Appended Form 1

Specifications for Major Program

Name of School (Program) [School of Dentistry, Program of Oral Health Sciences]

Program name (Japanese)	
(English)	Program of Oral Engineering

1   Degree to be obtained: Bachelor of Oral Health Sciences

2   Overview

The Program for Oral Health Science provides two courses (Course of Oral Science and Course of Oral Engineering) to educate students to become researchers, educators, or highly advanced medical staff in the area of oral health sciences while liaising with other areas such as medicine, engineering, and nursing in a manner based on scientific evidence. The Course of Oral Engineering aims to enable students to acquire knowledge, skills, and attitudes regarding medicine, dentistry, and engineering, from the basics to the cutting-edge, in order to be able to contribute to the fields of dental medicine and medical care with advanced techniques, knowledge, and rich humanity in line with changes in society and future development in the sciences. The educational program provided in this course educates medical staff in fields of highly advanced oral engineering, researchers in areas of oral health science, dental technicians, and educators.

3   Diploma policy (policy for awarding degrees and goal of the program)

  Course of Oral Engineering educates students to be able to integrate knowledge and skills regarding dentistry, medicine, and engineering to work in the following positions in oral engineering:

   Dental medical staff, with the mindset of researchers, and business people, researchers, and educators with a clinical mindset;

   Oral engineers who can work in international fields;

   Educators and researchers who can pioneer fields of oral engineering and establish, systematize, and develop them to a highly specialized level; or

   Medical staff, educators, and researchers with a deep devotion to humanity, ethics, a deep human spirit, and a decisive sense of responsibility.

Based on the aims above, this program will award the degree of bachelor of oral health sciences to students who have acquired the capabilities described below and earned the required credits for the educational course.

(1) The ability to integrate and exercise knowledge and skills regarding liberal arts subjects, dental technology, basic dental medicine, clinical dental medicine, adjacent medicine, and related areas

of engineering;

(2) The normative awareness and manner, together with the knowledge, skills, and communication abilities required for medical staff, and a capability for establishing good relationships with patients and staff, and contributing to patient-oriented team dental medicine; and

(3) The ability to take a leading role in research, education, and clinical fields related to oral engineering, based on state-of-the-art knowledge, advanced skills, information gathering skills, problem solving abilities, an inquiring scientific mind, research capabilities, logical thinking skills, and an ability for lifelong study.

4   Curriculum policy (policy for arranging and implementing the curriculum)

To enable students to achieve the targets that are defined for Course of Oral Engineering, the educational course is organized and implemented according to the following policies:

(1) In the first year, students study liberal arts subjects, together with students in other schools, in order to acquire a wide-ranging intelligence and establish the intellectual foundation required for dental medical staff. In addition to this, through PBL (Problem Based Learning) in the liberal arts seminars, students also acquire the basic attitude, skills, and knowledge required for self-disciplined study. Furthermore, they acquire fundamental knowledge regarding specialized areas in order to establish the foundation for enhancing professional knowledge and skills.

(2) From the second to the fourth year, students study specialized subjects to acquire expertise and specialized skills. The specialized subjects include not only those related to dental technicians but also those regarding basic sciences such as life science, dentistry, and adjacent medicine.

(3) In the third and fourth terms of the third year and in the fourth year, students take the subject "Clinical Practice in Oral Health Engineering" that is provided at the university hospital in order to practice the knowledge and skills that they have acquired up to this time. Students are expected, through this practice, to learn skills and knowledge regarding the tasks of an oral engineer, specialized dental medicine, general dental medicine, and team medicine at a university hospital, and to acquire communication abilities, the normative awareness and manner required for medical staff, social skills, a cooperative mindset, and sound judgment.

(4) In the third and fourth terms of the third year and in the fourth year, students take the subject "Special Study for Graduation" to acquire information gathering skills, problem solving abilities, research capabilities, logical thinking skills, and presentation skills, and to foster an inquiring scientific mind, positiveness, flexibility, creativity, and patience.

(5) This course provides a bio-dental education program and IPE that aims to educate students to foster their scientific inquiring mind and acquire advanced knowledge and medical techniques that make them capable of cooperating with experts in various professions.

Academic achievement is evaluated based on the grade scores for the subjects and the achievement level against the target defined for each educational program.

5   Start time and acceptance conditions

   In the first year (when the student enters the university)

In the Program for Oral Health Science, the entrance examination is held for each course. This course is organized only for students who enter the Course of Oral Engineering in the Program for Oral Health Science in the School of Dentistry.

6   Obtainable qualifications

   Qualification for the national examination for dental technicians (awarded when the student graduates.)

Students who have earned the credit specified separately are eligible to be awarded the degree in cell culture engineering certified by the Japanese Tissue Culture Association; and to obtain the Basic Grade 2 Certificate for Rehabilitation Make-up from Reiko Kazki Co., Ltd.

7   Class subjects and their contents

* For the class subjects, refer to the subject table in Attached Sheet 1.

* For the details of the class subjects, refer to the syllabus that is published for each academic year.

8   Academic achievement

   The evaluation criteria are specified for each evaluation item for academic achievement, and the achievement level against the criteria is designated at the end of each semester.

The evaluation score for each evaluation item is converted to a numerical value (S = 4, A = 3, B = 2, and C = 1) and the evaluation standard for academic achievement, from when the student entered the university to the end of the last semester, is determined using these values while applying weightings. The evaluation standards consist of three levels, i.e. Excellent, Very Good, and Good.

Achievement evaluation	Numerical conversion
S (Excellent: 90 or more points)	4
A (Very good: 80 - 89 points)	3
B (Good: 70 - 79 points)	2
C (Passed: 60 - 69 points)	1

Academic achievement	Evaluation standard
Excellent	3.00 - 4.00
Very Good	2.00 - 2.99
Good	1.00 - 1.99

* Refer to the relationship between evaluation items and evaluation criteria described in Attached Sheet 2.

* Refer to the relationship between evaluation items and class subjects described in Attached Sheet 3.

* Refer to the curriculum map in Attached Sheet 4.

Study achievement in the course   (specific knowledge, skills, and attitude that students can obtain)

Knowledge & understanding

1. Knowledge and understanding related to liberal arts such as human and natural sciences

2. Knowledge and understanding related to foreign languages and culture

3. Knowledge and understanding related to the principles of medicine

4. Knowledge and understanding related to the basic attitude required for dental medical staff (dental technicians)

5. Knowledge and understanding related to social dentistry

6. Knowledge and understanding related to life science

7. Knowledge and understanding related to dental materials and biomaterials

8. Knowledge and understanding related to the prevention, medical examination, medical testing, diagnosis, and treatment of disease in areas of dentistry and adjacent medicine

9. Knowledge and understanding related to the specialized fields of dental technicians (dental technology)

10. Knowledge and understanding related to engineering (information processing, CAD/CAM, ME (medical engineering), system engineering, and management science)

Abilities and skills

1. Communication skills required for dental medical staff (dental technician)

2. Abilities and skills related to life science, material science, and social dentistry

3. Abilities, skills, and attitudes related to prevention, medical examination, medical testing, diagnosis, and treatment of disease in the regions of the mouth, jaw, and face

4. Abilities, skills, and attitude required for practically applying techniques in the specialized fields

of dental technicians (dental technology) as a member of a dental medical team

5. Abilities and skills required for applying related engineering (information processing, CAD/CAM, ME (medical engineering), system engineering, management science, and bio-technology)

Comprehensive capability

1. Comprehensive capability and attitude for autonomously and positively studying for the whole of one's life as a member of dental medical staff (dental technician)

2. Comprehensive capability and attitude related to medical testing, diagnosis, treatment, and prevention of disease in the regions of the mouth, jaw, and face

3. Comprehensive capability and attitude required for practically applying techniques in the specialized fields of dental technicians (dental technology)

4. Comprehensive capability for gathering, selecting, logically organizing, and presenting information

5. Comprehensive capability required for problem identification, research planning and promotion, results analysis, and presentation of results in a field related to oral engineering

9. Graduation thesis (graduation research) (meaning, student allocation, timing, etc.)
Students are required to prepare their graduation theses.

Purpose

To enable students to establish a foundation of knowledge and techniques required for research, in order to allow them to make a smooth start in their research at a higher level when they enter the graduate school.

Overview

Students are allocated to one of the departments, i.e. Anatomy and Functional Restorations, Medical System Engineering, and Oral Biology and Engineering. The contents of research vary depending on the department. The details of each department are introduced in the guidance of "Special Study for Graduation." Students join cutting-edge research activities in which the faculty is engaged, or identify a problem regarding oral health sciences by themselves and conduct the research to solve it. They are expected to acquire information gathering skills, problem solving abilities, research capabilities, and logical thinking skills through this process.

Student allocation timing and method

Students are allocated to the department in the second semester of the third year. Although the allocation method is separately defined, a great deal of importance is attached to the wishes of the student.

10. Responsibility

The dental department headquarters council and the faculty council of the School of Dentistry are engaged in the planning and execution of this course. For the processes of evaluation and action for improvement, the dean of the School of Dentistry consults with the dental department headquarters council and the faculty council of the School of Dentistry, and carries out the required actions while taking the results of consultations into consideration.

Table of Registration Standards for Liberal Arts Education Subjects, School of Dentistry

<Program of Oral Engineering>

Type	Subject type			Required No. of credits	Class subjects, etc.	No. of credits	Type of course registration
Liberal Arts Education Subjects		Peace Science Courses		2		2	Elective/required
	Basic Courses in University Education	Introduction to University Education		2	Introduction to University Education	2	Required
		Liberal Arts Education		2	Introductory Seminar for First-Year Students	2	Required
	Common subjects	Area Courses		2	General Health and Oral Sciences I	2	Required
				2	General Health and Oral Sciences II	2	Required
				4	From Courses in Arts and Humanities / Social Sciences (Note 1)		Elective/required
		Foreign Language Subjects	English	Communication Basic	2	Communication Basic I	1	Required (Note 2)
						Communication Basic II	1	
				Communication I	2	Communication IA	1	
						Communication IB	1	
				Communication II	2	Communication IIA	1	
						Communication IIB	1	
			Initial Program Languages		4	From Basic Languages Subjects		Elective/required (Note 3)
		Information and Data Sciences Subjects		2	Introduction to Information and Data Sciences	2	Required (Note 4)
				2	From courses in Information and Data Sciences Subjects	2	Elective/required
		Health and Sports Subjects		2			Elective/required
	Basic Subjects			2	Psychology for Medical Care Workers	2	Required (Note 5)
				2	Development of International Collaboration in Medical Science	2	Required
				4	Foundation biology for life science (Note 7)	2	Elective/required (Note 6)
					Cell Science	2	
					Anatomy for understanding human being I	1	
					Anatomy for understanding human being II	1	
					General Chemistry	2	
					Foundation physics for life science (Note 7)	2	
					Fundamental Physics I	2	
				2	Basic Calculus	2	Elective/required
					Foundation Mathematics for Health Science (Note 8)	2	
					Basic Linear Algebra	2	
					Statistics	2	
	Total			40			

Note 1 : If you acquire excessive credits from Elective/required subjects of Information and Data Sciences Subjects, within 4 credits of them will be considered as credits of Courses in Arts and Humanities / Social Sciences in Area Courses.

Note 2 : You can substitute the credits which you have obtained by taking the "Field Research in the English-speaking World" based on shortterm language study abroad or other relevant program, or by taking the "Online English Course I, II & III" based on self-learning for English credits (6 credits) necessary for graduation. Also, there is a Credit Transfer System based on foreign language proficiency tests and language trai

Note 3 : You have to select one language from German, French and Chinese.

Note 4 : When failing to earn the credit for "Introduction to Information and Data Sciences" is it allowed to take the subject from courses in Information and Data Sciences Subjects.

Note 5 : It is required to take the subject "Elements of Information Literacy" that is provided in the first semester of the first year. Only when failing to earn the credit for "Elements of Information Literacy" is it allowed to take the subject "Exercise in Information Literacy" that is provided in the second semester.

Note 6 : It is required to choose two groups from the subject groups of biology, chemistry, and physics and to earn credit for one subject for each chosen group.

Note 7 : The subjects for which the credit is required to be earned are specified in the School of Dentistry. The credit for any subject that is not specified is not accepted as the credit required for graduation.

Note 8 : Those who can choose "Foundation Mathematics for Health Science" must not have taken Mathematics III in high school etc.

Table of Registration Standards for Specialized Education Subjects, School of Dentistry

<Program of Oral Engineering>

Subject type		Class Subject	Minimum No. of credits required	A number of necessary credits by year and semester								Note
				1		2		3		4		
				1	2	3	4	5	6	7	8	
Specialized Education Subjects	Basic Specialized Courses	◎ Anatomy and Oral Anatomy	2	2								
		◎ Tooth Morphology	1			1						
		◎ Basic Class of Oral Science	1			1						
		◎ Oral Histology	2			2						
		◎ Practice on Oral Anatomy I	1			1						
		◎ Practice on Oral Anatomy II	1				1					
		◎ Stmatognathic System and Function	2			2						
		◎ Practice on Stmatognathic System and Function	1			1						
		◎ Physiology and Oral Physiology	2		2							
		◎ Pharmacology and Dental Pharmacology	2			2						
		◎ Microbiology and Oral Microbiology	2			2						
		◎ Pathology and Oral Pathology	2			2						
		Immunology	1			1						
		Dental Health	2				2					
		◎ Social Dentistry	1				1					
		Clinical Medicine	2						2			
		◎ Medical Ethics	1			1						
		◎ Basic Biochemistry	2			2						
	Specialized Courses	◎ Oral Surgery and Anesthesiology I	1					1				
		◎ Oral Surgery and Anesthesiology II	1					1				
		◎ Endodontology	1				1					
		◎ Periodontology	1				1					
		◎ Team Care for Oral Health	1					1				
		◎ Dentistry for Persons with Disabilities	2					2				
		◎ Lifestyle-related Dentistry and Geriatric Dentistry	2					2				
		◎ Laws and Regulations for Dental Technicians (included Social Security System)	1						1			
		◎ Quality and Safety Management in Dentistry	1					1				
		◎ Medical Informatics	2				2					
		Curriculum Design of Dental Hygienists and Dental Technicians Education	1						1			
		◎ Health Science on Sports Dentistry and Temporomandibular	1					1				
		◎ Dental Material	1			1						
		◎ Biomaterials	1			1						
		◎ Practice on Biomaterial	1			1						
		◎ Practice on Applied Biomaterial	1								1	
		◎ Precision Casting Science	2			2						
		◎ Practice on Precision Casting Science	1				1					
		◎ CAD/CAM System Engineering	1		1							
		◎ Medical System Engineering	1					1				
		◎ Practice of Information System Engineering	1			1						
		◎ Practical Training on Digital Dentistry	1						1			
		◎ Overview of Oral Engineering	2					2				
		◎ Medical Equipment	1				1					
		◎ Pediatric Dentistry	1					1				
		◎ Practice of Pediatric Dentistry	1						1			
		◎ Orthodontics	2					2				
		◎ Practice of Orthodontics I	1						1			
		◎ Practice of Orthodontics II	1						1			
		◎ Crown Restoration and Health Engineering I	1		1							
		◎ Crown Restoration and Health Engineering II	2			2						
		◎ Crown Restoration and Health Engineering III	1				1					
		◎ Practice in Crown Restoration and Health Engineering (Inlay)	1			1						
		◎ Practice in Crown Restoration and Health Engineering (Crown I)	1				1					
		◎ Practice in Crown Restoration and Health Engineering (Crown II)	1				1					
		◎ Practice in Crown Restoration and Health Engineering (Bridge I)	1					1				
		◎ Practice in Crown Restoration and Health Engineering (Bridge II)	1					1				
		◎ Practice in Crown Restoration and Health Engineering (Facing Crown and Implant Superstructure I)	1					1				

\<Program of Oral Engineering\>

Subject type		Class Subject	Minimum No. of credits required	A number of necessary credits by year and semester								Note
				1		2		3		4		
				1	2	3	4	5	6	7	8	
Specialized Education Subjects	Specialized Courses	◎ Practice in Crown Restoration and Health Engineering (Facing Crown and Implant Superstructure II)	1					1				
		◎ Practice in Crown Restoration and Health Engineering	1								1	
		◎ Removable Denture and Health Engineering (Complete Denture)	2		2							
		◎ Removable Denture and Health Engineering (Partial Denture)	2			2						
		◎ Practice of Removable Denture and Health (Complete Denture)	2				2					
		◎ Practice of Removable Denture and Health (Partial Denture)	2				2					
		◎ Practice of Removable Denture and Health (Anaplastology I)	1					1				
		◎ Practice of Removable Denture and Health (Anaplastology II)	1					1				
		◎ Practice of Removable Denture and Health (Implant Superstructure)	1						1			
		◎ Practice of Removable Denture and Health	1								1	
		◎ Esthetic Dentistry	1				1					
		◎ Practice on Medical Design and Engineering	1								1	
		◎ Practice of Oral Process Engineering	1								1	
		◎ Clinical Practice in Oral Health Engineering	13						1	6	6	
		◎ Medical Design Engineering I	1						1			
		◎ Medical Design Engineering II	1						1			
		◎ Disaster Dentistry and Forensic Odontology	1						1			
		◎ Dysphagia Rehabilitation	1					1				
		◎ Special Study for Graduation	9						6	2	1	
		Special Course in Rehabilitation Make Up	1					1				
		◎ Research Start-Up	1			1						
		◎ Biodental English	2					2				
Total			113	2	6	28	17	24	16	8	12	

◎ indicates required subjects

Necessary credits for graduation : 153 credits

Liberal Arts Education Subjects
  Peace Science Courses   2 credits
  Basic Courses in University Education   4 credits
  Common subjects
    Area Courses   8 credits
    Foreign Languages
      English   6 credits
      Non-English Foreign Languages   4 credits
    Information and Data sciences Subjects   4 credits
    Health and Sports Courses   2 credits
  Foundation Courses   10 credits
Liberal Arts Education Subjects   40 credits

Specialized Education Subjects
  Basic Specialized Courses   23 credits
  Specialized Courses   90 credits

Specialized Education Subjects   113 credits

Academic achievements of Program of Oral Engineering

Relationships between the evaluation items and evaluation criteria

Academic achievements		Evaluation criteria		
Evaluation items		Excellent	Very Good	Good
Knowledge and Understanding	(1) Knowledge and understanding of liberal arts such as humanities and natural science	Being able to correctly explain all contents of each subject, and develop them deepening the learning.	Being able to correctly explain all contents of each subject.	Being able to explain almost all contents of each subject.
	(2) The knowledge and understanding on foreign languages and culture	Being able to correctly explain all contents of each subject, and develop them deepening the learning.	Being able to correctly explain all contents of each subject.	Being able to explain almost all contents of each subject.
	(3) Knowledge and understanding on principles of medicine	Being able to correctly explain all contents of each subject, and develop them deepening the learning.	Being able to correctly explain all contents of each subject.	Being able to explain almost all contents of each subject.
	(4) Knowledge and understanding of basic behavior as a dental professional (a dental technician)	Being able to correctly explain all contents of each subject, and develop them deepening the learning.	Being able to correctly explain all contents of each subject.	Being able to explain almost all contents of each subject.
	(5) Knowledge and understanding of social dentistry	Being able to correctly explain all contents of each subject, and develop them deepening the learning.	Being able to correctly explain all contents of each subject.	Being able to explain almost all contents of each subject.
	(6) Knowledge and understanding of life science	Being able to correctly explain all contents of each subject, and develop them deepening the learning.	Being able to correctly explain all contents of each subject.	Being able to explain almost all contents of each subject.
	(7) Knowledge and understanding of dental materials and biomaterials	Being able to correctly explain all contents of each subject, and develop them deepening the learning.	Being able to correctly explain all contents of each subject.	Being able to explain almost all contents of each subject.
	(8) Knowledge and understanding of diseae prevention, treatment, diagnosis, and medical check-up concerning dentistry and other related studies	Being able to correctly explain all contents of each subject, and develop them deepening the learning.	Being able to correctly explain all contents of each subject.	Being able to explain almost all contents of each subject.
	(9) Understanding and knowledge of dental technician (dental techonology)	Being able to correctly explain all contents of each subject, and develop them deepening the learning.	Being able to correctly explain all contents of each subject.	Being able to explain almost all contents of each subject.
	(10) The knowledge and understanding on related engineering (information processing, CAD/CAM, ME(medical engineering), system engineering, management)	Being able to correctly explain all contents of each subject, and develop them deepening the learning.	Being able to correctly explain all contents of each subject.	Being able to explain almost all contents of each subject.
Abilities and Skills	(1) Communication skills as a dental professional (a dental technician)	To attend hands-on training and other exercises with basic knowledge which is learned ahead of time. Also, participate proactively in these activities, intending to further develop studies. In addition, with regard to reports, to be able to consider phenomenon objectively and to have the ability to objectively assess future tasks.	To attend hands-on training with good attitudes. Also, to further develop what students learn in the training based on principles. In addition, to be able to consider phenomena subjectively in reports.	To be able to develop what students learn in hands-on training. Also, to attend these activities with good attitudes. Also, to be able to describe phenomena subjectively.
	(2) Abilities and skills concerning life science, materials technology, and social dentistry	To attend hands-on training and other exercises with basic knowledge which is learned ahead of time. Also, participate proactively in these activities, intending to further develop studies. In addition, with regard to reports, to be able to consider phenomenon objectively and to have the ability to objectively assess future tasks.	To attend hands-on training with good attitudes. Also, to further develop what students learn in the training based on principles. In addition, to be able to consider phenomena subjectively in reports.	To be able to develop what students learn in hands-on training. Also, to attend these activities with good attitudes. Also, to be able to describe phenomena subjectively.
	(3) The ability skills and attitude related to prevention examination diagnosis treatment of diseases in oral maxillofacial region	To attend hands-on training and other exercises with basic knowledge which is learned ahead of time. Also, participate proactively in these activities, intending to further develop studies. In addition, with regard to reports, to be able to consider phenomenon objectively and to have the ability to objectively assess future tasks.	To attend hands-on training with good attitudes. Also, to further develop what students learn in the training based on principles. In addition, to be able to consider phenomena subjectively in reports.	To be able to develop what students learn in hands-on training. Also, to attend these activities with good attitudes. Also, to be able to describe phenomena subjectively.
	(4) The capacity and attitude necessary for practicing specialized fields of dental technicians (dental technique) as a dental team	To attend hands-on training and other exercises with basic knowledge which is learned ahead of time. Also, participate proactively in these activities, intending to further develop studies. In addition, with regard to reports, to be able to consider phenomenon objectively and to have the ability to objectively assess future tasks.	To attend hands-on training with good attitudes. Also, to further develop what students learn in the training based on principles. In addition, to be able to consider phenomena subjectively in reports.	To be able to develop what students learn in hands-on training. Also, to attend these activities with good attitudes. Also, to be able to describe phenomena subjectively.
	(5) The ability and skills to apply related engineering (information processing, CAD/CAM, ME(medical engineering), system engineering, management, biotechnology)	To attend hands-on training and other exercises with basic knowledge which is learned ahead of time. Also, participate proactively in these activities, intending to further develop studies. In addition, with regard to reports, to be able to consider phenomenon objectively and to have the ability to objectively assess future tasks.	To attend hands-on training with good attitudes. Also, to further develop what students learn in the training based on principles. In addition, to be able to consider phenomena subjectively in reports.	To be able to develop what students learn in hands-on training. Also, to attend these activities with good attitudes. Also, to be able to describe phenomena subjectively.
Comprehensive Abilities	(1) Comprehensive learning ability and behavior as a dentist, which is to voluntarily learn over a course of life	As a dental technician, to be able to learn independently, proactively, and continuously.	As a dental technician, to be able to learn independently and proactively.	As a dental technician, to be able to learn independently.
	(2) The general ability and attitude in related to investigation, diagnosis, treatment and prevention in oral maxillofacial region	Being able to generalize knowledge in related to investigation, diagnosis, treatment and prevention in oral maxillofacial region and make an appropriate action and judgement.	Being able to generalize knowledge in related to investigation, diagnosis, treatment and prevention in oral maxillofacial region and make an appropriate action and judgement.	Being able to generalize knowledge in related to investigation, diagnosis, treatment and prevention in oral maxillofacial region.
	(3) The comprehensive capacity and attitude necessary for practicing specialized fields of dental technicians (dental technique) as a dental team	Being able to conduct dental techniques thinking of necessary needs and encouraging appropriately based on understanding each professional roles.	Being able to conduct dental techniques encouraging appropriately based on understanding each professional roles.	Being able to conduct dental techniques acknowledging being a member of a team
	(4) Comprehensive ability to separate necessary and unnecessary information, summarize and output it	To be able to collect, logically summarize and analyze required data. After that process, to be able to extract problems, consider solutions and present	After collecting, logically summarizing and analyzing information, to be able to output it with speculation.	To be able to output information which are collected and summarized.
	(5) The general ability necessary to discover the issues on oral engineering and conduct research planning promotion result analysis result presentation	Being able to discover oral engineering issues and plan promote the research, as well as analyze and present the results.	Being able to discover oral engineering issues and plan promote the research, as well as present the results.	Being able to plan present the research on oral engineering issues.

Sheet

Relationships between the evaluation items and class subjects of Program of Oral Engineering

Subject type	Class Subject	No. of credits	Type of course registration	semesters	K&U(1)		K&U(2)		K&U(3)		K&U(4)		K&U(5)		K&U(6)		K&U(7)		K&U(8)		K&U(9)		K&U(10)		A&S(1)		A&S(2)		A&S(3)		A&S(4)		A&S(5)		CA(1)		CA(2)		CA(3)		CA(4)		CA(5)		Total
Liberal Arts Education Subjects	Peace Science Courses	2	Required	3	100	1																																								100
	Basic Courses in University Education	4	Required	1	100	1																																								100
	Area Courses	8	Required	1,2	100	1																																								100
	Foreign Language Subjects	10	Required	1,2			100	1																																						100
	Information and Data Sciences Subjects	4	Required	1,2																			100	1																					100
	Health and Sports Subjects	2	Required	1,2	100	1																																								100
	Basic Subjects	10	Required	1,2	100	1																																								100
Specialized Education Subjects	Anatomy and Oral Anatomy	2	Required	1											100	1																														100
	Tooth Morphology	1	Required	3											100	1																														100
	Basic Class of Oral Science	1	Required	3											100	1																														100
	Oral Histology	2	Required	3											100	1																														100
	Practice on Oral Anatomy I	1	Required	3																											100	1													100
	Practice on Oral Anatomy II	1	Required	4																											100	1													100
	Stmatognathic System and Function	2	Required	3																	100	1																							100
	Practice on Stmatognathic System and Function	1	Required	3																											100	1													100
	Physiology and Oral Physiology	2	Required	2											100	1																														100
	Pharmacology and Dental Pharmacology	2	Required	3															100	1																									100
	Microbiology and Oral Microbiology	2	Required	3											100	1																														100
	Pathology and Oral Pathology	2	Required	3															100	1																									100
	Immunology	1	Free elective	3											100	1																														100
	Dental Health	2	Free elective	4													100	1																												100
	Social Dentistry	1	Required	4									100	1																																100
	Clinical Medicine	2	Free elective	6													100	1																												100
	Medical Ethics	1	Required	3					100	1																																				100
	Basic Biochemistry	2	Required	3											100	1																														100
	Oral Surgery and Anesthesiology I	1	Required	5															100	1																									100
	Oral Surgery and Anesthesiology II	1	Required	5															100	1																									100
	Endodontology	1	Required	4															100	1																									100
	Periodontology	1	Required	4															100	1																									100
	Team Care for Oral Health	1	Required	5							100	1																																		100
	Dentistry for Persons with Disabilities	2	Required	5															100	1																									100
	Lifestyle-related Dentistry and Geriatric Dentistry	2	Required	5															100	1																									100
	Laws and Regulations for Dental Technicians (included Social Security System)	1	Required	6							100	1																																		100
	Quality and Safety Management in Dentistry	1	Required	5																											100	1															100
	Medical Informatics	2	Required	4																			100	1																						100
	Curriculum Design of Dental Hygienist and Dental Technicians Education	1	Free elective	6																							100	1																	100
	Health Science on Sports Dentistry and Temporomandibular	1	Required	5																											100	1															100
	Dental Material	1	Required	3													100	1																												100
	Biomaterials	1	Required	3													100	1																												100
	Practice on Biomaterial	1	Required	3																					100	1																			100
	Practice on Applied Biomaterial	1	Required	8																											100	1															100
	Precision Casting Science	2	Required	3													100	1																												100
	Practice on Precision Casting Science	1	Required	4																							100	1																	100
	CAD/CAM System Engineering	1	Required	2																			100	1																						100
	Medical System Engineering	1	Required	5																			100	1																						100
	Practice of Information System Engineering	1	Required	3																											100	1															100

Sheet

Relationships between the evaluation items and class subjects of Program of Oral Engineering

The table below lists, for each class subject, the weighted values of evaluation items. Under each numbered evaluation item there are two sub-columns: the first is "Weighted values of evaluation items in the subject" and the second is "Weighted values of evaluation items". Groups: **Knowledge and Understanding** (1)–(10), **Abilities and Skills** (1)–(5), **Comprehensive Abilities** (1)–(5).

Subject type	Class Subject	No. of credits	Type of course registration	semesters	KU(1)		KU(2)		KU(3)		KU(4)		KU(5)		KU(6)		KU(7)		KU(8)		KU(9)		KU(10)		AS(1)		AS(2)		AS(3)		AS(4)		AS(5)		CA(1)		CA(2)		CA(3)		CA(4)		CA(5)		Total
Specialized Education Subjects	Practical Training on Digital Dentistry	1	Required	6																																100	1									100
	Overview of Oral Engineering	2	Required	5																	100	1																									100
	Medical Equipment	1	Required	4																			100	1																					100
	Pediatric Dentistry	1	Required	5															100	1																											100
	Practice of Pediatric Dentistry	1	Required	6																													100	1													100
	Orthodontics	2	Required	5																	100	1																									100
	Practice of Orthodontics I	1	Required	6																													100	1													100
	Practice of Orthodontics II	1	Required	6																													100	1													100
	Crown Restoration and Health Engineering I	1	Required	2																	100	1																									100
	Crown Restoration and Health Engineering II	2	Required	3																	100	1																									100
	Crown Restoration and Health Engineering III	1	Required	4																	100	1																									100
	Practice in Crown Restoration and Health Engineering (Inlay)	1	Required	3																													100	1													100
	Practice in Crown Restoration and Health Engineering (Crown I)	1	Required	4																													100	1													100
	Practice in Crown Restoration and Health Engineering (Crown II)	1	Required	4																													100	1													100
	Practice in Crown Restoration and Health Engineering (Bridge I)	1	Required	5																													100	1													100
	Practice in Crown Restoration and Health Engineering (Bridge II)	1	Required	5																													100	1													100
	Practice in Crown Restoration and Health Engineering (Facing Crown and Implant Superstructure I)	1	Required	5																													100	1													100
	Practice in Crown Restoration and Health Engineering (Facing Crown and Implant Superstructure II)	1	Required	5																													100	1													100
	Practice in Crown Restoration and Health Engineering	1	Required	8																													100	1													100
	Removable Denture and Health Engineering (Complete Denture)	2	Required	2																	100	1																									100
	Removable Denture and Health Engineering (Partial Denture)	2	Required	3																	100	1																									100
	Practice of Removable Denture and Health (Complete Denture)	2	Required	4																													100	1													100
	Practice of Removable Denture and Health (Partial Denture)	2	Required	4																													100	1													100
	Practice of Removable Denture and Health (Anaplastology I)	1	Required	5																													100	1													100
	Practice of Removable Denture and Health (Anaplastology II)	1	Required	5																													100	1													100
	Practice of Removable Denture and Health (Implant Superstructure)	1	Required	6																													100	1													100
	Practice of Removable Denture and Health	1	Required	8																													100	1													100
	Esthetic Dentistry	1	Required	4																	100	1																									100
	Practice on Medical Design and Engineering	1	Required	8																																			50	1	50	1					100
	Practice of Oral Process Engineering	1	Required	8																																			50	1	50	1					100
	Clinical Practice in Oral Health Engineering	13	Required	6-8																													30	1			35	1	35	1							100
	Medical Design Engineering I	1	Required	6																																50	1					50	1			100
	Medical Design Engineering II	1	Required	6																																50	1					50	1			100
	Disaster Dentistry and Forensic Odontology	1	Required	6									100	1																															100
	Dysphagia Rehabilitation	1	Required	5																	100	1																									100
	Special Study for Graduation	9	Required	6-8																																40	1					30	1	30	1	100
	Special Course in Rehabilitation Make Up	1	Free elective	5																							100	1																100
	Research Start-Up	1	Required	4																							100	1																100
	Biodental English	2	Required	5			70	1																			30	1																		100

Curriculum Map of Program of Oral Engineering

( ) Basic Courses in University Education
( ) Area Courses
( ) Foreign Language Subjects
( ) Information and Data Sciences Subjects

( ) Area Courses
( ) Foreign Language Subjects
( ) Information and Data Sciences Subjects

( ) Peace Science Courses

( ) Health and Sports Subjects   ( ) Health and Sports Subjects

( ) Biodental English

( ) Medical Ethics

( ) Team Care for Oral Health   ( ) Laws and Regulations for Dental Technicians (included Social Security System)

( ) Social Dentistry   ( ) Disaster Dentistry and Forensic Odontology

( ) Anatomy and Oral Anatomy   ( ) Physiology and Oral Physiology

( ) Basic Class of Oral Science
( ) Tooth Morphology
( ) Oral Histology
( ) Microbiology and Oral Microbiology
( ) Immunology
( ) Basic Biochemistry
( ) Dental Material
( ) Biomaterials
( ) Precision Casting Science
( ) Pharmacology and Dental Pharmacology
( ) Pathology and Oral Pathology

( ) Dental Health
( ) Endodontology
( ) Periodontology
( ) Esthetic Dentistry

( ) Oral Surgery and Anesthesiology I
( ) Oral Surgery and Anesthesiology II
( ) Dentistry for Persons with Disabilities
( ) Lifestyle-related Dentistry and Geriatric Dentistry
( ) Pediatric Dentistry
( ) Dysphagia Rehabilitation

( ) Clinical Medicine

( ) Crown Restoration and Health Engineering I
( ) Removable Denture and Health Engineering (Complete Denture)

( ) Stmatognathic System and Function
( ) Crown Restoration and Health Engineering II
( ) Removable Denture and Health Engineering (Partial Denture)

( ) Crown Restoration and Health Engineering III

( ) Overview of Oral Engineering
( ) Orthodontics

( ) Basic Subjects   ( ) Basic Subjects
( ) CAD/CAM System Engineering

( ) Medical Informatics
( ) Medical Equipment

( ) Medical System Engineering

( ) Biodental English   ( ) Curriculum Design of Dental Hygienists and Dental Technicians Education

( ) Practice on Biomaterial   ( ) Practice on Precision Casting Science

( ) Research Start-Up

( ) Quality and Safety Management in Dentistry
( ) Special Course in Rehabilitation Make Up

( ) Practice on Oral Anatomy I
( ) Practice on Stmatognathic System and Function
( ) Practice in Crown Restoration and Health Engineering (Inlay)

( ) Practice on Oral Anatomy II
( ) Practice in Crown Restoration and Health Engineering (Crown I)
( ) Practice in Crown Restoration and Health Engineering (Crown II)
( ) Practice of Removable Denture and Health (Complete Denture)
( ) Practice of Removable Denture and Health (Partial Denture)

( ) Health Science on Sports Dentistry and Temporomandibular
( ) Practice in Crown Restoration and Health Engineering (Bridge I)
( ) Practice in Crown Restoration and Health Engineering (Bridge II)
( ) Practice in Crown Restoration and Health Engineering (Facing Crown and Implant Superstructure I)
( ) Practice in Crown Restoration and Health Engineering (Facing Crown and Implant Superstructure II)
( ) Practice of Removable Denture and Health (Anaplastology I)
( ) Practice of Removable Denture and Health (Anaplastology II)

( ) Practice of Pediatric Dentistry
( ) Practice of Orthodontics I
( ) Practice of Orthodontics II
( ) Practice of Removable Denture and Health (Implant Superstructure)
( ) Clinical Practice in Oral Health Engineering

( ) Clinical Practice in Oral Health Engineering

( ) Practice on Applied Biomaterial
( ) Practice in Crown Restoration and Health Engineering
( ) Practice of Removable Denture and Health
( ) Clinical Practice in Oral Health Engineering

( ) Practice of Information System Engineering   ( ) Practical Training on Digital Dentistry

( ) Medical Design Engineering I
( ) Medical Design Engineering II
( ) Special Study for Graduation
( ) Clinical Practice in Oral Health Engineering

( ) Special Study for Graduation

( ) Special Study for Graduation

( ) Special Study for Graduation
( ) Clinical Practice in Oral Health Engineering

( ) Practice on Medical Design and Engineering
( ) Practice of Oral Process Engineering
( ) Clinical Practice in Oral Health Engineering

( ) Clinical Practice in Oral Health Engineering   ( ) Clinical Practice in Oral Health Engineering

( ) Practice on Medical Design and Engineering
( ) Practice of Oral Process Engineering
( ) Clinical Practice in Oral Health Engineering

( ) Medical Design Engineering I
( ) Medical Design Engineering II
( ) Special Study for Graduation
( ) Special Study for Graduation

( ) Special Study for Graduation

( ) Special Study for Graduation

( ) Special Study for Graduation   ( ) Special Study for Graduation

(Ex) Liberal Arts Education Subjects   Basic Specialized Courses   Specialized Courses   ( ) Required   ( ) Elective/required   ( ) Free electiveC(

Program member list of Program of Oral Engineering

Mail : Please add " @hiroshima-u.ac.jp"

Name	Position	Laboratory name	Mail
KAKU MASATO	Professor	Anatomy and Functional Restorations	mkaku
SHIMOE SAIJI	Associate Professor	Anatomy and Functional Restorations	shimoe
MURAYAMA TAKESHI	Professor	Medical System Engineering	murayatk
MINE YUICHI	Lecturer	Medical System Engineering	mine
NIKAWA HIROKI	Professor	Oral Biology & Engineering	hirocky
TAJI TSUYOSHI	Associate Professor	Oral Biology & Engineering	taji
SASAHARA HISAKO	Lecturer	Oral Biology & Engineering	his-his-kes