

Research Programs

Major Funding Sources

Strategic Funds for the Promotion of Science and Technology, former Special Funds for Promoting Science and Technology, was established in 2011 and is an indispensable mean to strategically promote science and technology innovation policies worked out by the Council for Science and Technology Policy itself drawing in all Japanese ministries. The Council with its function as supervisor of science and technology policies overlooks every policy coming from the Japanese ministries and allocates the funds to necessary policies.

The Program for the Cultivation of Human Resources which is an undertaking of the Ministry of Education, Culture, Sports, Science and Technology realized with Funds for Development of Human Resources towards the promotion of science and technology innovations. In order to secure and train superior human resources in the fields of science and technology, and to stimulate their activities in various social situations, it aims at improving support for young researchers, by providing an environment to enable various human resources including woman researchers to reach their full potential.

Strategic Funds for the Promotion of Science and Technology

Year	Program	Department	Program Title	Contents
FY 2007	Creation of Innovation Centers for Advanced Interdisciplinary Research Areas	University-wide Graduate School of Engineering	R&D Center of Excellence for Integrated Microsystems	By integrating machinery, electrics/ electronics, materials, chemistry, electron chemistry, biotechnology, medical science, etc., with its core on an integrative micro-system, the program aims to create an innovative production headquarter for the next century, in addition to establishing a research development system and a new industrial-academic collaboration model for the innovation.
FY 2010	Creating Local Activate Human Resources Fostering Institutions	Graduate School of Engineering	Sendai School of Design	The Sendai School of Design was launched by the Department of Architecture and Building Science at Tohoku University in cooperation with the City of Sendai. The main objective of the Sendai School of Design is to nurture collaborative creators and producers as personnel who will help activate the local area.
	Asia and Africa S&T Strategic Cooperation Promotion Program International Environment Leaders Training Program	Graduate School of Environmental Studies	Strategic Energy and Resource Management and Sustainable Solutions	This program aims at the development of a center for nurturing international environmental leaders capable of formulating international energy and resources policy and corporate strategy from wide global perspectives. Master's and doctor's students from Asia and Africa, and regional administrative officers are considered as candidates for the program.

Funds for Development of Human Resources in Science and Technology

Year	Program	Department	Program Title	Contents
FY 2009	Innovative Training System for Future Leaders Future Leaders Training Program for New Innovation	University-wide	ILP Innovative Leaders Platform	Having established the ILP Innovative Leaders Platform Center, this program aims to nurture doctoral and post-doctoral students with practical professional skills and interpersonal skills. Furthermore, it aims to instill practical knowhow in students through long-term internship programs at companies both inside and outside Japan, and to foster and produce human resources able to develop innovations from the results of their research.
	Innovative Supporting System for Female Scientists Accelerating Innovation of Training System for Female Scientists	University-wide Office for Women Researchers	Tohoku Leading Women's Jump Up Project for 2013	This program aims to raise the skills and position of female scientists, and to foster pioneering female scientists with the broad vision over a wide range of academic fields necessary to become world leaders.
FY 2011	Program to Disseminate Tenure Tracking System	Graduate School of Medicine Graduate School of Engineering		To provide young researchers with a research environment that enables them to work independently (so that they can acquire experience before getting a stable position), the program supports universities and other education and research institutions that implemented the tenure tracking system with research funds, aiming to disseminate and thereby establish the system widely.

Grants for Excellent Graduate Schools

The Grants for Excellent Graduate Schools is a MEXT program which aims to promote the creation of an environment that brings forth researchers capable of taking an active role on the global stage and attracts excellent students by providing an environment where doctoral students can concentrate on their studies and research.

Year	Center	Participating Departments
FY 2012	Materials Integration International Center of Education and Research	Graduate School of Engineering (Department of Materials Processing, Department of Materials Science, Department of Metallurgy, Department of Applied Physics), Graduate School of Science (Major of Physics), Graduate School of Environmental Studies (Department of Environmental Studies)
	International Center of Research and Education for Molecular Complex Chemistry	Graduate School of Science (Major of Chemistry), Graduate School of Engineering (Department of Applied Chemistry, Department of Biomolecular Engineering, Department of Chemical Engineering, Department of Applied Physics), Graduate School of Pharmaceutical Sciences (Molecular Pharmaceutical Science), Graduate School of Agricultural Science (Division of Bioscience and Biotechnology for Future Bioindustries), Graduate School of Life Sciences (Department of Biomolecular Sciences), Graduate School of Environmental Studies (Department of Environmental Studies)
	Center of Education and Research for Information Electronics Systems	Graduate School of Engineering (Department of Communications Engineering, Department of Electronic Engineering), Graduate School of Information Sciences (Department of Computer and Mathematical Sciences, Department of System Information Sciences, Department of Applied Information Sciences)
	Global Nano-Biomedical Engineering Education and Research Network Centre	Graduate School of Biomedical Engineering (Department of Biomedical Engineering), Graduate School of Engineering (Department of Bioengineering and Robotics, Department of Electronic Engineering), Graduate School of Medicine (Major of Medical Sciences)
	Advanced Institute for Materials Research	Graduate School of Sciences (Major of Physics, Major of Mathematics, Major of Chemistry), Graduate School of Engineering (Department of Nanomechanics, Department of Electronic Engineering, Department of Applied Chemistry, Department of Chemical Engineering, Department of Biomolecular Engineering, Department of Materials Science), Graduate School of Environmental Studies (Department of Environmental Studies)
	Graduate School of Engineering / Department of Materials Science	Graduate School of Engineering (Department of Materials Science)

Education Programs

Tohoku University promotes the following educational programs with support from the Ministry of Education, Culture, Sports, Science and Technology (MEXT).

The Program for Leading Graduate Schools

To guide excellent students to become global leaders able to work in the wide industry-university-government sectors, this program constructs and develops credit programs that guarantee interdisciplinary world-class education, supports far reaching reforms of postgraduate education and promotes the forming of graduate schools worthy of a top educational institution.

Year	Department	Program	Contents
FY2012 - FY2018	Faculty of Engineering, Faculty of Science, Faculty of Art and Letters, International Research Institute of Disaster Science etc., 10 faculties and institutes	The Program for Leading Graduate Schools	This program aims to produce leaders for global safety capable of contributing in protecting human lives, society and industry from global disasters such as the Great East Japan Earthquake, not only in the academic field, but also in other fields such as global enterprises and international organizations.

Project for fostering high-level professionals and technicians for university hospital (Training of specialized staff for perinatal care)

- ※Environmental improvement project for perinatal care (Professionals training) in FY2009
- ※Training of Medical Specialists Utilizing University Hospital to Ease the Shortage of Doctors in FY2010 (Training of Specialized Staff for Perinatal Care)

Faced with the pressing issue of a shortage of pediatricians and obstetricians, this program aims to establish projects to train specialist perinatal staff, to provide support for university hospital initiatives, and to foster talented medical specialists and nurses with high-level knowledge and skills.

Year	Department	Program	Contents
FY2009 - FY2013	University Hospital	Project to Support Young / Female Perinatal Doctors	There are two purposes to this program: to actively encourage medical students and trainee doctors in order to increase the number of obstetricians and pediatricians; and to provide support for female doctors enabling them to continue working during pregnancy or return to work after childbirth. The "Birth of a New Life Project" aims to encourage medical students and trainee clinical doctors to move into perinatal care in the future through experiencing dealing with childbirth. The "Tohoku Lady Obstetrician 2009 (TOLO9) Project" aims to improve working environments for female doctors enabling them to continue their careers during pregnancy, childbirth and childcare. The project also aims to realize safe and high quality perinatal care by drawing on the personal experiences of female obstetricians.

Education Programs

Project for fostering high-level professionals and technicians for university hospital (Establishing system for training of nurses)

※Plan for establishing a career system for nursing jobs in FY2009

※Training of Medical Specialists Utilizing University Hospital to Ease the Shortage of Doctors in FY2010 (Establishing System for Training of Nurses)

Faced with the pressing issue of a shortage of pediatricians and obstetricians, this program aims to initiate projects to train specialist perinatal staff, to provide support for university hospital initiatives, and to foster talented medical specialists and nurses with high-level knowledge and skills.

Year	Department	Program	Contents
FY2009 – FY2013	University Hospital	Development of Supporting System for Nurse Career Promotion	This program aims to improve the education and practical skills of nurses through cooperation and academic discussion between the University Hospital and the School of Medicine and the development and implementation of a clinical training system. The program also aims to help nurses establish their own system to promote their career by defining a career path which enables them to remain active throughout their working life.

Establishment of a university hospital medical staff training system to promote team medicine

This program aims to promote the interdisciplinary team process among medical staffs and to raise the degree of specialization by providing support for university hospital initiatives. These undertakings will help to train specialized medical staff with high-level knowledge and skills to promote team medicine.

Year	Department	Program	Contents
FY2011 – FY2013	University Hospital	Development of Activation System for Highly-specialized Medical Team	This program aims to promote and achieve improvement of team medicine quality through the promotion of communication between various highly specialized staff and training of medical staff making use of adult education methods at the same time.

Personnel recruitment to improve conditions for working conditions for doctors in university hospital

This program supports university hospital initiatives that aim to ease the workload of doctors and nurses by hiring clerical assistants for doctors and by promoting the sharing of duties between related jobs.

Year	Department	Program	Contents
FY 2013	University Hospital	Operational Improvement of University Hospital Program	Through hiring clerical assistants for doctors and helpers for nurses, this program aims to improve the safety and quality of medical treatment and reform the work sharing system of doctors and nurses. By doing this, the program aims to not only ease the workload of doctors and nurses but also establish an environment that allows them to focus on their primary work.

Cancer professional training promotion plan

This program aids in fostering intelligent, highly-skilled medical professionals who specialize in the field of cancer; those who become carcinoma doctors, etc.

Year	Department	Program	Contents
FY2012 – FY2016	Graduate School of Medicine	Tohoku Cancer Professional Cultivation Promotion Plan	This program fosters the ability to promote academic knowledge, skill, and clinical studies on international level, which is necessary for cancer medicine. Through the collaboration of university, region, other occupational fields (medical team), and the patients association this comprehensive program aims to promote local cancer treatment and research including home healthcare and palliative care.

Project for Strengthening Central Functions of Universities and Affiliated Institutions in the Reconstruction of the Region

This program, while reconstructing the communities in the disaster areas and regenerating the regional industries and community medicine, helps universities and affiliated institutions strengthen their central functions in the reconstruction of the communities.

Year	Department	Program	Contents
FY2011 – FY2015	Graduate School of Medicine	Comprehensive Education Center for Community Medicine Support Project	Through acceptance and reeducation of medical personnel from disaster areas and education for students and young medical personnel to enable them to respond to the needs of disaster medicine, this program aims to contribute to the reconstruction of community health care in disaster areas.

Nurturing future doctors active on the world stage after the reformation of medical education in basic and clinical sciences

We support excellent programs intending to cultivate MD researchers of basic medicine at the medical school and graduate school of medicine.

Year	Department	Program	Contents
FY2012 - FY2016	School of Medicine	Nurturing MD researchers competitive in the world arena	Based on a needs assessment of students and faculty, we will establish a highly effective program to promote the career development of medical students to become MD researchers who will play leading roles in advancing basic and clinical medical sciences.

Training of Students in Natural Sciences and Mathematics Support Program

To support students who are highly interested in the fields of natural sciences and mathematics to further develop their interests and abilities, undertakings including all the elements of "Systematic Educational Special Program throughout the Year", "Selection of Participating Students" and "Enhancement of Collaboration/Connection on Graduate and other Levels" will be supported.

Year	Department	Program	Contents
FY2012 – FY2015	Faculty of Engineering	Step-QI school	Setting up the 3 courses of "Infrastructure", "Development" and "Evolution", establishing a system to go through the courses in stages and conduct special education, precedent studies and voluntary training fitting the students individual ability level and their degree of program participation.

Initiatives for distinctive education

This is an extra-curricular course for undergraduate and graduate students aimed at enhancing practical English communication skills.

Year	Department	Program	Contents
FY2005 –	Center for the Advancement of Higher Education	Practical English Course	This course, taught by native instructors, will help students further develop English communicative abilities required in academic and social situations through activities including discussions and oral presentations.

With the aim to tailor English education to learners' individual pace and objectives and improve English language skills in stages, education programs for both students and academic staff are offered.

Year	Department	Program	Contents
FY2012 –	Center for the Advancement of Higher Education	Practical English Seminar / Lesson Week	This program aims to improve English ability efficiently and effectively by utilizing e-learning materials. It offers various courses, like "cross-cultural understanding" and "improving TOEIC score", according to the purpose of study.

(FY = Fiscal Year/ Financial Year)