Appended Form 1

Specifications for Major Program

Name of School (Program)〔School of Engineering Cluster 1(Mechanical Systems, Transportation, Material and Energy)〕

Program name (Japanese)	機械システムプログラム
(English)	Program of Mechanical Systems Engineering

1. Academic Degree to be Acquired :

2. Overview

(1) -

This program aims to foster and produce future members of a global society who have the knowledge to be innovative, creative, take leadership, and possess language abilities that will help them play an important role in the international world.

This program focuses specifically on producing individuals who are capable of addressing various global issues from an engineering perspective and contribute to the creation of new and valuable solutions that are significant to both the industrial and academic societies.

Students enrolled in the program will begin the curriculum from the first semester of their first year.

In the second year, students will set off on their major programs and take the designated courses which are offered at each cluster. Major program overview is as (2).

(2) Program of Mechanical Systems Engineering

This program offers education in the fundamentals of mechanical system engineering, the structure and function of mechanical systems and the principles of the design and processing of mechanical systems based on new concepts, computer-aided design (CAE and CAD), measurement and control technology, mechatronics technology, the principles of the design and production of new mechanical systems through intelligent numerical simulation and information processing, as well as basic fields such as the mechanics of materials, the dynamics of vibrations, system controls, and other fields. By offering such education, it aims to develop engineers who, having a broader perspective on human-machine relations and environmental issues, are able to assume cutting-edge design and development roles in production engineering. In order to provide an efficient and integrated education, the teachers belonging to the academic society (Science and Engineering Field, Machine Engineering/Science and Technology Unit) are in charge of education for this program. Students are assigned to this program in the second semester of the second year. Then, in the first semester of the fourth year, students are assigned to their respective research laboratories, choose their research topics, and write up their graduation theses.

Around sixty percent of graduates from this program will advance to graduate school. Graduates are employed in the general machinery and automotive fields, as well as in electronics, information & communications, heavy industry, the chemical industry, and a broad range of other industries. Centering on manufacturers in the fields of heavy industry, transportation equipment, machinery, and materials, they work actively in the fields of R&D, design, production engineering, and engineering marketing.

3. Academic Awards Policy (Goals of the Program and Policy for Awarding Degrees)

The Program of Mechanical Systems Engineering develops professionals capable of taking action and displaying great humanity and rationality, who can contribute to the peace, development, and survival of humankind, and to the realization of happiness while striving for co-existence with nature.

Based

the following abilities in a balanced manner, as well as the number of credits necessary to meet the standard of the course.

・ Acquisition of the fundamentals of mechanical system engineering, the structure and function of mechanical

system and the principles of the design and processing of mechanical systems based on new concepts, computer-aided design (CAE and CAD), measurement and control technology, mechatronics technology, the principles of the design and production of new mechanical systems through intelligent numerical simulation and information processing, as well as basic fields such as the mechanics of materials, the dynamics of vibrations, system controls, and other fields.

・The ability to assume roles in the design and development of cutting-edge production technology, while having a broader perspective about human-machine relations and environmental issues.

4. Curriculum Policy (Policy for Preparing & Implementing Curriculum)

To ensure that students are able to achieve the goals of the program, the program develops and puts into practice a curriculum based on the following policy:

.・The Program offers not only basic mechanical education but also specialized education in the structure and function of mechanical systems and the principles of the design and processing of mechanical systems based on new concepts, computer-aided design (CAE and CAD), measurement and control technology, mechatronics technology, and the principles of the design and production of new mechanical systems through intelligent numerical simulation and information processing.

・In the first year, the students take Liberal Arts Education subjects such as Peace Science Courses, Basic Courses in University Education, common subjects, and Foundation Courses, as well as specialized basic subjects and specialized practical education, such as machine shop training.

・In the first semester of the second year, the students take the specialized basic subjects that are important, I I . Then, from the second semester, the students take specialized subjects, such as highly professional subjects related to advanced technology that reflect the characteristics of this program, and subjects related to integrated systems technology.

・In the third year, specialized subjects become major subjects, and the students take subjects required for this program. The program tries, as far as possible, not to allocate multiple specialized subjects to the same time-slot, allowing students to take specialized subjects provided by other programs in Cluster 1 according to their personal interests.

・In the fourth year, the students are assigned to their respective research laboratories, choose their research topics, and write their graduation theses.

5. Program Timing/Acceptance Conditions

The English-

Program of Mechanical Systems Engineering occurs in the second semester of the second year.

Additional Requirements

To determine acceptance into the English-

an individual consultation with the faculty committee members.

By the first semester of the second year, students must have acquired the Liberal Arts Education subjects and specialized basic subjects that are commonly specified in Cluster 1.

6.Qualifications to be Acquired

Type-1 High School Teaching License (Industry)

(Students must acquire the required number of credits for the Type-1 High School Teaching License (Industry), in addition to the required number of credits for this program.)

7. Class subjects and course content

* For class subjects, see the Course List table on the attached sheet.

* For course content, see the syllabus for each fiscal year.

* All class subjects are taught in Japanese. Course materials will be written in both Japanese and English or only English.

8. Academic Achievements

At the end of each semester, the evaluation criteria are applied to each academic achievement evaluation item so

the current semester, is given in on

criteria calculated by adding the weighted values to the numerically-converted values of their academic achievement in each subject being evaluated (S = 4, A = 3, B = 2, and C= 1).

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* For the relationship between evaluation items and evaluation criteria, see the attached Sheet 2 .
* For the relationship between evaluation items and class subjects, see the attached Sheet 3.
* For the curriculum map, see the attached Sheet 4.

9. Graduation Thesis (Graduation Work) (Positioning, When and how it is assigned, etc.)

The graduation thesis is designed to be one component of the overall evaluation of academic achievement.

It is positioned as one of the major subjects to evaluate the following:

creativity

Collective capacity (1) Developing communication skills and the ability to globally collect and dispatch information.

graduation thesis will be assigned a thesis.)

Conditions for embarking on a graduation thesis

(1) Students must gain 43 credits or more out of 46 credits, the required number for graduation in Liberal Arts Education subjects.

(2) Students must gain 10 credits or more in the first group of specialized basic subjects

(3) Students must gain all of the required credits in Machine Design and Drawing, CAD, Machine Shop Training, Experiments in Mechanical Engineering Ⅰ, Experiments in Mechanical Engineering Ⅱ, and Mechanical Engineering Design and Production.

(4)Students must gain 13 credits or more out of 17 credits, the required number in Liberal Arts Education subjects, in the second group of specialized basic subjects.

(5) Students must gain a total of 68 credits or more in specialized basic subjects and specialized subjects.

How it is assigned

The research details of each laboratory to which the students can be assigned are explained by giving out handouts at a briefing held in February, in the second semester of the third year. After the number of students acceptable to each laboratory is given at the start of the fourth year, students who can begin their graduation theses are assigned as requested. In the case that the number of students exceeds the acceptable limit for a laboratory, adjustments may be made.

The graduation t -

10. Responsibility-taking System

(1) PDCA Responsibility-

The cluster leader and program leader are responsible for executing this program. Faculty committee members responsible for this program make plans, while self-check/evaluation committee members responsible for this program make evaluations. The cluster and program teachers committee scrutinize the plans and evaluations from time to time for further improvement. When major issues arise, a working group may be established at the

discretion of cluster leader and program leader.
(2) Program assessment

・Whether or not each class subject is properly allocated in light of the goals of the program, and whether course content is appropriate
・Whether or not, on average, students taking the course have achieved or exceeded the goals
・Whether or not the system runs in proper cycles that enable the continuous improvement of the program

・Conducting self-assessment for each subject based on class improvement questionnaires from students who have taken course, and based on performance rating results
・Conducting questionnaires (obtained at graduation) in suitable cycles, to evaluate the validity of the goals and how it should be conducted

Based on these records, study guidance is given to each student. At the same time, requests from students are

questionnaires obtained from students, subject teachers draw up class improvement plans that reflect the questionnaire results.

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Academic Achievements in Educational Program for Mechanical Systems Engin

The Relationship between Evaluation Items and Evaluation Criteria

	Excellent	Very Good	Good
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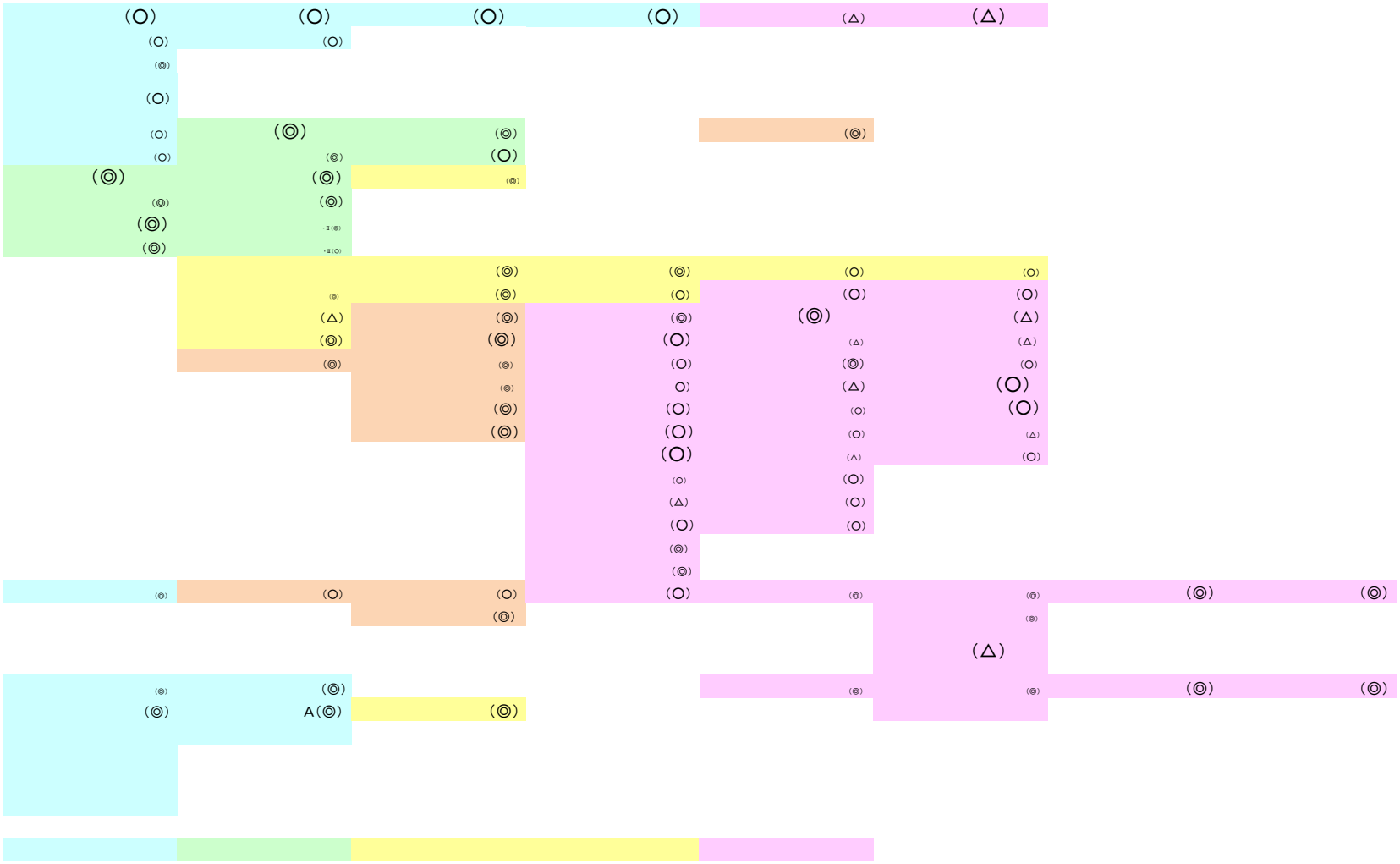
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