Educational purpose

We foster personnel leading the unfolding of the 21st century who understand and use various information technologies related to given activities, such as recording, accumulation, sharing, processing, and utilization of knowledge and information as well as the science underlying such technologies. Moreover, we aim to require students to acquire sufficient knowledge and expertise for human intellectual activities and social and cultural foundations as well as from the aspect of science and technology.

College of Media Arts, Science and Technology

■ Bachelor of Science in Media Sciences and Engineering

Educational purpose

College of Media Arts, Science and Technology cultivates engineers or researchers who can creatively produce innovative technologies and scientific theories in the infrastructural technological areas indispensable for developing the future network information society and in the areas in which diverse information contents such as web, video and music contents are handled for circulation.

Desired students

Candidates should have both scientific/technical skills and the well-rounded perception for culture and art, and moreover, should have a great interest and motivation to learn a variety of techniques in the network information society and the relevant disciplines and pursue to contribute to the society creatively.

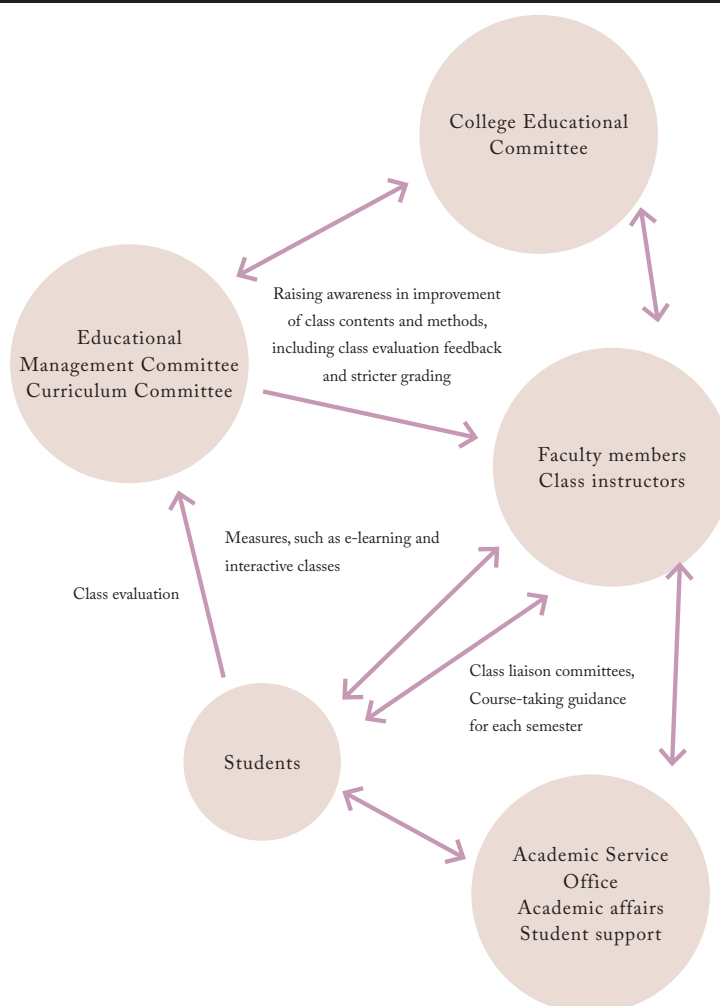## Measures to ensure and improve the quality of education

▌ Class instructors will adjust class progress according to students' level of understanding, operate classes that are active-learning oriented, and provide individualized support for each student by taking sufficient office hours. In addition, we hold seminars for faculty members to support them on these issues.

▌ The class advisors cooperate with the course instructors to provide detailed care for students. Students' course-taking statuses are checked every semester, and those with particularly unsatisfactory statuses receive detailed support from the class advisors for course taking. We promote the digitization of class materials and the development of e-learning courses to encourage students' independent study, particularly to review the classes.

▌ We establish guidelines for rigorous grading and work on reasonable credit awarding.

▌ Each semester, the Educational Management Committee conducts the college's own class evaluation (with open-end questions), which includes university-wide questionnaires. The Educational Management Committee analyzes the answers and feedback the results to the class instructor for effective class improvement.

Measures to improve educational abilities

College Educational Committee

Educational Management Committee Curriculum Committee

Faculty members Class instructors

Raising awareness in improvement of class contents and methods, including class evaluation feedback and stricter grading

Measures, such as e-learning and interactive classes

Class evaluation

Students

Class liaison committees, Course-taking guidance for each semester

Academic Service Office Academic affairs Student support

Bachelor of Science in Media Sciences and Engineering

Diploma Policy

We grant diplomas for Bachelor of Science in Media Sciences and Engineering to persons who have acquired the knowledge and abilities (that is, Generic Competences) to become learned based on the educational purpose for undergraduate students of the University of Tsukuba. In their learning outcomes, they will achieve the following goals based on the educational purpose of our school and college.

Specialization ... Capable of understanding the concepts, principles, theories and techniques in media sciences systematically and carrying out research and development into them
(Relevant competences: Digital contents, Network science, Information media and interaction, Computing and systems, Fundamentals of mathematical methods, Human cognition and society)

Design ability ... Possesses the artistic skills based on logical thinking for the objective appreciation of the functional beauty and feasibility in engineering and science as well as the design ability for designing actual systems by using the skills.
(Relevant competences: Information media and interaction, Fundamentals of mathematical methods, Design and creativity)

Human skill ... Possesses the communication, issue-identification and problem-solving abilities that allow him or her to work cooperatively in a project team.
(Relevant competences: Information media and interaction, Human cognition and society, Design and creativity)

Ethical view … Possesses the safeguarding techniques for intellectual properties, personal information, etc. and also the social ethical view.
(Relevant competences: Human cognition and society)

Curriculum Policy

We organize and implement curricula based on the following policies for programs that allow students to acquire learning outcomes related to Bachelor of Science in Media Sciences and Engineering.

General policy

Centering on the two realms of the network media technologies supporting the accumulation and distribution of contents and the content technologies involving the utilization and production of contents, the Program offers a curriculum for media sciences that merges the education in the areas of information science and engineering which are indispensable for the two realms. The curriculum is designed to offer the subjects that allow students to gain extensive knowledge and advanced specialization while students select the subjects to take in their own right.

Course sequence policy

In the first year, students predominantly take mathematical subjects, such as linear algebra and calculus, and information technology subjects, such as literacy and programming, to gain the fundamental abilities in the areas of media sciences and engineering. To develop art skills, etc., the introduction subjects for contents processing are provided.

In the second year, to make the foundation ability cultivated in the first year fuller, students gain the solid engineering ability in information science, the ability to apply what they learn, and ethical view through subjects including those related to data, algorithms and networks, and those related to human science, network society and business, which cultivate a wide perspective and liberal arts as to people, culture and society.

In the third and fourth years, the curriculum offers a wide variety of Major Subjects in six areas ("Network and Communication Technology", "Storage and Distribution of Content", "Interaction Technology", "Computer Science",

"Content Processing and Application", "Content Creation and Technology") for media sciences. Students take these subjects along with experimental subjects, which pursue a specific theme for the long term, so that students gain human skills, practical abilities, etc., let alone specialization. The diploma research in the fourth year finishes up the learning of specialized knowledge, technical skills and other elements in media sciences to gain the practical ability to creatively produce innovative techniques and scientific theories.

Implementation policy

The curriculum is designed to let students select subjects freely in correspondence with their own learning plans and motivations after mastering the common fundamentals. This allows them to draw up diverse learning plans that suit the wish and aptitude of each one and thereby supports various careers to follow in response to social needs. With an eye toward the current circumstances and future of the dynamically transforming network information society, the curriculum structure always reflects unremitting reviews and modifications to meet the needs in accordance with the times, including taking advantage of the instructors who are invited from the industrial community to teach from their own experiences.
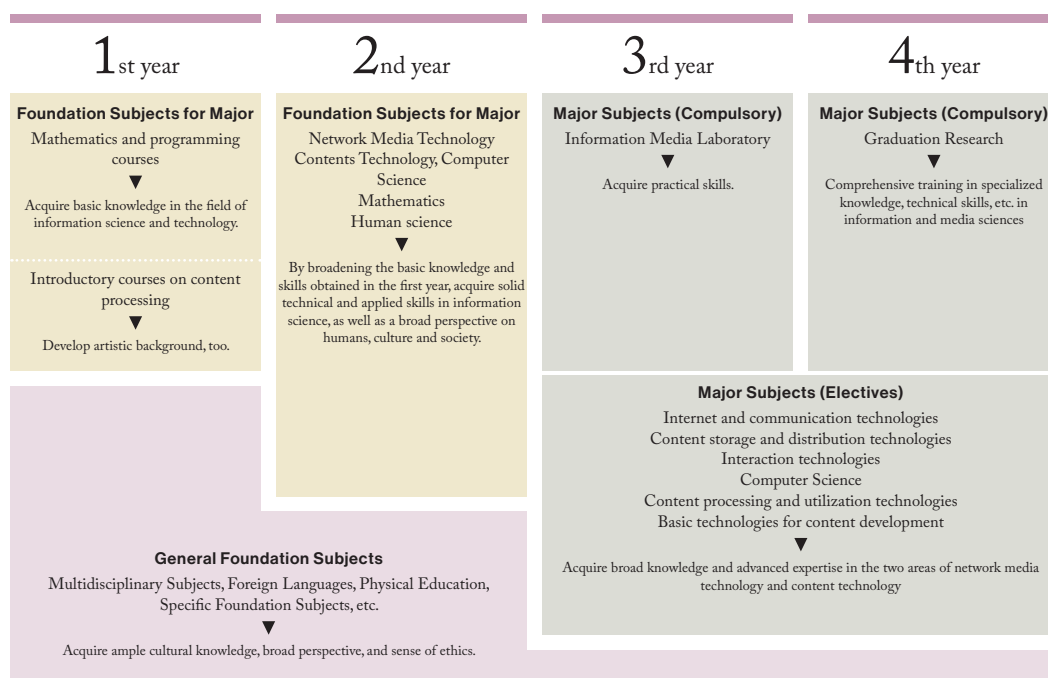
Policy for evaluation of learning outcomes

The achievement progress of learning outcomes in the entire curriculum is evaluated through the outcomes of diploma thesis and research, GPA, the credits earned, interviews as to learning status, etc. In addition, the criteria and methods for student performance evaluation are clarified for each classroom subject, and based on them, learning outcomes are evaluated fairly.

Characteristics

As seen in the Embedding Technology Campus OJT Program, we conduct practical seminars and experiment courses in cooperation with leading-edge IT companies (including venture companies), aiming to make students acquire

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Structure of curriculum and competencies to be developed

1st year

Foundation Subjects for Major

Mathematics and programming courses

▼

Acquire basic knowledge in the field of information science and technology.

Introductory courses on content processing

▼

Develop artistic background, too.

2nd year

Foundation Subjects for Major

Network Media Technology
Contents Technology, Computer Science
Mathematics
Human science

▼

By broadening the basic knowledge and skills obtained in the first year, acquire solid technical and applied skills in information science, as well as a broad perspective on humans, culture and society.

3rd year

Major Subjects (Compulsory)

Information Media Laboratory

▼

Acquire practical skills.

4th year

Major Subjects (Compulsory)

Graduation Research

▼

Comprehensive training in specialized knowledge, technical skills, etc. in information and media sciences

Major Subjects (Electives)

Internet and communication technologies
Content storage and distribution technologies
Interaction technologies
Computer Science
Content processing and utilization technologies
Basic technologies for content development

▼

Acquire broad knowledge and advanced expertise in the two areas of network media technology and content technology

General Foundation Subjects

Multidisciplinary Subjects, Foreign Languages, Physical Education, Specific Foundation Subjects, etc.

▼

Acquire ample cultural knowledge, broad perspective, and sense of ethics.

Bachelor of Science in Media Sciences and Engineering

technologies that are truly needed in the real world.