808	3,764	98.8			
(Note 1) Enrollments were no longer solicited for Cluster 1 (Mechanical System Engineering), Cluster 2 (Electrical, Computer and Systems Engineering), Cluster 3 (Chemistry, Biotechnology and Process Engineering), and Cluster 4 (Social and Environmental Engineering) in the School of Engineering because these courses were reorganized into Cluster 1 (Mechanical Systems, Transportation, Material and Energy), Cluster 2 (Electrical, Electronic and Systems Engineering), Cluster 3 (Applied Chemistry, Biotechnology and Chemical Engineering), and Cluster 4 (Civil Engineering and Architecture) in AY2018.						

(Note 2) Courses for which quotas are not indicated no longer solicit enrollments because they were reorganized or because of some other reasons.

O 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 108.7%. The overall enrollment rate of master's courses was generally good at 130.7%. The overall enrollment rate of doctoral courses was generally good at 117.1%. The enrollment rate of expert degree courses was 77%, far below the quota. The enrollment rate of the special course was 50%, 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 bar exam success rate of students from the Law School of Hiroshima University was not high in AY2017. Due to this, the enrollment of graduates from other universities was small, and

(2) the number of students who seek a career as legal professionals has dropped almost to the bottom at every university in the Chugoku/Shikoku Area. In particular, the number of applicants to the three-year course designed for people who did not major in law in undergraduate schools has declined due to the additional requirement to take an aptitude test.



(Actions)

With the significant improvement in the bar exam success rate of HU students in AY2018, HU conducted several joint briefings with Kobe University on the admission examination. In the briefing, we explained that HU affiliates with the Law School of Kobe University to improve the quality of education. We also explained our new scholarship system to support continuing study. As a result of these activities to provide useful information to more participants, both the numbers of applicants and examinees have increased (AY2017 entrance exam: 41 applicants, 36 examinees).

The following specific information was provided in the briefing:

1) Improvement of the bar exam success rate and reform to improve the quality of education:

We effectively explained to the participants in the briefings that HU provides viable education by integrally implementing the following three programs, with support from the Law School of Kobe University: comprehensive programs for acquiring practical knowledge; individual study coaching taking advantage of the small number of students; and three-year follow-up seminars by young lawyers. We also communicated that HU law school students are sent to the Law School of Kobe University to study and experience the outgoing atmosphere to eliminate the inward thinking that is common in local law schools.

2) New scholarship program to support continuing study:

The new scholarship program has mitigated the economic burden for enrollees in AY2017, especially graduates of other universities. In the Law School Accreditation and Evaluation implemented by MEXT in FY2018, our scholarship program was mentioned as an activity to be highly evaluated. In fact, in the on-campus survey conducted as part of the Accreditation and Evaluation program, interviewed students expressed appreciation for this program. In the admission exam briefings, participants showed interest in the HU Law School, strongly motivated by this scholarship program.

3) By holding the joint admission examination briefings with Kobe University at various universities and in various regions, we could provide information on our Law School to more participants compared with the briefings that HU independently conducted in the past. Some students who participated in these briefings took the admission exam to the HU Law School

[Special Course]

Special Course on Special Support Education

(Reasons for under-enrollment)

(1) Due to the tight financial conditions of local governments and other reasons, the number of teachers dispatched by local education boards has been declining, (2) new graduates have more opportunities to be employed as teachers because all local governments have employed more teachers recently and local governments have employed more temporary teachers, anticipating the resignation of a large number of teachers, (3) because the promotive activities for HU's Special Course on Special Support Education have been insufficient, the information has not reached those who are interested in the teacher's license for special support schools, and (4) private universities are also providing special courses to acquire the teacher's license for special support schools (intellectually disabled, physically disabled, or sick children). Under these circumstances, special courses at other national universities are also experiencing the same problem of under-enrollment.

On the other hand, children in need of special educational support are increasing. The number of special support classes has sharply increased. Schools are requested to increase the percentage of licensed teachers among teachers who are assigned to special support classes. Special support classes in high schools started in AY2018. By AY2020, it is required that all teachers assigned to special support classes should acquire the special school teacher license. Under these circumstances, as the need for special support education has been growing, the number of applicants to this course has been gradually increasing, although the enrollment rate was lower than the quota.

(Actions)

For this Special Course on Special Support Education, the University continues lobbying with the education boards of Hiroshima Prefecture, Hiroshima City, and other cities in Hiroshima Prefecture and prefectures in western Japan to encourage them to send incumbent teachers to this special course. The University also publicized the course by renewing the special course's website, creating a leaflet to introduce the course and solicit students, and posting and distributing the leaflet within and outside the University. In addition, the University asked the cooperation of special support schools in Hiroshima Prefecture in handing out the leaflet to students who participate in caring and other experience programs. As a result of these efforts, students from other majors or from other universities have shown interest and have enrolled in the course to acquire special knowledge about special support education. In AY2018, 15 students completed this course, and 14 (including two incumbent teachers) were employed by special support schools, elementary schools or junior high schools (mainly special support classes). The employment rate of our students by special support education organizations is expected to remain high in the future.

Teachers can acquire the Type 1 License for Special Support School Teacher in one year by taking this special course. In the future, by communicating this feature thoroughly, we can improve the enrollment rate. (1) In AY2018, the course teachers frequently contacted the Hiroshima Prefecture Education Board and municipal education boards in Hiroshima Prefecture. They explained the special course and encouraged the board members to send more incumbent teachers to this course. As a result of these efforts, in AY2018, teachers dispatched by prefectural and municipal education boards took the examination for this course. By continuing the lobbying and providing information, we expect that we can encourage the education boards to send more incumbent teachers to this course. (2) For the course, we created an A-4-size leaflet to introduce the course and solicit students. The leaflet has been sent to major universities with teacher training courses in Western Japan. The University also asked all special support schools in Hiroshima Prefecture offering caring experience programs to hand out the leaflet to university students (including students from other universities) attending the experience programs. Some students who took the admission examination to the special course said that they became interested in the course because of this leaflet. Because its effectiveness was proven, we will continue to create and distribute the leaflet next year. (3) Students knew about this course by visiting its website or by talking with former students of Hiroshima University has also increased. We will continue to ask the cooperation of other departments/courses to post posters on the walls of student research rooms, in addition to halls and bulletin boards. In AY2018, the Special Course explanation meetings were conducted by course teachers in December (Higashi-Hiroshima Campus and Higashi-Senda Campus). Some students who attended these meetings from outside HU took the admission examination to the course. The course explanation meet

