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State of the "Highly strategic and ambitious targets and plans" initiative in the three stage of goals and with mid-term project planning -University Reform and Internationalization-

< Unit 1> Review of curriculum and measures to respond to more internationalization that are grounded in undergraduate education and based on "KIKAN Education."

[The three stage of goals 1] Launch "KIKAN Education" with the aim of fostering "active learners" and "sturdy leaders," based on the

[The three stage with mid-term project planning 1]

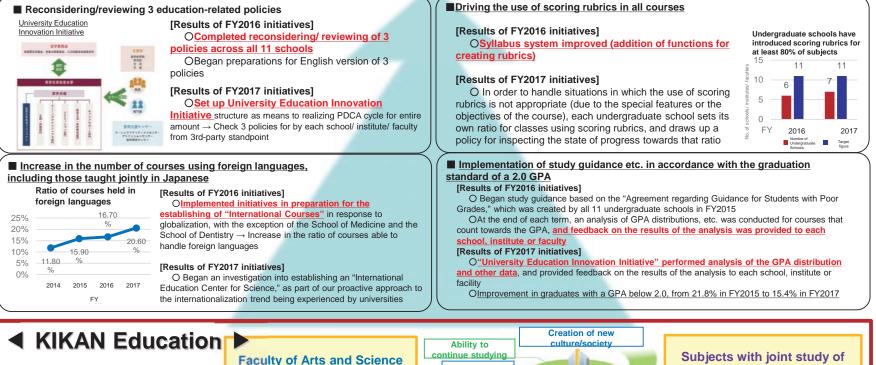
In order to expand and develop active learner initiatives, we will inspect the curriculum, and implement reviews where necessary, in addition to increasing the number of classes etc. conducted in foreign languages. The three policies related to education will undergo further validation, and we will promote the use of the scoring rubrics for each class that have been implemented since FY2016, while setting rigorous grade evaluations for which the graduation standard is a GPA of at least 2.0 for those who entered the University in FY2016.

Expanding and developing initiatives for the fostering of active learners

concept of students who have diligently practised learning by themselves and cultivating themselves, while

promoting reviews of the curriculum and University-wide internationalization.

O <u>Reviewing the curriculum, and taking measures to respond to internationalization that are grounded in undergraduate education and based on "KIKAN Education,"</u> in order to expand and develop initiatives for the fostering of active learners



Fostering active learners who continue to learn autonomously throughout	to learn (Mandatory for all students)		Society Specialized education		Subjects with joint study of issues (Mandatory for all students) <joint across="" different="" fields="" study=""></joint>	
their lifetimes	Humanities/science subjects	Health/sports subjects	Education Subjects in the Faculty of Languages and Cultures		General subjects	KIKAN Education subjects for higher years

State of the "Highly strategic and ambitious targets and plans" initiative

in the three stage of goals and with mid-term project planning -University Reform and Internationalization-

<Unit 2> Initiatives for establishing a new undergraduate school aimed at cultivating human resources able to actively engage with global society

[The three stage of goals 3]

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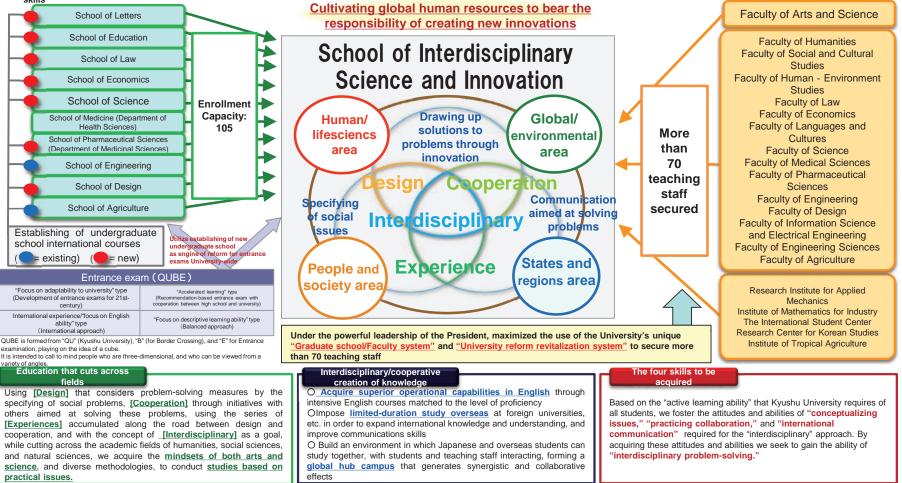
Until now we have worked to build an educational system that meets international standards, through such measures as the introduction of the GPA system and subject numbering, and the creation of curriculum maps. Going forward, in order to further enhance the educational system, we will tackle the issue of making the educational organization more substantial, and reforming our systems.

[The three stage with mid-term project planning 6]

Leveraging the results of our efforts to create an educational system that meets international standards, we will set up a new undergraduate school by FY2018 with the aim of cultivating human resources able to actively engage with global society.

Establishing of the School of Interdisciplinary Science and Innovation (April 2018)

O Established the new School of Interdisciplinary Science and Innovation for the cultivation of human resources who use diverse combinations of learning to solve problems, by transcending the traditional academic framework of humanities and science, and by using wide-ranging knowledge and sophisticated communication skills



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State of the "Highly strategic and ambitious targets and plans" initiative

in the three stage of goals and with mid-term project planning -University Reform and Internationalization-

<Unit 3> Setting up a research and education organization to systematize the research and educational activities that leverage the strengths of the University

[The three stage of goals 6]

The University has conducted its academic research with the goal of establishing a top-level research and educational center, that is full of energy for the challenges of the future, and that reforms itself autonomously in response to the demands of regional society, international society and the academic community. Grounded in the success of our research so far, we will further extend the University's strengths and distinctiveness, including diversity (international collaborations that utilize the diversity of academic fields), growth potential (global expansion based on the fruits of our Asian strategy), and multilayeredness (thick strata of research and education stemming from our position as a research university), and conduct superlative academic research that meets the highest standards worldwide, as appropriate to a global research and educational center.

[The three stage with mid-term project planning11]

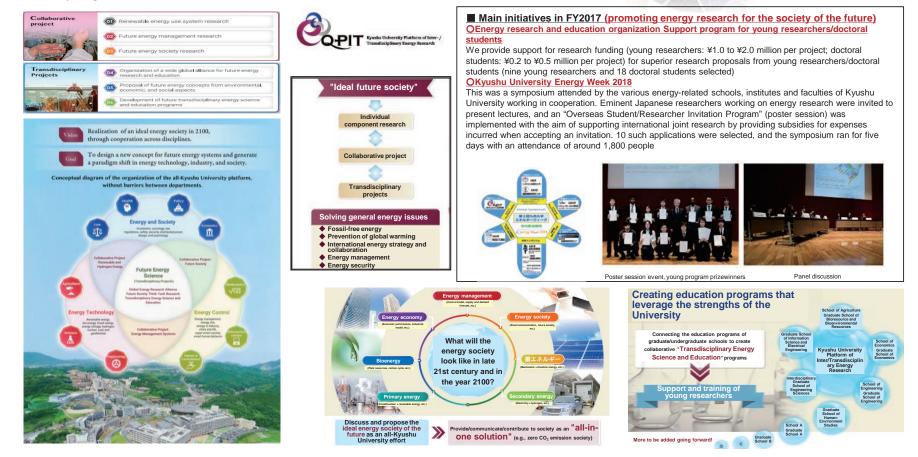
In order to pioneer new academic areas, we will encourage collaboration and fusion between different research areas, beginning with Energy, which has received global recognition as one of the University's areas of strength and distinctiveness, establishing a research and education organization that tackles problem-solving from a range of angles.



Energy research and education organization initiatives

OA University-wide organization that brings together researchers in energy fields from natural sciences to the humanities and social sciences, in order to make the ideal energy source for society in 2100 a reality.

OBy combining primary and secondary energy research areas with policy proposals, we design the energy systems for the society of the future, and lead the way through technological, industrial and social paradigm shifts



State of the "Highly strategic and ambitious targets and plans" initiative

in the three stage of goals and with mid-term project planning -University Reform and Internationalization-

<Unit 4> Strengthening collaboration using our track record in Joint Usage / Research Centers as a foundation -

[The three stage of goals 6]

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The University has conducted its academic research with the goal of establishing a top-level research and educational center, that is full of energy for the challenges of the future, and that carries out its own reforms of itself in response to the demands of regional society, international society and the academic community. Grounded in the success of our research so far, we will further extend the University's strengths and distinctiveness, including diversity (international collaborations that utilize the diversity of academic fields), growth potential (global expansion based on the fruits of our Asian strategy), and multilayeredness (thick strata of research and education stemming from our position as a research university), and conduct superlative academic research that meets the highest standards worldwide, as appropriate to a global research and educational center. [The three stage with mid-term project planning15]

In order to actively promote contributions in areas of strength and distinctiveness being prioritized by the University, and collaboration and cooperation with other fields, we will give more substance to the activities and functions of the Joint Usage / Research Centers, which are core research institutions.

Initiatives for Joint Usage / Research Centers and strengthening collaboration -

O Making the functions and activities of the Joint Usage / Research Centers, which are important core research centers, more substantial O Encourage exchange between different centers to promote new academic research areas

Provide University Institute of Mathematics for Industry Institute of Mathematics for Industry [Joint Research Center for Advanced and Fundamental Mathematics-for-Industry] [Main initiatives in FY2016] O At the Australian office of the Institute of Mathematics for Industry we hosted a "Geometric Numerical Integration and its Applications" joint usage research meeting, etc. [Main initiatives in FY2017] O We have been funded as a coordinating center for the MEXT- funded "Mathematics Advance Innovation Platform" program (FY2017-FY2021), and began initiatives nationwide to promote cooperation between academia and industry.	Medical Institute of Bioregulation Medical Institute of Bioregulation MiB Kyushu University [Research Center for Multi-scale Research of Host Defense Systems] [Main initiatives in FY2016] O Built a "Life Sciences Research Support Platform" database for shared equipment in the four departments of the hospital campus O Formed Research Center for Transomics Medicine and began activities [Main initiatives in FY2017] O Promoted technical services and the use of shared equipment for invited researchers [Results: 3,180 technical service incidents, and 235 pieces of shared equipment] O Promoted the Research Center for Transomics Medicine (implemented research with The Institute for Enzyme Research of the Institute of Advanced Medical Sciences, Tokushima University)	Institute for Materials Chemistry and Engineering Institute for Materials Chemistry and Engineering Research Center for Multi-scale Research of Host Defense Systems [Main initiatives in FY2016] Subject Core Collaboration Lab within the center (implemented three research themes at the Core Lab, focusing mainly on younger researchers) etc. [Main initiatives in FY2017] O Allocated expenses to be dispersed at the discretion of the Head of the Institute for Materials Chemistry and Engineering, and established new "Program for Interdisciplinary Research in different fields" (creation of materials chemistry and engineering) to support younger/international research etc.
Research Institute for Applied Mechanics [Research Center for Applied Mechanics] [Main initiatives in FY2016] OSet up new "Research to Support Career adv. Young Researchers" initiative as part of efforts to fostering of young researchers etc. [Main initiatives in FY2017] O"Research to Support Career advancement for N Researchers" (one proposal selected) O Further promotion of research for internationalia (international co-authorship rate improved to 45%)	Torvappled Mechanics work university Infrastructures] [Main initiatives O In order to pror systems, we set unicludes training systems, we set unicludes training systems, we set unicludes training systems, with the research themess [Main initiatives Systems, with the research themess [Main initiatives Systems, with the research themess [Main initiatives] Systems, with the research themess [Main initiatives] Systems, we set uniclude training systems, we set unicl	Center for Interdisciplinary LargescaleInformation in FY2016] mote academic research using supercomputing up the "New Usage Promotion System" that essions and free usage of Research Computational aim of unearthing potential users and terminating etc.

Promoting new academic research areas - program to form Pan-omics Measurement and Computational Science Center – [Institute of Mathematics for Industry, Medical Institute of Bioregulation, Research Institute for Applied Mechanics, Institute for Materials Chemistry and Engineering, Research Institute for Information Technology]

[Main initiatives in FY2017]

Oln order to promote new areas of academic research that facilitate exchanges at each center, we extended high-precision observation and comprehensive measurement of highly accurate data ("omics") in the form of pan-omics measurement science to the academic areas covered by each center, and <u>began preparations for the building of a "Pan-omics</u> Measurement and Computational Science Center," in order to foster young researchers who have acquired integrated methodologies for computational and data science

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State of the "Highly strategic and ambitious targets and plans" initiative in the three stage of goals and with mid-term project planning -University Reform and Internationalization-

<Unit 5> Strengthening the functions of I²CNER as part of the University's strategic systems reform

[The three stage of goals 6]

The University has long conducted its academic research with the goal of establishing a top-level research and educational center that is full of energy for the challenges ahead, and that reforms itself autonomously in response to the demands of local communities, international communities and that academic community. Grounded in the success of our research so far, we intend to extend further the University's strengths and distinctiveness—such as diversity (international partnerships that leverage the diversity of our academic disciplines), growth potential (global expansion based on the success of our Asian strategy), and multilayeredness (thick strata of research and education stemming from our position as a research university)—and conduct superlative academic research at the world's highest level, as appropriate to a global research and educational center.

[[The three stage with mid-term project planning 16]

In collaboration with the University of Illinois, etc., we will promote leading-edge research in energyrelated fields/domains, upon which the University possesses its strengths and distinctiveness, and which is primarily conducted at the International Institute for Carbon-Neutral Energy Research (one of the World Premier International research centers), and strengthen the systems for conducting such research. We will also invite foreign researchers from world-class universities overseas and pursue international joint research of the world's highest level. We will proactively advance collaboration between I²CNER and a wide range of fields/domains, such as natural sciences, especially the more theoretical sciences, mathematics, and the humanities and social sciences, and consolidate the wisdom of all sectors of the University, then further extend our research strengths.

Strengthening the functions of the International Institute for Carbon-Neutral Energy Research

<u>(I²CNER)</u>

OPromote leading-edge research related to the carbon neutral energy research domain in collaboration with the University of Illinois Olnvite foreign researchers from top universities in the world, and conduct international joint research of the world's highest level. OAdvance collaboration between I²CNER and other fields such as natural sciences (especially theory), mathematics, social sciences, etc.

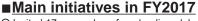


Director

Main initiatives in FY2016

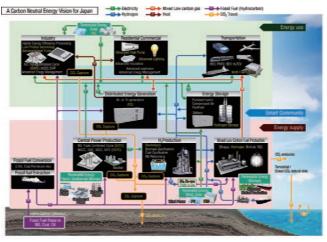
- O Established the <u>Research Center for Next Generation Refrigerant Properties in</u> <u>I²CNER's organization</u>, with the aim of accelerating our efforts to achieve a low-carbon society
- O Invited 45 researchers from leading global universities such as MIT and SFIT
- O <u>Held "Joint UNSW-I²CNER Workshop" in Sydney</u> with the University of New South Wales (UNSW) → Invited 4 researchers from UNSW to the "I²CNER Annual Symposium" held in Fukuoka and had discussions to initiate new international joint research projects
- O FY2016 Record—Journal Publications: 316, Awards: 45 (including highly prestigious awards such as the Daiwa Adrian Prize, and the Commendation for Science and Technology by the Japan Minister of Education, Culture, Sports, Science and Technology)

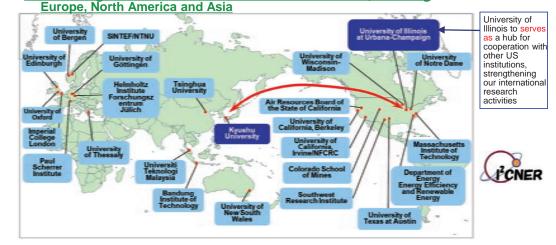
Japan's carbon-neutral energy vision



- O Invited 17 researchers from leading global universities such as Peking University and Seoul National University
- O Promoted international joint research with over 20 overseas partner institutions by holding 20 I²CNER Seminars, in which eminent researchers from around the world present a lecture, etc.
- O Promoted student exchange through the Partnerships for International Research and Education (PIRE) program
- O Sent young researchers to the University of Illinois for a long-term research visit as part of the effort to fostering them under the joint Tenure-Track Program with the Institute of Mathematics for Industry
- O Newly established the Industrial Research Unit with its purpose being to pursue stronger relationships with industrial partners →Put in place the "Mazda Mobile Energy Storage for Low-carbon Society Division"

Promoting research with others from all over the world, including





10 FY2018 Kyushu University Fact Book

State of the "Highly strategic and ambitious targets and plans" initiative in the three stage of goals and with mid-term project planning -University Reform and Internationalization-

<Unit 6> Materializing the Top Global University Project

[The three stage of goals 11]

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Push forward with university reform and university-wide internationalization, implement world-class education and research activities by generating collaborative synergies through a variety of initiatives, and enhance international reputation measured against such indicators as World University Ranking.

[The three stage with mid-term project planning 26]

In order to meet our goals for the Top Global University Project, "SHARE-Q", we will promote internationalization of research and education and the governance reforms to support it, building a global hub campus through the synergistic and collaborative effects of "nine SHARES" laid out in the project statement. In addition, we will increase the proportion of employees who meet criteria for English proficiency, as part of our moves to enhance the skills of the administrative staff who underpin the university-wide internationalization initiatives. As well as using the fruits of research and education derived from these measures to enhance our reputation, we will create a reputation management strategy drawn up with the top 100 universities worldwide in mind.

Materializing the Top Global University Project

OUsing the University's diversity, growth potential and multilaveredness as a base, we will promote the internationalization of the education system and the research

O Implementing governance reforms that support the mentioned above, and aim to become a top 100 university in the world

Toward the creation of Global Hub Campus

- [FY2016] O Drew up an implementation plan for the four measures to improve the international competitiveness of research
 - O Held the first global advisory board meeting
 - O Set up a "SHARE-Q International Advisory Group (SIAG)," consisting of international faculty members in order to reflect the opinions of international faculty members and staff within the university

[FY2017]

- O Promotion of "The implementation plan of the four measures to improve the international research competitiveness
 - ① Strengthening research capabilities and securing research funds [roll out environment for using SciVal /Pure]
 - 2 Human resources and personnel for research [launch employment system that allows dependents to accompany employees, etc.]
 - ③ Putting in place system and securing the time for research [System of
 - Employment of Faculty Members with Accompanying Spouse] ④ International network for research [Hosting "Kyushu University Energy Week 2018" etc.]

Reputation Management Strategy

[FY2016]

O Drew up reputation management strategy 1 Appeal by making intensive use of our strengths and distinctiveness 2 Branding ③ Strengthen internal communication and cooperation ④ Pay attention to the level of stakeholder priority (\$ Strategically trasmitting information following the unique characterisation of stakeholders. (© Verify improvements to RM by setting KPIs

[FY2017]

- O In order to draw up a specific implementation plan based on the reputation management strategy, took advice from Deloitte Tohmatsu Consulting LLC
- O In the "Pure" researcher profiling tool portal site, began disclosing public the university information on the research activities of all teaching staff (around 90,000 accesses recorded during the first half year of operation)

Initiative for the development of Admin Staff's English proficiency

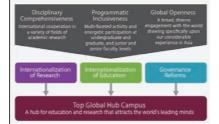
[FY2016]

O As part of our initiatives to improve the administrative staff's command of English, implemented elearning programs for TOEIC, training for writing in business English, and training for enhancing business English capabilities

[FY2017]

- O Analyzed the results of TOEIC-IP tests implemented over the last two years → considered plans for new training, to achieve more sophisticated and practical English capabilities, for those who got high scores
- [From FY2018 onward, the following training is scheduled to be implemented] Bootcamp training that cultivates the ability to handle everything from planning meetings to managing and coordinating them
 - Advanced communications training to improve presentation and debating abilities

Directions





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State of the "Highly strategic and ambitious targets and plans" initiative

in the three stage of goals and with mid-term project planning -University Reform and Internationalization-

<Unit 7>Deploying an advanced information communications platform in compliance with the Basic Act on Cybersecurity, and improving the cyberliteracy of constituent members

The three stage of goals 171

We have created a more substantial support system for education, research and learning activities that make use of ICT. Going forward we will bolster these further, promoting the deployment of an academic information platform to support education, research and learning activities in our role as a global research and education center.

[The three stage with mid-term project planning 36]

In order to advance education and research as a global center for research and education, we will build a robust cybersecurity environment, and promote the deployment of a safe, secure and advanced information and communications platform. We will also strengthen the information and communications environment through collaboration with partner organizations both in Japan and overseas, as well as fostering human resources. In particular, we will take steps to improve the cyberliteracy of students, staff and faculty members.

Deploying a safe, secure and advanced information & communications platform, and

Effects of filtering settings

improving cyberliteracy

O Deploy a safe, secure and advanced information & communications platform in accordance with the Basic Act on Cybersecurity O Initiatives aimed at improving the cyberliteracy of students, staff and faculty members

Deploying a safe, secure and advanced information &

communications platform

[Main initiatives in FY2016]

- O Implemented analysis of the firewall operations log for responses to incidents
- \rightarrow Put in place an environment that allows the cause of incidents to be clarified quickly and accurately
 - (Raising the level of security)

O Introduced virus and spam mail checking system, as well as sandbox feature

 \rightarrow Rolled out an environment in which it is possible to deal with targeted email attacks and other attacks that are difficult to identify

(Contributing to reinforced security)



[Main initiatives in FY2017]

O Reviewed university-wide firewall operations

→ Changed from an approach in which communications restrictions on the University-wide firewall are used as security measures, to a comprehensive method in which universitywide firewall communications are monitored

(Improving our ability to deter incidents)

O Increased the speed of the core network

→ Adopted a network core switch capable of handling 100Gbps communication speeds in the lto earthquake-proof server room (Realizing the provision of high-speed, stable networks)

O Put in place a research platform that aims to respond to the realization of a super-smart society

→ Installed new "ITO" supercomputer system

For the development of pathological diagnostic imaging software by Medmain Inc., which emerged from the University's ventures club, conducted large-scale machine learning needed for automatic diagnosis using the ITO

 \rightarrow Introduced to various different media through a press release

Improving the cyberliteracy of students, staff and faculty members

[Main initiatives in FY2016]

- O Began education for the cultivation of specialists through the use of cyber seminars.
- → In the research department donated by Fujitsu Limited, began "cybersecurity seminars" with the aim of nurturing specialists
- O Promoted high-level research and educational program development in relation to cybersecurity measures

→ Implemented international joint collaborative research with the University of Maryland, University of New South Wales, University of London, and Indian Institutes of Technology (Jointly hosted the "International Cybersecurity Symposium")

[Main initiatives in FY2017]

O Began "Fundamental theory of cybersecurity" as a mandatory subject for KIKAN Education in undergraduate schools (Improving the cyberliteracy of students)

O As part of cybersecurity training given to all staff and faculty members, <u>implemented</u> "targeted email training (including e-learning)"

(Improving the cyberliteracy of staff and faculty members)



State of the "Highly strategic and ambitious targets and plans" initiative

in the three stage of goals and with mid-term project planning -University Reform and Internationalization-

<Unit 8> Initiatives aimed at strengthening and reorganizing strategic/priority education and research organizations

[The three stage of goals 21]	[The three stage with mid-term project planning 42]
Reorganize and review education and research organizations in order to implement activities as a global	Under the President's leadership, we will respond flexibly to changes in academic studies and society
research and education center.	from the perspectives of redefining the mission, analyzing the current status based on self-examination and
	assessment, and strengthening functions, utilizing the University's unique "Evaluation in five years,
	organizational review within 10 years" approach, amongst other tools, to strengthen or reorganize strategic
	and priority education and research organizations. In particular, we will actively work on investigating and
	implementing reorganizations in the humanities and social science fields, as well as on reinforcing functions
	and on internationalization.

Initiatives aimed at strengthening and reorganizing strategic/priority education and research organizations

- OReorganize schools, institutes and faculties and strengthen their functions by utilizing the "Evaluation in five years, organizational review within 10 years" approach, which encourages them to conduct university-wide inspections and evaluations in the fifth year of stage of goals, and reflect the results of that evaluation in completing rearrangements of the organizations within 10 years
- OInvestigate and implement reorganizations to strengthen the functions of the humanities and social science fields and prepare them for internationalization

Examples of strengthening the functions and rearranging organizations during The three stage of goals]

- O Setting up the School of Interdisciplinary Science and Innovation to cultivate problem-solving global human resources
- O Setting up the Kyushu University Platform of Inter/Transdisciplinary Energy Research to drive initiatives to make "the ideal energy for the society of the year 2100" a reality
- O Setting up the "Education Innovation Initiative" as an education management organization to push improvements in the quality of education
- O Restructuring of organization for industry-academia-government collaboration, which seeks to strengthen management so as to promote collaboration between industry, universities and governments (reorganization of related entities, setting up of hospital area sub-office, opening the Nihonbashi satellite, etc.)
- O Setting up of "Cooperative Program for Resources Engineering" joint curriculum with Hokkaido University (Master's program)

Sub-major programs in the four humanities schools

By completing attractive programs incorporating the concepts of "cross-functional" and "specialist domain," students can, in addition to deep specialization acquired in their own school, broaden their knowledge in humanities and social science fields in a way that transcends the school framework

Cross-functional programs

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Intellectually curious students who are drawn to important themes such as history, Asia, information and business, that help explain modern society, are provided with opportunities to engage in wideranging, systematic study of subjects offered by the four humanities schools

Specialist domain programs

Students whose study of the specialist domain of their own school has led to wider intellectual curiosity, and a desire to study the specialist domains of other humanities schools more deeply, are provided with opportunities for the systematic study of such areas

Selecting from a variety of programs to match future career path

This began in April 2018, and 130 students (the total is 193) have registered for sub-major programs

Continually inspect and evaluate schools, institutes, faculties and shared education and research facilities of the University to encourage voluntary change within these organizations, with the aim of further advancing and enhancing education and research at the University.

 Summanze past education and research activities of schools, institutes and faculties through discussions among deans and directors, corporate evaluations, and other data that serve as indicators
 Evaluate reorganization plans aimed at realizing the future vision of each school, institute and faculty, and implement them during the next stage of goals The O stage of goals The O stage of goals Segn Year 2 Year 3 Year 4 Year 5 Year 6 Year 2 Year 3 Year 4 Year 5 Year 6 Year 1 Year 1 Follow-up toward reorganization Determination of education and research activities of schools/institutes/faculties reorganization Establish new Reorganize ults of evaluations, etc. schools graduate scho University 11 Establish Establish new maiors centers 5th yea 5th vea Education and research activities ba evaluation ection and evalua sults Evaluation in 5 years rganization reviews within 10 years Education and research activities Be interviewed in ough section meetings, etc held under the board Evaluation in 5 years, organizational reviews within 10 years scheme

■Investigate and implement reorganizations of the humanities and social science fields

[Main initiatives implemented during The three stage of goals]

- O In order to get a firm grasp of society's requirements with regard to humanities and social science fields, the heads of the related schools, institutes and faculties held a total of 14 meetings for exchanging views with external experts and with alumni in Tokyo
- O The four humanities schools (literature, education, law, economics) opened to each other the intellectual property that has accumulated within their respective fields of learning, and implemented "Sub-major programs in the four humanities schools" in which this is provided systematically
- O The system has been strengthened by hiring researchers working in transdisciplinary research fields, and the "Office for the Administration of Collaborative Humanities Education and Research Commons" has been established, and the "Humanities Collaborative Research and Education Commons" initiative has been launched