2022年度

九州歯科大学　シラバス

大学院歯学研究科 歯学専攻

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歯学研究科　歯学専攻

2022

Fresher’ s Research Training Program

Grades	1 grade	Semester (or Term)	Spring	Subject	Compulsory (Basic)	Credits	1.0
Methods	lesson	Total time	16.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Dean,Graduate School of Dentistry						
Instructor(s)	Dean of Graduate School of Dentistry, Kakudate N., Nakahara T., Nakashima K., Seta Y., Ariyoshi.W, Takeuchi H., Morimoto Y., Nakashima H.						

Course Description

【Language】English and Japanese In order to start the research in graduate school, to understand the actual and the theory of the basic knowledge you need to know.

Attainment Objectives

1. You can think about future career path through the research activities in graduate school.
2. You can understand the laws and regulations and various guidelines for scientific research can respond
3. You can learn how use of the library, and practice the data retrieval methods using the planning and PubMed of research plan based on EBM
4. You can learn a minimum of knowledge of radiation exposure needed to use the X-ray imaging apparatus in animal research center and practice them. You can also explain about typical infection of the experimental animals in detail, particularly about the “zoonotic disease”
5. You can determine whether the reagents you use are non-medical of deleterious substances or poisons. You can explain the management for non-medical of deleterious substances or poisons. You can explain the safety measures in the laboratory
6. You can explain the critical medical ethics as medical professionals
7. You can understand the standard infection prevention required in practice to understand the basic procedure of nosocomial infection prevention and carry out them

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
report and/or mini-exam	100%

Etc

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2022

Fresher’ｓ Research Training Program

Grades	1 grade	Semester (or Term)	Spring	Subject	Compulsory (Basic)	Credits	1.0
Methods	lesson	Total time	16.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Dean,Graduate School of Dentistry						
Instructor(s)	Dean of Graduate School of Dentistry, Kakudate N., Nakahara T., Nakashima K., Seta Y., Ariyoshi.W, Takeuchi H., Morimoto Y., Nakashima H.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Career Path Take the e-learning of Ethics in scientific research. Learn an overview of the laws, regulations and various guidelines for epidemiological studies and clinical research.	Lecture and e-learning	Dean,Graduate School of Dentistry.	Complete the e-learning and get the course completion certificate
2	Animal experiments and genetic recombinationLean about infectious diseases of experimental animals, radiation exposure in animal research center, and gene recombination.	Lecture	Dean,Graduate School of Dentistry. Director of Animal Research Center. Takeuchi H.Morimoto Y.Ariyoshi W.	Review of lecture
3	Industry-university cooperationLearn about industry-university cooperation in order to take advantage of the research at the university in the industry.	Lecture	Extramural Lecturer	Review of lecture
4	Infection control in medical care activitiesLearn a nosocomial infection control and medical accident measures that are required in medical care activities.	Lecture	Nakashima H.	Review of lecture
5	Ethics in scientific research	Lecture	Nakahara T.	Review of lecture
6	Handling of poisonous and deleterious substances, management of the laboratoryLearn about safety measures in the laboratory on the handling of poisonous and deleterious substances used in the experiments.	Lecture	Takeuchi H.	Check the storage and usage of reagents in the laboratory after the lecture
7	Evidence-Based Dentistry Learn basic concepts of EBM/EBD and the steps for implementation	Lecture	Kakudate N.	Review of lecture
8	Literature search and use of libraryLearn how to use the library, and practice the data retrieval methods using PubMed.BioethicsLearn about problems f bioethics and medical ethics.	Lecture	Nakashima K. Seta Y.	Read the textbook prior or post lecture

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2022

Seminar in Biomaterials Ⅰ (Basic Course)

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ikeda H.						
Instructor(s)	Nagamatsu Y.						

Course Description

【Language】English and Japanese In this course, you will learn basic knowledge, handling and experimental test method of dental materials in order to research organic material, metal material and inorganic material. For this purpose, we will teach you the knowledge and skills with regards of denture base resin, composite resin, gold alloy, titanium alloy, porcelain, and fine ceramics in response to your research theme.

Attainment Objectives

You should achieve following assignments; Knowledge and handling of organic materialCasting of dental alloys, especially gold alloysKnowledge and handling of dental porcelain and fine ceramicsMaterial test methodsPreparation of test piece and practice of three point loading testPreparation of test piece and practice of shear testPreparation of test piece and practice of bonding testUsing casting machine in response to dental alloyKnowledge and handling of component analysis

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
Related text books		

Grading Criteria and Method of Evalution

Evaluation item	Ratio
contents or the research report	100%

Etc

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2022

Seminar in Biomaterials Ⅰ (Basic Course)

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ikeda H.						
Instructor(s)	Nagamatsu Y.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Orientation	lecture	Ikeda Nagamatsu	Review of lecture
2	Impression material	lecture	Ikeda Nagamatsu	Review of lecture
3	Denture base resin	lecture	Ikeda Nagamatsu	Review of lecture
4	Composite resin	lecture	Ikeda Nagamatsu	Review of lecture
5	Dental noble metal alloy	lecture	Ikeda Nagamatsu	Review of lecture
6	Dental base metal alloy	lecture	Ikeda Nagamatsu	Review of lecture
7	Dental porcelain	lecture	Ikeda Nagamatsu	Review of lecture
8	Dental fine ceramics	lecture	Ikeda Nagamatsu	Review of lecture
9	Elastic and permanent strain of impression materials	Practice	Ikeda Nagamatsu	Review of lecture
10	Transverse strength of dental resins	Practice	Ikeda Nagamatsu	Review of lecture
11	Bond strength of composite resins	Practice	Ikeda Nagamatsu	Review of lecture
12	Fabrication of wax pattern for gold alloy and casting using centrifugal casting machine	Practice	Ikeda Nagamatsu	Review of lecture
13	Fabrication of wax pattern for titanium alloy and casting using argon arc casting machine	Practice	Ikeda Nagamatsu	Review of lecture
14	Shear strength test of dental porcelain and fine ceramics	Practice	Ikeda Nagamatsu	Review of lecture
15	Research report meeting	Practice	Ikeda Nagamatsu	Preparation of presentation

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2022

Seminar in Biomaterials Ⅱ (Advanced Course)

Grades	2-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ikeda H.						
Instructor(s)							

Course Description

【Language】English and Japanese The dimensional accuracy and surface property of the working cast significantly affect the fitness of denture base or restorations. In the present course, you will study the effect of how to use hydrocolloid impression material on the various properties of the working cast.

Attainment Objectives

You should achieve following assignments; Gathering of information of various types of impression material and cast materialLearning the principles and using of the method of measurement equipment that is required for the analysisFabrication of test specimens and operating measurement equipment in the preliminary experimentCalculation of the data obtained in the experiment and graphing and presentation

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
Related text books and papers.		

Grading Criteria and Method of Evalution

Evaluation item	Ratio
contents of the research report meeting	100%

Etc

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2022

Seminar in Biomaterials Ⅱ (Advanced Course)

Grades	2-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ikeda H.						
Instructor(s)							

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Fabrication of test specimens IImmediately after taking impression	Practice	Ikeda Nagamatsu	Review of lecture
2	Fabrication of test specimens IIAfter disinfection of the impression	Practice	Ikeda Nagamatsu	Review of lecture
3	Fabrication of test specimens IIIafter leaving impression	Practice	Ikeda Nagamatsu	Review of lecture
4	Fabrication of test specimens IVunder a variety of conditions	Practice	Ikeda Nagamatsu	Review of lecture
5,6	Measurement of the dimensional precision of cast specimens	Practice	Ikeda Nagamatsu	Review of lecture
44386	Measurement of the surface roughness of cast specimens	Practice	Ikeda Nagamatsu	Review of lecture
10	Measurement of the shape of cast specimens	Practice	Ikeda Nagamatsu	Review of lecture
11,12	Statistical analysis and graphs of all data	Practice	Ikeda Nagamatsu	Review of lecture
13,14	Creating a presentation	Practice	Ikeda Nagamatsu	Review of lecture
15	Research report meeting	Practice	Ikeda Nagamatsu	Preparation of presentation

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2022

Dental Biomaterials

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ikeda H.						
Instructor(s)	Nagamatsu Y.						

Course Description

【Language】English and Japanese In the present course, you will read a textbook ‘Clinical Aspects of Dental Materials’ in turn as well as a variety of biomaterials science-related English papers.

Attainment Objectives

You should achieve following assignments; Cultivating the reading comprehension of EnglishUnderstanding the difference between Japanese and English methods of representationLearning how to study Biomaterials SciencesLearning the latest trends in dental materials from a clinical point of view

Textbooks

Title	Author	Publisher
Clinical Aspects of Dental Materials	M. Gladwin, M. Bagby	Journals e.g. Dental Materials

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
contents of the research report meeting	100%

Etc

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
44211	Gathering information from the English research papersTraining of English thinking of clinical trends in the dental materials	Practice	Ikeda Nagamatsu	Review of lecture

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2022

Advanced Biomaterials Ⅰ

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ikeda H.						
Instructor(s)	Nagamatsu Y.						

Course Description

【Language】English and Japanese In this course, you will select one of the following research subjects and read articles related to the subject. You should know the research background and current status of the field, then summarize what you have learned, and present it. Through this procedure, you will receive advices from the faculty in our division and they will help you for planning your own research. 1 Mechanism of alumina air abrasion on metal surface 2 Relationship between adhesive strength and Young's modulus 3 Bonding mechanism of highly filled composite resin 4 Development of antibacterial dental stone 5 Creation of new dental material which has similar properties to human enamel

Attainment Objectives

You should achieve the following assignments; 1 Reading English literature2 Explaining the history and current status of the area3 Critical evaluation of literature4 Writing an introduction 5 Drawing your own research plan with references

Textbooks

Title	Author	Publisher
Select it yourself.		

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
contents of the research report	100%

Etc

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1-15	Gathering articless related to your own research subject, read them, compile them in a prescribed format, and present them. Response to questions. Correct the indicated matters and complete the document.s	Practice	Ikeda Nagamatsu	Preparation and review of practices (Preparation of handouts and correction of matters pointed out)

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2022

Advanced Biomaterials II

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ikeda H.						
Instructor(s)	Nagamatsu Y., Ikeda H.						

Course Description

In this course, you will learn the latest information on the following research results and future prospects of the faculty members. 1 Dental adhesion 2 Bactericidal and antimicrobial properties of dental materials 3 Ceramics and composite materials 4 Digital dentistry

Attainment Objectives

You should achieve the following assignments; 1 Explaining the latest knowledge of the field2 Developing a new research plan in the field3 Explaining the relationship between the basic knowledge of the field and clinical practice

Textbooks

Title	Author	Publisher
The faculty member in charge prepares.		

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
contents of the research report	100%

Etc

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1-15	Gathering information from faculty lectureLearning presentation method	Practice	Ikeda Nagamatsu	Review of lectures and practice

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2022

Anatomy Ⅰ (Basic course)

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4.0
Methods	lesson and seminar	Total time	60.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Seta Y.						
Instructor(s)	Seta Y., Toyono T., Kataoka S., Matsuyama K.						

Course Description

【Language】English and Japanese This course introduces the foundations of anatomy and molecular biology of sensory organs to students taking this course.

Attainment Objectives

The goals of this course are to (1) be able to explain the structure and function of sensory organ,(2) be able to explain the synapse transduction,(3) be able to explain the mechanism of sensory reception,(4) be able to explain the differentiation of neuron,(5) be able to explain the taste receptors.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Usual performance score	60%
experimental performance in the lab	40%

Etc

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2022

Anatomy Ⅰ (Basic course)

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4.0
Methods	lesson and seminar	Total time	60.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Seta Y.						
Instructor(s)	Seta Y., Toyono T., Kataoka S., Matsuyama K.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1,2	experimental performance in the lab	Lecture	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
3,4	The morphology of sennsery organs (1): visual organ	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
5,6	The morphology of sennsery organs (2): vestibulocochlear apparatus	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
7,8	The morphology of sennsery organs (3): taste organ	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
9,10	The morphology of sennsery organs (4): olfactory organ	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
11,12	Action potential	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
13-14	Neurotransmission :Synapse	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
15-16	Sensory neuron (1): photoreceptor cell	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
17-18	Sensory neuron (2): olfactory neuron	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
19-20	Sex hormone in nervous system	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
21-22	Sensory neuron (3): taste receptor cell	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
23-24	Taste receptors	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
25-26	Development and differentiation of neuron	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
27-28	Development and differentiation of sensory organs	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
29-30	Sex hormone in taste organ	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture

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2022

Anatomy Ⅱ (Advanced course)

Grades	2-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4.0
Methods	lesson and seminar	Total time	60.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Seta Y.						
Instructor(s)	Seta Y., Toyono T., Kataoka S., Matsuyama K.						

Course Description

【Language】English and Japanese This course deals with the basis of fundamental morphological analysis. It also enhances the development of students' skill in carrying out a morphological experiment.

Attainment Objectives

The goals of this course are to be able to understand morphological features of head and neck

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Examination	80%
small test at the ending of each lesson	20%

Etc

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2022

Anatomy Ⅱ (Advanced course)

Grades	2-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4.0
Methods	lesson and seminar	Total time	60.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Seta Y.						
Instructor(s)	Seta Y., Toyono T., Kataoka S., Matsuyama K.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1,2	neurocranium	IntroductionWhat is morphological analysis.	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
3,4	viscerocranium	Lecture	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
5,6	muscles of head and neck 1	Lecture	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
7,8	muscles of head and neck 2	Lecture	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
9,10	muscles of head and neck 3	Lecture	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
11,12	circulatory organ 1	Lecture	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
13-14	circulatory organ 2	Lecture	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
15-16	Nervous system1	Lecture	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
17-18	Nervous system 2	Lecture	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
19-20	Nervous system 3	Lecture	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
21-22	Temporomandibular joint 1	Lecture	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
23-24	Temporomandibular joint 2	Lecture	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
25-26	Oral cavity	Lecture	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
27-28	Sensory organs	Lecture	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
29-30	Teeth, Dentition	Lecture	Seta, Toyono, Kataoka, Matsuyama	Review of lecture

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2022

Anatomy Practice Ⅰ (Basic course)

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Seta Y.						
Instructor(s)	Seta Y., Toyono T., Kataoka S., Matsuyama K.						

Course Description

【Language】English and Japanese This course deals with the basis of fundamental morphological analysis. It also enhances the development of students' skill in carrying out a morphological experiment.

Attainment Objectives

The goals of this course are to (1) be able to understand morphological analysis,(2) be able to carry out cell culture (3) be able to prepare tissue section (4) be able to carry out immunohistochemistry.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Usual performance score	10%
experimental performance in the lab	90%

Etc

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2022

Anatomy Practice Ⅰ (Basic course)

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Seta Y.						
Instructor(s)	Seta Y., Toyono T., Kataoka S., Matsuyama K.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	IntroductionWhat is morphological analysis.	Lecture	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
2,3	Cell culture (1): prepare culture medium	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
4,5	Cell culture (2): cell culture method	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
6,7	Preparing method of tissue section (1): Fixation	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
8,9	Preparing method of tissue section (2): Sectioning tissue using frozen block	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
10,11	Preparing method of tissue section (3): Sectioning tissue using paraffin block	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
12,13	Immunohistochemistry (1): Detection target protein in section.	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
14-15	Immunohistochemistry (2): Detection target protein in section.	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture

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2022

Anatomy Practice Ⅱ (Advanced course)

Grades	2-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Seta Y.						
Instructor(s)	Seta Y., Toyono T., Kataoka S., Matsuyama K.						

Course Description

【Language】English and Japanese This course deals with the basis of fundamental molecular biological analysis. It also enhances the development of students' skill in carrying out molecular biological experiment.

Attainment Objectives

The goals of this course are to (1) be able to understand molecular biological analysis,(2) be able to carry out PCR cloning(3) be able to carry out transfection.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Usual performance score	10%
experimental performance in the lab	90%

Etc

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2022

Anatomy Practice Ⅱ (Advanced course)

Grades	2-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Seta Y.						
Instructor(s)	Seta Y., Toyono T., Kataoka S., Matsuyama K.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Introduction	Lecture	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
2,3	RT-PCR (1): RNA preparation and cDNA synthesis	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
4,5	RT-PCR (2): Prepare gene-specific primers and PCR	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
6,7	PCR Cloning (1): TA cloning	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
8,9	PCR Cloning (2): Transformation of plasmid DNA into E coli	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
10,11	PCR Cloning(3): Transformation of plasmid DNA into E coliT	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
12,13	Transfection (1): Introduction of gene transfer technology	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
14-15	Transfection (2): Expression vector transfect into cultured cells	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture

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2022

Anatomy Practice III

Grades	2-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Seta Y.						
Instructor(s)	Seta Y., Toyono T., Kataoka S., Matsuyama K.						

Course Description

【Language】English and Japanese This course deals with the basis of fundamental molecular biological analysis. It also enhances the development of students' skill in carrying out molecular biological experiment.

Attainment Objectives

The goals of this course are to (1) be able to understand molecular biological analysis,(2) be able to carry out preparing method of TEM.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Usual performance score	10%
experimental performance in the lab	90%

Etc

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Anatomy Practice III

Grades	2-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Seta Y.						
Instructor(s)	Seta Y., Toyono T., Kataoka S., Matsuyama K.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Introduction	Lecture	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
2,3	Preparing method of tissue section for TEM (1): Fixation	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
4,5	Preparing method of tissue section for TEM (2): Dehydration, embedding	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
6,7	Preparing method of tissue section for TEM (3): Sectioning tissue (semi-thin section) using ultramicrotome	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
8,9	Preparing method of tissue section for TEM (4): Sectioning tissue (ultra-thin section) using ultramicrotome	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
10,11	Preparing method of tissue section for TEM (5): Electron staining	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
12,13	Preparing method of tissue section for TEM (6): Observation using TEM1	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
14-15	Preparing method of tissue section for TEM (7): Observation using TEM2	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture

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2022

Anatomy Advanced course

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Seta Y.						
Instructor(s)	Seta Y., Toyono T., Kataoka S., Matsuyama K.						

Course Description

【Language】Japanese The aim of this course is to help students acquire an understanding and introducing articles about current topics of life sciences.

Attainment Objectives

The goals of this course are to (1) be able to read scientific articles logically(2) be able to understand and review articles about life sciences(3) be able to introduce articles to let the audience understand the content

Textbooks

Title	Author	Publisher
Textbooks and Reference Books : Choose an article that you would like to introduce and discuss with the members		

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Attendance	80%
Question and answer	20%

Etc

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1～15	Understand the article and introduce it including the background of the study	Lecture and Practice	Seta, Toyono, Kataoka, Matsuyama	Choose a topic and prepare for presentation

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2022

Head and Neck Dissection Course

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	1.0
Methods	practice	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kataoka S.						
Instructor(s)	Seta Y., Toyono T., Kataoka S., Matsuyama K.						

Course Description

This course introduces head and neck anatomy through cadaveric dissection to students taking this course.

Attainment Objectives

The student is expected to gain a three-dimensional knowledge of the structures of head and neck.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
quality of performance in the dissection	60%
lab practical exam	40%

Etc

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1,2	Introduction	Lecture	Kataoka, Seta, Toyono, Matsuyama	Related textbooks
3,4	Skull	Practice	Kataoka, Seta, Toyono, Matsuyama	Related textbooks
5-15	Head and Neck Dissection	Practice	Kataoka, Seta, Toyono, Matsuyama	Related textbooks

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Physiology Practice Ⅰ

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ono K.						
Instructor(s)	Ono K., Nakatomi C., Hsu C.						

Course Description

【Language】English and Japanese In this course, you will learn and practice basic knowledge and skills about studies for thirsty, oral dryness, salivary functions and pain mechanisms. Under the management by supervisors, you will carry out animal behavior analyses, preparation of brain slices, cell dissociation, molecular biological tequniques, immunohistochemistry, intracellular dynamics analysis and electrophysiology, based on your research theme.

Attainment Objectives

1. To develop techniques of behavioral analysis in thirsty and oral dry.2. To develop techniques of behavioral analysis in pain.3. To develop techniques of brain slices.4. To develop techniques of patch-clamp recording.5. To develop techniques of immunohistochemistry.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Reports and presentations	100%

Rubrics for assessment. Rubric is presented on Moodle.

Etc

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Orientation	Lecture	Ono K	Review of practices
44231	Animal behavior analyses. To learn animal handling and behabioral analyses	Practice	Ono K	Review of practices
44323	Brain slice preparation. To learn how to make slice preparation of theist centers and electrophysiological recordings	Practice	Ono K	Review of practices
44418	Making of oral ulcer model. To learn how to make orofacial pain models and its evaluation of pain	Practice	Ono K	Review of practices
44484	Analyses of signal transduction in pain	Practice	Ono K	Review of practices

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2022

Physiology Practice II

Grades	2-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ono K.						
Instructor(s)	Ono K., Nakatomi C., Hsu C.						

Course Description

【Language】English and Japanese In this course, you will learn and practice basic knowledge and skills about studies for thirsty, oral dryness, salivary functions and pain mechanisms. Under the management by supervisors, you will carry out animal behavior analyses, preparation of brain slices, cell dissociation, molecular biological techniques, immunohistochemistry, intracellular dynamics analysis and electrophysiology, with high reliability.

Attainment Objectives

1. To improve techniques of behavioral analysis in thirsty and oral dry.2. To improve techniques of behavioral analysis in pain.3. To improve techniques of brain slices.4. To improve techniques of patch-clamp recording.5. To improve techniques of immunohistochemistry.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Reports and presentations	100%

Rubrics for assessment. Rubric is presented on Moodle.

Etc

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
44199	Experiments for water drinking. To learn how to inject drinking-inducible drugs and observe the drinking behavior	Practice	Ono K	Review of practices
44293	Salivary secretion. To measure salivary secretion following injection of saliva-inducible drugs	Practice	Ono K	Review of practices
44418	Oral mucositis and pain. To learn pain mechanism in oral ulcer model	Practice	Ono K	Review of practices
44513	Analysis of pain-related behaviors. To observe behaviors following application of pain-inducible drugs	Practice	Ono K	Review of practices
14-15	Analyses of signal transduction in pain. To learn pain mechanisms	Practice	Ono K	Review of practices

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Physiology Practice III

Grades	2-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ono K.						
Instructor(s)	Ono K., Nakatomi C., Hsu C.						

Course Description

【Language】English and Japanese In this course, you will learn how to analyze data and describe manuscripts for studies for thirsty, oral dryness, salivary functions and pain mechanisms. In necessary, you will perform additional experiments.

Attainment Objectives

1. To develop manuscripts for thirsty and oral dry.2. To develop manuscripts for pain.3. To develop manuscripts for salivary secretion.4. To improve research ability

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Reports and presentations	100%

Rubrics for assessment. Rubric is presented on Moodle.

Etc

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
44198	Analyses of animal behaviors. To analyze and consider behavioral results	Practice	Ono K	Review of practices
44259	Analyses of salivary secretion. To analyze and consider results of salivary secretion	Practice	Ono K	Review of practices
44324	Analyses of pain signaling. To analyze and consider results from pain models	Practice	Ono K	Review of practices
44454	Research presentation	Practice	Ono K	Review of practices

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Physiology Division Colloquium

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	seminar	Total time		Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Nakatomi C.						
Instructor(s)	Ono K., Nakatomi C., Hsu C.						

Course Description

You can increase scientific information and understand recent research trend, related to oral physiology, by reading and presenting English-language journals in turns.

Attainment Objectives

1. To develop reading skill of English-language journals
2. To develop presentation skill
3. To develop an ability to criticize the journals
4. To understand the background on own research field

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
Journals for presentation should be selected by each one.		

Grading Criteria and Method of Evalution

Evaluation item	Ratio
oral presentations	100%

Etc

At every time, we are waiting for your visits about your study-counsel and advices at our departments in the 10th floor of Faculty Building.

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1-15	English-language journals To learn the background and future prospect of own research work, current topics and so on.	Reading and presenting English-language journals in turns	Nakatomi C.	Pre- and post-reading of journals

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2022

Molecular and Cell Biology Training Program Ⅰ (Basic Class)

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4.0
Methods	lesson and seminar	Total time	60.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kokabu S						
Instructor(s)	Kokabu S., Matsubara T., Addison W.						

Course Description

【Language】English and Japanese In order to understand the life science, you will understand the principles of the important molecular biology techniques and perform the experiments to obtain the results.

Attainment Objectives

1. You can perform cell culture. 2. You can handle mice and prepare tissue or cells from mice. 3. You can explain central dogma. 4. You can prepare RNA or protein from tissue or cells. 5. You can understand the principles of the RT-PCR, and perform it. 6. You can understand the principles of the Western blotting, and perform it.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Report	80%
Oral examination	20%

Evaluate with Rubric table.
Rubric evaluation sheets will be distributed at the first session.

Etc

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2022

Molecular and Cell Biology Training Program Ⅰ (Basic Class)

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4.0
Methods	lesson and seminar	Total time	60.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kokabu S						
Instructor(s)	Kokabu S., Matsubara T., Addison W.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1,2	OrientationAn overview of this lecture, and to learn about the basis of molecular biology.	Lecture(Web and Face to Face)	Kokabu S	Review of lecture
3,4	Basis of cell culture I① Cell handling ② How to prepare the culture media	Lecturepractice(Web and Face to Face)	Kokabu S	Preparation about cell culture
5,6	Basis of cell culture II① Cell passage② Cell stock	Lecturepractice(Web and Face to Face)	Kokabu S	Review about cell culture
7,8	How to handle mice I① Basis of mouse handling ② Treatment with drugs③ Blood collection	Lecturepractice(Web and Face to Face)	Kokabu S	Review about mouse handling
9,10	How to handle mice II① Anesthesia for mice② Preparation of thymocytes and bone marrow cells from mice	Lecturepractice(Web and Face to Face)	Kokabu S	Review about the preparation of tissue and cells
11,12	How to handle mice III① Preparation of primary osteoblasts② Osteoclast differentiation	Lecturepractice(Web and Face to Face)	Kokabu S	Review about the osteoblast or osteoclast culture
13,14	RT-PCR I① Preparation of RNA from cells or tissue② Measurement of RNA	Lecturepractice(Web and Face to Face)	Matsubara T	Preparation about the principle of RT-PCR
15,16	RT-PCR II① cDNA synthesis② Primer design using computer soft	Practice(Web and Face to Face)	Matsubara T	Preparation about the principle of primer design
17,18	RT-PCR III① PCR② Agarose gel electrophorsis	Practice(Web and Face to Face)	Matsubara T	Review about the principle of RT-PCR
19,20	Real-time PCR I① Principle of Real-time PCR② Real-time PCR	Lecturepractice(Web and Face to Face)	Matsubara T	Preparation about the principle of real-time PCR
21,22	Real-time PCR II Data analysis	Lecturepractice(Web and Face to Face)	Matsubara T	Review about the data analysis
23,24	Western Blotting I① Preparation of protein from tissue or cells② Measurement of protein	Lecturepractice(Web and Face to Face)	Addison WN	Preparation about the protein preparation
25,26	Western Blotting II① SDS-PAGE② Transfer to PVDF membrane	Lecturepractice(Web and Face to Face)	Addison WN	Preparation about the principle of Western blotting
27,28	Western Blotting III① Blocking② Reaction with 1st antibody③ Reaction with 2nd antibod	Practice(Web and Face to Face)	Addison WN	Preparation about the protocol of Western blotting
29,30	Western Blotting IV① Stripping② Reblotting	Practice(Web and Face to Face)	Addison WN	Review about Western blotting

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Molecular and Cell Biology Training Program Ⅱ (Middle Class)

Grades	2-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4.0
Methods	lesson and seminar	Total time	60.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kokabu S						
Instructor(s)	Kokabu S., Matsubara T., Addison W.						

Course Description

【Language】English and Japanese In order to understand the life science, you will understand the principles of the important molecular biology techniques and perform the experiments to obtain the results. You further will learn the technique that was developed the techniques learned in the basic course, and developed the ability to get a reliable data.

Attainment Objectives

1. You can understand the principles of gene recombination.2. You can clone a known gene.3. You can explain the types and principle of gene transfer, and perform them.4. You can explain the principle of immunoprecipitation, and perform them.5. You can explain the types of tag, and detect them.6. You can explain the principle of luciferase assay, and perform them.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Report	80%
Oral examination	20%

Evaluate with Rubric table.
Rubric evaluation sheets will be distributed at the first session.

Etc

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Molecular and Cell Biology Training Program Ⅱ (Middle Class)

Grades	2-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4.0
Methods	lesson and seminar	Total time	60.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kokabu S						
Instructor(s)	Kokabu S., Matsubara T., Addison W.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1,2	PCR cloning I① Gene cloning using PCR method② Digestion of vector and PCR products with restriction enzyme	Lecture・practice(Web and Face to Face)	Kokabu S	Preparation about gene cloning
3,4	PCR cloning II① Dephosphorylation of vector by ALP② Ligation	Lecture・practice(Web and Face to Face)	Kokabu S	Preparation about ligation
5,6	PCR cloning III① How to prepare competent cells② Transformation	Lecture・practice(Web and Face to Face)	Kokabu S	Preparation about transformation
7,8	PCR cloning IV① Pick up colonies② Mini-scale culture	Lecture・practice(Web and Face to Face)	Kokabu S	Review of the previous step
9,10	PCR cloning V① Mini-preparation② Agarose gel electrophoresis	Lecture・practice(Web and Face to Face)	Kokabu S	Preparation about mini-scale culture
11,12	PCR cloning VI① Midi-preparation② Purification of plasmid	Lecture・practice(Web and Face to Face)	Kokabu S	Preparation about Midi-prep
13,14	Gene function analysis I① Types of gene transfer② Gene transfer using lipofection method	Lecture・practice(Web and Face to Face)	Addison WN	Preparation about gene transfer
15,16	Gene function analysis II① Point mutation based on PCR② Screening	Lecture・practice(Web and Face to Face)	Addison WN	Preparation about gene transfer
17,18	Gene function analysis III① Principle of luciferase assay② Measurement of luciferase activity by luminometer	Lecture・practice(Web and Face to Face)	Addison WN	Preparation about luciferase assay
19,20	Gene function analysis IV① Generation of dominant negative form or constitutive active form for genre transfer	practice(Web and Face to Face)	Addison WN	Preparation about dominant negative form and constitutive active form
21,22	Immunoprecipitation I① Preparation of protein from cells② Measurement of protein ③ Immunoprecipitation	Lecture・practice(Web and Face to Face)	Matsubara T	Preparation about handling of protein
23,24	Immunoprecipitation II① SDS-PAGE② Transfer to PVDF membrane③ Blocking	practice(Web and Face to Face)	Matsubara T	Preparation about immunoprecipitation
25,26	Immunoprecipitation III① Reaction with 1st antibody② Reaction with 2nd antibody	practice(Web and Face to Face)	Matsubara T	Review about immunoprecipitation
27,28	Tagged I① Kind and principle of tag② Cloning your interesting gene into FLAG-, HA-, Myc-,GFP-tagged vector	Lecture・practice(Web and Face to Face)	Matsubara T	Preparation of the kind and principle of Tag
29,30	Tagged II① Detection of tagged protein by anti-tag antibody	practice(Web and Face to Face)	Matsubara T	Review of immunoprecipitation

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Molecular and Cell Biology Training Program III (Advanced Class)

Grades	2-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4.0
Methods	lesson and seminar	Total time	60.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kokabu S						
Instructor(s)	Kokabu S., Matsubara T., Addison W.						

Course Description

English and Japanese In order to understand the life science, you will understand the principles of the important molecular biology techniques and perform the experiments to obtain the results. You further will learn the technique related to bone biology and perform them. You also will learn oral presentation and writing article.

Attainment Objectives

1. You can understand the principles of viral vector and perform gene transfer using retroviral vector. 2. You can explain the principle of chromatin immunoprecipitation, and perform it. 3. You can explain the types and principle of genetically modified mice. 4. You can explain the principle of flow cytometry, and perform it.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Report	80%
Oral examination	20%

Evaluate with Rubric table.
Rubric evaluation sheets will be distributed at the first session.

Etc

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Molecular and Cell Biology Training Program III (Advanced Class)

Grades	2-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4.0
Methods	lesson and seminar	Total time	60.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kokabu S						
Instructor(s)	Kokabu S., Matsubara T., Addison W.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1,2	Gene transfer using viral vector I① Principle of retroviral vector② Generation of retroviral vector 1・ Digestion of vector and PCR products by restriction enzyme・ Dephosphorylation of vector・ Ligation	Lecture・practice(Web and Face to Face)	Matsubara T	Preparation about the principle of retroviral vector
3,4	Gene transfer using viral vector II① Generation of retroviral vector 2・ Preparation of competent cells・ Transformation	Lecture・practice(Web and Face to Face)	Matsubara T	Preparation about the generation of retroviral vector
5,6	Gene transfer using viral vector III① Generation of retroviral vector 3・ Pick up colonies・ Mini-scale culture	Lecture(Web and Face to Face)	Matsubara T	Preparation about the generation of retroviral vector
7,8	Gene transfer using viral vector IV① Generation of retroviral vector 4・ Mid-scale culture・ Preparation of packaging cell	Practice(Web and Face to Face)	Matsubara T	Preparation about the gene transfer using retroviral vector
9,10	Gene transfer using viral vector V① Generation of retroviral vector 5・ Collection of viral supernatant・ Measurement of MOI	Practice(Web and Face to Face)	Matsubara T	Preparation about the gene transfer using retroviral vector
11,12	Gene transfer using viral vector VI① Generation of retroviral vector 6・ Gene transfer by retroviral vector containing GFP・ Detection of GFP expression by microscop	Lecture(Web and Face to Face)	Matsubara T	Preparation about the gene transfer using retroviral vector
13,14	Chromatin immunoprecipitation (ChIP) I① Principle of ChIP	Lecture(Web and Face to Face)	Kokabu S	Preparation about the principle of ChIP
15,16	Chromatin immunoprecipitation II① Preparation of cells and cross-linking② Immunoprecipitation	Practice(Web and Face to Face)	Kokabu S	Preparation about ChIP
17,18	Chromatin immunoprecipitation III① PCR	Practice(Web and Face to Face)	Kokabu S	Review about ChIP
19,20	Genetically modified mice I① Principle of transgenic mice② Principle of knockout mice	Lecture(Web and Face to Face)	Kokabu S	Preparation about transgenic or knockout mice
21,22	Genetically modified mice II① Principle of knockin mice② Principle of conditional KO mice	Lecture(Web and Face to Face)	Kokabu S	Preparation about knockin or conditional knockout mice
23,24	Analysis of the phenotype of the genetically modified mice I① Genotyping by PCR② Phenotype analyzed by histology	Lecture・practice(Web and Face to Face)	Kokabu S	Preparation about mouse genotyping
25,26	Analysis of the phenotype of the genetically modified mice II① Preparation of primary osteoblasts② Osteoclast differentiation	Practice(Web and Face to Face)	Kokabu S	Preparation about osteoblast and osteoclast culture
27,28	Analysis of the phenotype of the genetically modified mice III① Analysis of lymphocyte markers by flow cytometry	Practice(Web and Face to Face)	Addison WN	Understanding of flow cytometry
29,30	Analysis of the phenotype of the genetically modified mice IV	Practice(Web and Face to Face)	Addison WN	Understanding of flow cytometry

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2022

Molecular Biology Journal Club

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Matsubara T						
Instructor(s)	Kokabu S., Matsubara T., Addison W.						

Course Description

【Language】*English，Japanese We read the literature describing the current topics of bone metabolism and molecular biology to understand the trends of important, up-to-date research.

Attainment Objectives

1. You can read English literature and understand its content.2. You can understand the experimental procedures in the literature.3. You can evaluate the contents of the literature objectively.4. You can understand the research background.5. You can introduce the other person to understand easily the contents of the literature.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
Students will be required to select the articles and related literature.		

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Selection of article	30%
Oral presentation	40%
Discussion (question and answer)	30%

Evaluate with Rubric table.
Rubric evaluation sheets will be distributed at the first session.

Etc

Choose an article that you would like to share the content and discuss about it with members.

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
30	Understand the content and trends of important, up-to-date research in bone and skeletal muscle biology and molecular biology area and explained their importance to other persons.	Lecture and practice including presentation and discussion.(Web and Face to	Kokabu SMatsubara TAddison WN	Choose a topic and prepare for presentation.

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2022

Oral Pathology

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4.0
Methods	lesson	Total time	60.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kou Matsuo						
Instructor(s)	Matsuo K., Yada N.						

Course Description

Provide the latest knowledge and information about oral and maxillofacial diseases, to serve as a basis for the future studies on mechanism, diagnosis and treatment of those diseases.

Attainment Objectives

1. Acquire the latest information and expertise in caries and dentin-pulp complex disease.2. Acquire the latest information and expertise in periapical lesion.3. Acquire the latest information and expertise in periodontal lesion.4. Acquire the latest information and expertise in diseases of jaw and temporomandibular joint. 5. Acquire the latest information and expertise in oral mucosal diseases.6. Acquire the latest information and expertise in oral cancer and premalignant lesion. 7. Acquire the latest information and expertise in odontogenic tumors and cystic lesions. 8. Acquire the latest information and expertise in non-odontogenic tumors. 9. Acquire the latest information and expertise in non-neoplastic salivary gland diseases. 10. Acquire the latest information and expertise in salivary gland tumors.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Report	100%

Etc

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2022

Oral Pathology

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4.0
Methods	lesson	Total time	60.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kou Matsuo						
Instructor(s)	Matsuo K., Yada N.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
44199	Obtain the latest knowledge on caries and dentin-pulp complex disease from the covered topics.	lecture	Matsuo	report
44292	Obtain the latest knowledge on periapical lesion from the covered topics.	lecture	Matsuo	report
44386	Obtain the latest knowledge on periodontal lesion from the covered topics.	lecture	Matsuo	report
44481	Obtain the latest knowledge on diseases of jaw and temporomandibular joint from the covered topics.	lecture	Matsuo	report
13-15	Obtain the latest knowledge on oral mucosal diseases from the covered topics.	lecture	Matsuo	report
16-18	Obtain the latest knowledge on oral cancer and premalignant lesion from the covered topics.	lecture	Yada	report
19-21	Obtain the latest knowledge on odontogenic tumors and cystic lesions from the covered topics.	lecture	Yada	report
22-24	Obtain the latest knowledge on non-odontogenic tumors from the covered topics.	lecture	Yada	report
25-27	Obtain the latest knowledge on non-neoplastic salivary gland diseases from the covered topics.	lecture	Yada	report
28-30	Obtain the latest knowledge on salivary gland tumors from the covered topics.	lecture	Yada	report

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2022

Practice of Oral Pathology Ⅰ (basic course)

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kou Matsuo						
Instructor(s)	Matsuo K.						

Course Description

Learn the basic knowledge and skills required for carrying out a study on the main theme of research at our laboratory. Teach the knowledge and skills of the preparation of histopathologic specimens, histochemical, immunohistochemical and ultrastructural analyses. According to the theme of the postgraduate work, teach the required knowledge and skills of biochemical, molecular, microbiological and immunological techniques.

Attainment Objectives

1. Acquire expertise in the preparation of histpathologic specimen2. Acquire expertise in the preparation of histochemical specimen3. Acquire expertise in the preparation of immunohistochemical specimen4. Acquire expertise in the preparation of electron microscopic specimen5. (According to the theme) acquire expertise in cell culture 6. (According to the theme) acquire expertise in extraction of DNA and RNA7. (According to the theme) acquire expertise inextraction of protein8. (According to the theme) acquire expertise in electrophoresis and western blotting9. (According to the theme) acquire expertise in gene cloning and recombination

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Report	100%

Etc

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Practice of Oral Pathology Ⅰ (basic course)

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kou Matsuo						
Instructor(s)	Matsuo K.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1,2	Practice of the preparation of histpathologic specimen	practice	Matsuo	report
3,4	Practice of the preparation of histochemical specimen	practice	Matsuo	report
5,6	Practice of the preparation of immunohistochemical specimen	practice	Matsuo	report
7,8	Practice of the preparation of electron microscopic specimen	practice	Matsuo	report
9,10	Practice of cell culture	practice	Matsuo	report
11	Practice of the extraction of DNA and RNA	practice	Matsuo	report
12	Practice of the extraction of protein	practice	Matsuo	report
13	Practice of RT-PCR and agarose gel electrophoresis	practice	Matsuo	report
14	Practice of protein electrophoresis and western blotting	practice	Matsuo	report
15	Practice of gene cloning and recombination	practice	Matsuo	report

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Practice of Oral Pathology Ⅱ (advanced course)

Grades	2-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Matsuo K.						
Instructor(s)	Matsuo K.						

Course Description

Promote the study on the given theme of research.　Train to produce reliable data in experiments using histopathologic, histochemical, immunohistochemical, ultra-structual, biological, molecular, microbial, immunological techniques.

Attainment Objectives

1. Improve the skill in preparation of histopathologic specimen. 2. Obtain data from histochemical specimens for a research paper. 3. Obtain data from immunohistochemical specimens for a research paper. 4. Obtain data from electron microscopic specimens for a research paper. 5. Obtain data from cell culture experiments for a research paper. 6. Obtain data from extracted DNA and RNA for a research paper. 7. Obtain data from extracted protein for a research paper. 8. Increase reliability of the experimental data. 9. Improve the skills in designing experiments and developing research.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Report	50%
Presentation	50%

Etc

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1,2	Analyze data obtained from microscopic specimens. Discuss and summarize them.	Practice	Matsuo	report
3,4	Analyze data obtained from electron microscopic specimens. Discuss and summarize them.	Practice	Matsuo	report
5,6	Analyze data obtained from cell culture. Discuss and summarize them.	Practice	Matsuo	report
7,8	Analyze data obtained from experiments using biochemical and molecular techniques. Discuss and summarize them.	Practice	Matsuo	report
44450	Presentation of research findings	Practice	Matsuo	report
44545	Learn how to write a research paper and come up with the outline of thesis paper.	Practice	Matsuo	report

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Colloquium of Oral Pathology

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Matsuo K.						
Instructor(s)	Matsuo K.						

Course Description

Read intensively the related literatures and discuss their contents to understand new trends of general pathological and oral pathological research. Also present each participant’ s research results and discuss them.

Attainment Objectives

1. Improve the ability to understand exactly the meaning of English literatures. 2. Understand exactly the contents of research paper and presentation. 3. Improve the ability to assess research. 4. Understand background and trend of research. 5. Improve the skills in research presentation.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Report	50%
Presentation	50%

Etc

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Colloquium of Oral Pathology

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Matsuo K.						
Instructor(s)	Matsuo K.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Orientation. Explanation of the outline of research performed at the division of Oral Pathology and discussion.	practice	Matsuo	report
2,3	Know the recent trend of research on premalignant legion and carcinoma in situ, and discuss it.	practice	Matsuo	report
4	Introduce and discuss participant’ s research and related literratures (I).	practice	Matsuo	report
5,6	Know the recent trend of research on tumor marker, and discuss it.	practice	Matsuo	report
7	Introduce and discuss participant’ s research and related literratures (II).	practice	Matsuo	report
8,9	Know the recent trend of research on wound healing, and discuss it (I).	practice	Matsuo	report
10	Introduce and discuss participant’ s research and related literratures (III).	practice	Matsuo	report
11,12	Know the recent trend of research on wound healing, and discuss it (II).	practice	Matsuo	report
13	Introduce and discuss participant’ s research and related literratures (IV).	practice	Matsuo	report
14,15	Summarize the discussion about participants’ research, and discuss the future development of the research.	practice	Matsuo	report

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Clinical Diagnostic Pathology

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4.0
Methods	lesson	Total time	60.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Matsuo K.						
Instructor(s)	Matsuo K., Yada N.						

Course Description

Teach clinical diagnostic pathology to perform a diagnostic task as a routine work at the division of Oral Pathology. Also provide the latest information on oral and maxillofacial diseases, focusing on the pathological diagnosis.

Attainment Objectives

1. Learn and practice pathological anatomy (autopsy). 2. Learn and practice biopsy diagnosis. 3. Learn handling of the surgical materials and practice diagnosis. 4. Learn and practice cytological diagnosis. 5. Learn and practice intraoperative rapid diagnosis. 6. Learn and practice preparation of histopathologic specimens. 7. Learn and practice histochemical and immunohisotochemical staining. 8. Acquire expertise in pathological diagnosis of oral and maxillofacial diseases. 9. Acquire expertise in differential diagnosis of benign and malignant tumors.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
Pathologic basis of disease, 9th edition	Robbins & Cotran	Elsevier
Pathology and Genetics of Tumours of the Head and Neck (IARC)		WHO Classification of Tumours

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Report	100%

Etc

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Clinical Diagnostic Pathology

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4.0
Methods	lesson	Total time	60.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Matsuo K.						
Instructor(s)	Matsuo K., Yada N.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1,2	Learn outline of human pathology	lecture	Matsuo	report
44260	Learn outline of pathological anatomy (autopsy)	lecture	Matsuo	report
44355	Learn outline of biopsy	lecture	Matsuo	report
44450	Learn outline of handling of the surgical materials	lecture	Matsuo	report
44544	Learn outline of cytological diagnosis	lecture	Yada	report
15-17	Learn outline of intraoperative rapid diagnosis	lecture	Yada	report
18-20	Learn outline of the preparation of histopathologic specimens	lecture	Yada	report
21-23	Learn outline of histochemical and immunohisotochemical staining	lecture	Yada	report
24-26	Learn outline and specificity of pathological diagnosis of oral and maxillofacial diseases, and also obtain the latest specific information on oral pathological diagnosis.	lecture	MatsuoYada	report
27-30	Learn differential diagnosis of benign and malignant tumors.	lecture	MatsuoYada	report

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Practice of Clinical Diagnostic Pathology

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yada N						
Instructor(s)	Yada N.						

Course Description

Acquire skills in clinical diagnostic pathology, and develop an ability to make pathological diagnosis.

Attainment Objectives

1. Acquire the skill of handling biopsy materials.2. Acquire the skill of handling surgical materials.3. Acquire the skill of cytological materials.4. Acquire the skill of materials of intraoperative rapid diagnosis.5. Experience autopsy and expand the knowledge of it.6. Acquire expertise in diagnosis of main diseases of oral and maxillofacial region.7. Acquire expertise in diagnosis of main general diseases.8. Acquire the skill in pathological diagnostic report writing.9. Acquire the skill in preparing manuscript of case report.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
Pathologic basis of disease, 9th	Robbins & Cotran	Elsevier
WHO classification of Head and Neck tumours		IARC

Grading Criteria and Method of Evalution

Evaluation item	Ratio
report	100%

Etc

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2022

Practice of Clinical Diagnostic Pathology

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yada N						
Instructor(s)	Yada N.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Orientation	Lecture and practice	Yada	Report
2, 3	Learn and practice the procedure of handling of biopsy and surgical materials.	Practice	Yada	Report
4, 5	Learn and practice the procedure of handling of cytological materials.	Practice	Yada	Report
6	Learn and practice the procedure of handling of materials of intraoperative rapid diagnosis.	Practice	Yada	Report
7	Learn and practice the procedure of autopsy.	Practice	Yada	Report
8, 9	Learn outline of main diseases of oral and maxillofacial region and practice diagnosis.	Practice	Yada	Report
10, 11	Learn outline of main general diseases and practice diagnosis.	Practice	Yada	Report
12, 13	Learn and practice the pathological diagnostic report writing.	Practice	Yada	Report
14, 15	Learn and practice the preparation of manuscript of case report.	Practice	Yada	Report

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2022

Infectious Diseases Ⅰ

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ariyoshi W						
Instructor(s)	Ariyoshi.W, Yoshioka Y., Yamasaki R.						

Course Description

You can obtain novel information and knowledge concerning life sciences for infection and immunity in molecular cell biology. At this course, you should perform a group study for individual themes, including “periodontopathic bacteria”, “pattern recognition receptors” and “osteoimmunology".

Attainment Objectives

To obtain novel information and knowledge for
① Virulence factors responsible for infection
② Dental biofilm
③ Oral infectious diseases
④ Recognition and elimination of pathogens in immune system
⑤ Cytokines and inflammatory mediators
⑥ Pattern recognition receptors
⑦ Role of immune cells in inflammatory response
⑧ Host defense in oral lesion
⑨ Diagnosis, prevention and treatment of infectious diseases
⑩ Inflammasome
⑪ Bone remodeling
⑫ Interaction between bone metabolisms and immune system

Textbooks

Title	Author	Publisher
Handout		

Reference Books

Title	Author	Publisher
Recent reports in our laboratory publications and reference papers concerning this lecture		

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Reports after the group studies and lectures	100%

Etc

You can ask your study-counsel in our office time at our department in the 11th floor of main building. Email is available at any time.

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2022

Infectious Diseases Ⅰ

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ariyoshi W						
Instructor(s)	Ariyoshi.W, Yoshioka Y., Yamasaki R.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Molecular biology for pathogenic microbes Ⅰ : Fundamental knowledge of molecular biology and microbiology for studying infectious diseases	Group study	Ariyoshi Yoshioka Yamasaki	Pre-reading of handout
2	Molecular biology for pathogenic microbes Ⅱ : Knowledge for adhesion molecules and endotoxin bow pathogenic bacteria	Group study	Ariyoshi Yoshioka Yamasaki	Pre-reading of handout
3	Molecular biology for pathogenic microbes Ⅲ : Structure and functions of dental biofilm	Group study	Ariyoshi Yoshioka Yamasaki	Pre-reading of handout
4	Molecular biology for pathogenic microbes Ⅳ : Virulence factors of periodontopathic bacteria	Group study	Ariyoshi Yoshioka Yamasaki	Pre-reading of handout
5	Molecular biology for pathogenic microbes Ⅴ : Structure and functions of human oral microbiome	Lecture	Ariyoshi Yoshioka Yamasaki	Review of group study Report
6	Molecular biology for host defense against infection Ⅰ : Fundamental knowledge of molecular biology for studying immunology	Group study	Ariyoshi Yoshioka Yamasaki	Pre-reading of handout
7	Molecular biology for host defense against infection Ⅱ : Molecular mechanisms involved in antigen recognition and elimination by innate immune system	Group study	Ariyoshi Yoshioka Yamasaki	Pre-reading of handout
8	Molecular biology for host defense against infection Ⅲ : Molecular mechanisms involved in antigen recognition and elimination by humoral immune system	Group study	Ariyoshi Yoshioka Yamasaki	Pre-reading of handout
9	Molecular biology for host defense against infection Ⅳ : Molecular mechanisms involved in antigen recognition and elimination by cell-mediated immune system	Group study	Ariyoshi Yoshioka Yamasaki	Pre-reading of handout
10	Molecular biology for host defense against infection Ⅴ : Host defense by saliva and immune system in oral lesion	Group study	Ariyoshi Yoshioka Yamasaki	Pre-reading of handout
11	Molecular biology for host defense against infection Ⅵ : Approach for diagnosis, prevention and treatment of oral infectious diseases in oral lesion	Group study	Ariyoshi Yoshioka Yamasaki	Pre-reading of handout
12	Molecular biology for host defense against infection Ⅶ : Molecular mechanisms involved in activation of inflammasome in inflammatory response	Lecture	Ariyoshi Yoshioka Yamasaki	Review of group study Report
13	Inflammatory bone resorption Ⅰ : Molecular mechanisms involved in regulation of bone remodeling	Group study	Ariyoshi Yoshioka Yamasaki	Pre-reading of handout
14	Inflammatory bone resorption Ⅱ : Regulation of immunomodulatory molecules in bone metabolisms	Group study	Ariyoshi Yoshioka Yamasaki	Pre-reading of handout
15	Inflammatory bone resorption Ⅲ : Osteoimmunological approach for treatment of inflammatory bone resorption	Lecture	Ariyoshi Yoshioka Yamasaki	Review of group study Report

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Infectious Diseases II

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ariyoshi W						
Instructor(s)	Ariyoshi.W, Yoshioka Y., Yamasaki R.						

Course Description

You can study novel issue of infectious diseases and immunity through scientific papers, which were recently published on scientific journal concerning infection and immunity. At this course, you should explain the objects, methods, results and discussion in detail and we can share novel knowledge, which require to your experiments, through the discussion on this seminar.

Attainment Objectives

① Bring up your ability to read scientific papers
② Bring up your ability to think critically
③ Bring up your ability to think logically

Textbooks

Title	Author	Publisher
Novel scientific papers, Nature, Cell, Science, etc		

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Oral presentations and discussions	100%

Etc

You can ask your study-counsel in our office time at our department in the 11th floor of main building. Email is available at any time.

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1~15	1. Understanding the details of novel experiments for infectious diseases and immunity 2. Discussion about experimental view	Introduction of novel scientific paper and discussion	Yoshioka Ariyoshi Yamasaki	Reading paper intensively and investigating issues on the area related to your experiments Studying the issues that are pointed out in the presentation

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Infectious Diseases III

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ariyoshi W						
Instructor(s)	Ariyoshi.W, Yoshioka Y., Yamasaki R.						

Course Description

At this course, you should explain the objects, methods and results of your experiments. The instructors point out the critical points, which require to your experiments, through the discussion on this seminar.

Attainment Objectives

① Bring up your ability to explain your experimental data
② Bring up your ability to think critically
③ Bring up your ability to think logically

Textbooks

Title	Author	Publisher
Research lab notebook and reference papers concerning your project		

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Oral presentations and discussions	100%

Etc

You can ask your study-counsel in our office time at our department in the 11th floor of main building. Email is available at any time.

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1~15	1. Understanding the background, methods and results of your experiments 2. Discussion about experimental data	Presentation and discussion of your experiments	Yamasaki Ariyoshi Yoshioka	Reading paper intensively and preparation for your presentation Studying the issues that were pointed out in the presentation

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Infectious Diseases IV

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ariyoshi W						
Instructor(s)	Ariyoshi.W, Yoshioka Y., Yamasaki R.						

Course Description

You can obtain basic knowledge and techniques of molecular biology for studying infection and immunity.

Attainment Objectives

To obtain knowledge and technique for
① Cell culture
② Bacteria culture
③ RNA extraction from cultured cel
l④ real-time RT-qPCR analysis
⑤ Protein preparation from cultured cell
⑥ Western blotting analysis

Textbooks

Title	Author	Publisher
Handout		

Reference Books

Title	Author	Publisher
Recent reports in our laboratory publications and reference papers concerning this lecture		

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Discussion	100%

Etc

You can ask your study-counsel in our office time at our department in the 11th floor of main building. Email is available at any time.

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Infectious Diseases IV

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ariyoshi W						
Instructor(s)	Ariyoshi.W, Yoshioka Y., Yamasaki R.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Orientation： Aim and overview of this lecture	Lecture	Ariyoshi Yoshioka Yamasaki	Pre-reading of handout
2	Cell culture Ⅰ： Preparation of culture media and cell cultivation	Lecture and Practice	Ariyoshi Yoshioka Yamasaki	Pre-reading of handout
3	Cell culture Ⅱ： Cell passage and stock	Lecture and Practice	Ariyoshi Yoshioka amasaki	Pre-reading of handout
4	Bacteria culture Ⅰ： Aseptic technique, preparation of media and bacteria cultivation	Lecture and Practice	Yamasaki Ariyoshi Yoshioka	Pre-reading of handout
5	Bacteria culture Ⅱ： Pick up a single colony from plate, small-scale culture and large-scale culture	Lecture and Practice	Yamasaki Ariyoshi Yoshioka	Pre-reading of handout
6	real-time RT-qPCR analysis Ⅰ： Principle of real-time RT-qPCR and primer design	Lecture and Practice	Ariyoshi Yoshioka Yamasaki	Pre-reading of handout
7	real-time RT-qPCR analysis Ⅱ： RNA extraction from cultured cell and cDNA synthesis	Lecture and Practice	Ariyoshi Yoshioka Yamasaki	Pre-reading of handout
8	real-time RT-qPCR analysis Ⅲ： Real-time RT-qPCR	Lecture and Practice	Ariyosh Yoshioka Yamasaki	Pre-reading of handout
9	real-time RT-qPCR analysis Ⅳ： Data analysis for real-time RT-PCR	Lecture and Practice	Ariyoshi Yoshioka Yamasaki	Pre-reading of handout
10	Western blotting analysis Ⅰ： Principle of Western blotting and gel preparation	Lecture and Practice	Ariyoshi Yoshioka Yamasaki	Pre-reading of handout
11	Western blotting analysis Ⅱ： Protein preparation from cultured cell	Lecture and Practice	Ariyoshi Yoshioka Yamasaki	Pre-reading of handout
12	Western blotting analysis Ⅲ： SDS-PAGE and blotting	Lecture and Practice	Ariyoshi Yoshioka	Pre-reading of handout
13	Western blotting analysis Ⅳ： Blocking and 1st antibody reaction	Lecture and Practice	Ariyoshi Yoshioka Yamasaki	Pre-reading of handout
14	Western blotting analysis Ⅴ： 2nd antibody reaction and chemiluminescent detection using ECL	Lecture and Practice	Ariyoshi Yoshioka Yamasaki	Pre-reading of handout
15	Western blotting analysis Ⅵ： Data analysis for Western blotting	Lecture and Practice	Ariyoshi Yoshioka Yamasaki	Pre-reading of handout

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Pharmacology Ⅰ

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Takeuchi H.						
Instructor(s)	Takeuchi H., Higashi S.						

Course Description

【Language】Japanese　In the present, the elderly is administrated a large number of drugs for systemic disease. In this course, you will study the hematologic drugs (anticoagulant drugs and antiplatelet drugs) and central nerves system drugs (antidepressants, etc.).

Attainment Objectives

1. You will administer the proper drug to the patient with systemic disease.2. You will treat the patient with systemic disease with safety.3. You will explain the drugs used in systemic disease.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
oral presentation	50%
Activities in lectures and exercises	50%

Multiple faculty members will evaluate the content of the presentations and the status of each exercise (question/answer content, etc.) based on the rubric evaluation tables.

Etc

Student consultation: Accepted at any time by email.

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Pharmacology Ⅰ

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Takeuchi H.						
Instructor(s)	Takeuchi H., Higashi S.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Outline of hematologic drugs and central nervous system drugs	Lecture (Combination of on-line and in-person class)	TakeuchiHigashi	
2	Hematologic drugs 1You will obtain knowledge of anticoagulant drug (heparin).	practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
3	Hematologic drugs 2You will obtain knowledge of anticoagulant drug (low molecular weight heparin).	practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
4	Hematologic drugs 3You will obtain knowledge of anticoagulant drug (warfarin).	practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
5	Hematologic drugs 4You will obtain knowledge of antiplatelet drug (aspirin).	practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
6	Hematologic drugs 5You will obtain knowledge of new antiplatelet drugs .	practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
7	Hematologic drugs 6You will study the things to be careful about the patients who take hematologic drugs in dental treatment.	practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
8	Hematologic drugs 7You will study the things to be careful about the patients who take hematologic drugs in dental treatment.	practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
9	Central nerves system drugs 1You will obtain knowledge of mental disorder.	practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
10	Central nerves system drugs 2You will obtain knowledge of drugs used in Parkinsonism.	practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
11	Central nerves system drugs 3You will obtain knowledge of antidepressants.	practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
12	Central nerves system drugs 4You will obtain knowledge of drugs used in Alzheimer disease.	practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
13	Central nerves system drugs 5You will obtain knowledge of drugs used in epilepsy.	practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
14	Central nerves system drugs 6You will study the drugs used in the elderly.	practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
15	SummaryYou will study the relationship between dental treatments and hematologic or central nerves system drugs.	Lecture and practice (Combination of on-line and in-person class)	TakeuchiHigashi	

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Pharmacology II

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Takeuchi H.						
Instructor(s)	Takeuchi H., Higashi S.						

Course Description

【Language】Japanese　In the present, the elderly is administrated a large number of drugs for systemic disease. In this course, you will study the cardiovascular drugs (drugs used in hypertension, etc.) and central nerves system drugs (antidepressants, etc.).

Attainment Objectives

1. You will administer the proper drug to the patient with systemic disease.2. You will treat the patient with systemic disease with safety.3. You will explain the drugs used in systemic disease.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
Goodman & Gilman’ s the Pharmacological Basis of Therapeutics		

Grading Criteria and Method of Evalution

Evaluation item	Ratio
oral presentation	50%
Activities in lectures and exercises	50%

Multiple faculty members will evaluate the content of the presentations and the status of each exercise (question/answer content, etc.) based on the rubric evaluation tables.

Etc

Student consultation: Accepted at any time by email.

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Pharmacology II

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Takeuchi H.						
Instructor(s)	Takeuchi H., Higashi S.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Outline of cardiovascular drugs and central nervous system drugs	Lecture (Combination of on-line and in-person class)	TakeuchiHigashi	
2	Cardiovascular drugs 1You will obtain knowledge of drugs used in hypertension.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
3	Cardiovascular drugs 2You will obtain knowledge of drugs used in hypertension.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
4	Cardiovascular drugs 3You will obtain knowledge of drugs used in heart failure.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
5	Cardiovascular drugs 4You will obtain knowledge of drugs used in the treatment of angina pectoris.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
6	Cardiovascular drugs 5You will obtain knowledge of antiarrhythmic drugs.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
7	Cardiovascular drugs 6You will study the things to be careful about the patients who take cardiovascular drugs in dental treatment.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
8	Cardiovascular drugs 7You will study the things to be careful about the patients who take cardiovascular drugs in dental treatment.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
9	Central nerves system drugs 1You will obtain knowledge of mental disorder.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
10	Central nerves system drugs 2You will obtain knowledge of antidepressants.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
11	Central nerves system drugs 3You will obtain knowledge of drugs used in mania.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
12	Central nerves system drugs 4You will obtain knowledge of drugs used in Alzheimer disease.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
13	Central nerves system drugs 5You will obtain knowledge of antipsychotic drugs.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
14	Central nerves system drugs 6You will study alcoholism and drug dependence.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
15	SummaryYou will study the relationship between dental treatments and cardiovascular drugs or central nerves system drugs.	Lecture and practice (Combination of on-line and in-person class)	TakeuchiHigashi	

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Pharmacology III

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Takeuchi H.						
Instructor(s)	Takeuchi H., Higashi S.						

Course Description

【Language】Japanese　In this course, you will read the literature of drug which has a close relationship with dental treatments and obtain the up-to-date knowledge of drugs. You will study the adverse effects of drugs used in dental treatment.

Attainment Objectives

1. You will administer drugs to patients with effectively and safety. 2. You will obtain the up-to-date knowledge of drugs. 3. You will read scientific articles logically.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
The antimicrobial stewardship textbook for lifelong continuing education		

Grading Criteria and Method of Evalution

Evaluation item	Ratio
oral presentation	50%
Activities in lectures and exercises	50%

Multiple faculty members will evaluate the content of the presentations and the status of each exercise (question/answer content, etc.) based on the rubric evaluation tables.

Etc

Student consultation: Accepted at any time by email.

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Pharmacology III

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Takeuchi H.						
Instructor(s)	Takeuchi H., Higashi S.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	You will discuss the lecture and practice in this course.	Lecture (Combination of on-line and in-person class)	TakeuchiHigashi	
2	Antimicrobial drugs 1You will obtain knowledge of the theory of PK-PD.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
3	Antimicrobial drugs 2You will obtain knowledge of the theory of PK-PD.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
4	Antimicrobial drugs 3You will study resistant bacteria.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
5	Antimicrobial drugs 4You will obtain knowledge of carbapenem antibiotics.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
6	Antiviral drugsYou will obtain knowledge of new anti-influenza drugs.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
7	Antiplatelet drugs 1You will study the coagulation of blood and fibrinolytic system.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
8	Antiplatelet drugs 2You will obtain knowledge of new antiplatelet drugs.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
9	Antiplatelet drugs 3You will study the relationship between dental treatment and new antiplatelet drugs.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
10	You will study the guideline for use of the coagulation of blood inhibitors.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
11	Antifungal drugs 1 You will obtain knowledge of antifungal drugs.You will study the application of antifungal drugs in dental treatment.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
12	Antifungal drugs 2 You will study the drug-interaction of antifungal drugs.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
13	Pharmaceuticals for osteoporosis 1You will obtain knowledge of bisphosphonates.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
14	Pharmaceuticals for osteoporosis 2You will study the adverse effect of bisphosphonates.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
15	SummaryYou will study the administration of drugs in dental treatment with safety.	Lecture and practice (Combination of on-line and in-person class)	TakeuchiHigashi	

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Pharmacology IV

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Takeuchi H.						
Instructor(s)	Takeuchi H., Higashi S.						

Course Description

【Language】Japanese　In this course, you will learn about basic knowledge, mechanism of action, clinical application, and proper use of newly developed drugs.

Attainment Objectives

1. You can obtain and understand the latest information of newly developed drugs.2. You can explain informations about newly developed drugs, focusing on molecular targeting drugs.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
Documents prepared by each person in charge.		

Grading Criteria and Method of Evalution

Evaluation item	Ratio
oral presentation	50%
Activities in lectures and exercises	50%

Multiple faculty members will evaluate the content of the presentations and the status of each exercise (question/answer content, etc.) based on the rubric evaluation tables.

Etc

Student consultation: Accepted at any time by email.

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Pharmacology IV

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Takeuchi H.						
Instructor(s)	Takeuchi H., Higashi S.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Orientation.Learn how to collect information on newly developed drugs.	Lecture (Combination of on-line and in-person class)	TakeuchiHigashi	
2	The person in charge of the presentation introduces and explains newly developed drugs, and learns how to collect information and present it.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
3	The person in charge of the presentation introduces and explains newly developed drugs, and learns how to collect information and present it.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
4	The person in charge of the presentation introduces and explains newly developed drugs, and learns how to collect information and present it.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
5	The person in charge of the presentation introduces and explains newly developed drugs, and learns how to collect information and present it.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
6	The person in charge of the presentation introduces and explains newly developed drugs, and learns how to collect information and present it.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
7	The person in charge of the presentation introduces and explains newly developed drugs, and learns how to collect information and present it.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
8	The person in charge of the presentation introduces and explains newly developed drugs, and learns how to collect information and present it.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
9	The person in charge of the presentation introduces and explains newly developed drugs, and learns how to collect information and present it.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
10	The person in charge of the presentation introduces and explains newly developed drugs, and learns how to collect information and present it.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
11	The person in charge of the presentation introduces and explains newly developed drugs, and learns how to collect information and present it.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
12	The person in charge of the presentation introduces and explains newly developed drugs, and learns how to collect information and present it.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
13	The person in charge of the presentation introduces and explains newly developed drugs, and learns how to collect information and present it.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
14	The person in charge of the presentation introduces and explains newly developed drugs, and learns how to collect information and present it.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of handout
15	The person in charge of the presentation introduces and explains newly developed drugs, and learns how to collect information and present it.	Lecture and practice (Combination of on-line and in-person class)	TakeuchiHigashi	

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2022

Journal Club - Current Topics for Drug Discovery -

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Takeuchi H.						
Instructor(s)	Takeuchi H., Higashi S.						

Course Description

Understand and introduce articles about current topics of life sciences to provide hints for drug discovery.

Attainment Objectives

1. You can read scientific articles logically.2. You can understand and review articles about basic life science.3. You can introduce articles about basic life science to let the audience understand the content.

Textbooks

Title	Author	Publisher
Choose an article that you would like to introduce and discuss with the members.		

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
oral presentations	50%
Discussions and activities	50%

Multiple faculty members will evaluate the content of the presentations and the status of each exercise (question/answer content, etc.) based on the rubric evaluation tables.

Etc

Anytime, but an appointment is required prior to visit our office.

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
44211	Understand the article and introduce it including the background of the study, discuss about the possible application for drug discovery.	Lecture and Practice includingPresentation and Discussion (Combination of on-line and in-person class)	TakeuchiHigashi	Choose a topic and prepare for presentation.

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Seminar in Molecular Pharmacology

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Takeuchi H.						
Instructor(s)	Takeuchi H., Higashi S.						

Course Description

【Language】English and Japanese Learn basic techniques required for pharmacological experiments. Learn the methods to prepare recombinant protein and examine effects of drugs using it.

Attainment Objectives

1. You can explain how to prepare recombinant proteins.2. You can design and prepare DNA constructs for preparing recombinant proteins.3. You can prepare recombinant proteins.4. You can perform in vitro pharmacological experiments using recombinant proteins.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
oral presentation	30%
Activities in lectures and practicies	70%

Multiple faculty members will evaluate the content of the presentations and the status of each exercise (question/answer content, etc.) based on the rubric evaluation tables.

Etc

Lecture with writing on the whiteboard. Textbooks will be recommended to referring the course contents.

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2022

Seminar in Molecular Pharmacology

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Takeuchi H.						
Instructor(s)	Takeuchi H., Higashi S.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	OrientationLearn overall process of the examination.	Lecture (Combination of on-line and in-person class)	TakeuchiHigashi	Careful reading of the handout
2	Pre-preparation of bacterial expression DNA constructLearn how to obtain the information of the genes of interest and design the construct.	Practice	TakeuchiHigashi	Recording the results
3	Preparation of bacterial expression DNA construct (1)Learn how to prepare the gene of interest by PCR and the vector for cloning.	Practice	TakeuchiHigashi	Recording the results
4	Preparation of bacterial expression DNA construct (2)Learn how to judge the result of cloning.	Practice	TakeuchiHigashi	Recording the results
5	Confirming expression of recombinant protein (1)Learn how to culture bacteria to induce expression of recombinant protein and prepare sample for analysis of expression.	Practice	TakeuchiHigashi	Recording the results
6	Confirming expression of recombinant protein (2)Learn how to analyze the expression of recombinant protein; SDS-PAGE.	Practice	TakeuchiHigashi	Recording the results
7	Preparation of recombinant protein (1)Learn how to optimize introducing condition in large scale culture for preparing recombinant protein.	Practice	TakeuchiHigashi	Recording the results
8	Preparation of recombinant protein (2)Learn how to purify recombinant protein from the lysate of bacteria.	Practice	TakeuchiHigashi	Recording the results
9	Preparation of recombinant protein (3)Learn how to examine concentration and purity of the prepared protein.	Practice	TakeuchiHigashi	Recording the results
10	In vitro assay using the recombinant protein (1)Learn how to prepare samples for examining binding activity of the prepared protein.	Practice	TakeuchiHigashi	Recording the results
11	In vitro assay using the recombinant protein (2)Learn how to examine binding activity of the prepared protein: SDS-PAGE.	Practice	TakeuchiHigashi	Recording the results
12	In vitro assay using the recombinant protein (3)Learn how to examine enzymatic activity of the prepared protein.	Practice	TakeuchiHigashi	Recording the results
13	In vitro assay using the recombinant protein (4)Learn how to examine effects of drugs on enzymatic activity of the prepared protein.	Practice	TakeuchiHigashi	Recording the results
14	Summarizing the dataSummarize your data and prepare for the presentation.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Summarize your results and prepare for the presentation
15	Presentation of the summarized dataPresent your summarized data and discuss about the result.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Summarize your results and prepare for the presentation

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Seminar in Cellular and Molecular Pharmacology

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Takeuchi H.						
Instructor(s)	Takeuchi H., Higashi S.						

Course Description

【Language】English and Japanese Learn basic techniques required for pharmacological experiments. Learn the methods to examine effects of drugs using techniques for gene modification and mammalian cell culture.

Attainment Objectives

1. You can explain how to control exogenous gene expression in cultured cells.2. You can design and prepare DNA constructs for gene expression.3. You can transfect exogenous gene into cultured cells.4. You can examine effect of drugs using genetically modified cultured cells.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
oral presentation	30%
Activities in lectures and exercises	70%

Multiple faculty members will evaluate the content of the presentations and the status of each exercise (question/answer content, etc.) based on the rubric evaluation tables.

Etc

Lecture with writing on the whiteboard. Textbooks will be recommended to referring the course contents.

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2022

Seminar in Cellular and Molecular Pharmacology

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Takeuchi H.						
Instructor(s)	Takeuchi H., Higashi S.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	OrientationLearn overall process of the examination.	Lecture (Combination of on-line and in-person class)	Takeuchi	Careful reading of the handout
2	Pre-preparation of mammalian expression DNA constructLearn how to obtain the information of the genes of interest and design the construct.	Practice	TakeuchiHigashi	Recording the results
3	Preparation of mammalian expression DNA construct (1)Learn how to prepare the interest gene and the vector for cloning.	Practice	TakeuchiHigashi	Recording the results
4	Preparation of mammalian expression DNA construct (2)Learn how to judge the result of cloning.	Practice	TakeuchiHigashi	Recording the results
5	Introducing genes into cultured cells and confirming the expression (1)Learn how to introduce the prepared expression constructs into cultured cells.	Practice	TakeuchiHigashi	Recording the results
6	Introducing genes into cultured cells and confirming the expression (2)Learn how to introduce the prepared expression constructs into cultured cells.	Practice	TakeuchiHigashi	Recording the results
7	Introducing genes into cultured cells and confirming the expression (3)Learn how to check expression of the introduced gene. (Microscopic examination and electrophoresis of the protein).	Practice	TakeuchiHigashi	Recording the results
8	Introducing genes into cultured cells and confirming the expression (4)Learn how to check expression of the gene (Western blotting).	Practice	TakeuchiHigashi	Recording the results
9	Examining the effect of drugs using the tranfected cells (1)Learn how to observe translocation of the intracellular protein in response to drug treatment.	Practice	TakeuchiHigashi	Recording the results
10	Examining the effect of drugs using the tranfected cells (2)Learn how to evaluate effect of the drug based on phosphorylateion of the intracellular protein (Preparation of samples).	Practice	TakeuchiHigashi	Recording the results
11	Examining the effect of drugs using the tranfected cells (3)Learn how to evaluate effect of the drug based on phosphorylateion of the intracellular protein (Electrophoresis).	Practice	TakeuchiHigashi	Recording the results
12	Examining the effect of drugs using the tranfected cells (4)Learn how to evaluate effect of the drug based on phosphorylateion of the intracellular protein (Detection and judgment of the result).	Practice	TakeuchiHigashi	Recording the results
13	Examining the effect of drugs using the tranfected cells (5)Learn how to evaluate effect of the drug based on intracellular calcium level (Preparation of cells).	Practice	TakeuchiHigashi	Recording the results
14	Examining the effect of drugs using the tranfected cells (6)Learn how to evaluate effect of the drug based on intracellular calcium level (Calcium imaging).	Practice	TakeuchiHigashi	Recording the results
15	Summary of the data and discussionSummarize your data and present/discuss the result.	Practice (Combination of on-line and in-person class)	TakeuchiHigashi	Summarize your results and prepare for the presentation

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2022

Seminar in Pharmacology

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Takeuchi H.						
Instructor(s)	Takeuchi H., Higashi S.						

Course Description

【Language】Japanese　In this course, you will study the basic knowledge and experimental procedures for animal experiment. You will study the animal experiment protocol drafting.

Attainment Objectives

1. You will explain the laboratory animals.2. You will draft an animal experiment protocol.3. You will administer drugs to animals.4. You will explain and practice the basic pharmacological experiment.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
Guidelines for proper conduct of animal experiments		

Grading Criteria and Method of Evalution

Evaluation item	Ratio
oral presentation	30%
Activities in lectures and exercises	70%

Multiple faculty members will evaluate the content of the presentations and the status of each exercise (question/answer content, etc.) based on the rubric evaluation tables.

Etc

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2022

Seminar in Pharmacology

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Takeuchi H.						
Instructor(s)	Takeuchi H., Higashi S.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	You will discuss the lecture and practice in this course.	Lecture (Combination of on-line and in-person class)	TakeuchiHigashi	Check the schedule
2	Laboratory animal science 1You will study the outline of laboratory animals.	Lecture and practice	TakeuchiHigashi	Careful reading of handout
3	Laboratory animal science 2You will obtain knowledge of lows and guidelines for laboratory animals.	Lecture and practice	TakeuchiHigashi	Careful reading of handout
4	Laboratory animal science 3You will obtain knowledge of animal welfare for laboratory animals.	Lecture and practice	TakeuchiHigashi	Careful reading of handout
5	Laboratory animal science 4You will obtain knowledge of the administration of drug, anesthetics management and euthanasia procedures.	Lecture and practice	TakeuchiHigashi	Careful reading of handout
6	Laboratory animal science 5You will obtain knowledge of the administration of drug, anesthetics management and euthanasia procedures.	Lecture and practice	TakeuchiHigashi	Careful reading of handout
7	Laboratory animal science 5You will obtain knowledge of the administration of drug, anesthetics management and euthanasia procedures.	Lecture and practice	TakeuchiHigashi	Careful reading of handout
8	Pharmacological experiment 1You will obtain knowledge of the acute toxicity test.	Lecture and practice	TakeuchiHigashi	Careful reading of handout
9	Pharmacological experiment 2You will obtain knowledge of the chronic toxicity test.	Lecture and practice	TakeuchiHigashi	Careful reading of handout
10	Pharmacological experiment 3You will obtain knowledge of the local irritation test.	Lecture and practice	TakeuchiHigashi	Careful reading of handout
11	Pharmacological experiment 4You will obtain knowledge of another toxicity tests.	Lecture and practice	TakeuchiHigashi	Careful reading of handout
12	Drafting of animal experiment protocol 1You will study the method of drafting the animal experiment protocol.	Lecture and practice	TakeuchiHigashi	Careful reading of handout
13	Drafting of animal experiment protocol 2You will study the method of drafting the animal experiment protocol.	Lecture and practice	TakeuchiHigashi	Careful reading of handout
14	Drafting of animal experiment protocol 3You will draft the animal experiment protocol.	Lecture and practice	TakeuchiHigashi	Careful reading of handout
15	SummaryYou will summarize pharmacological experiments.	Lecture and practice (Combination of on-line and in-person class)	TakeuchiHigashi	Summarize the points to handle animals

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Clinical Epidemiology Ⅰ

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4.0
Methods	lesson and seminar	Total time	60.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kakudate N.						
Instructor(s)	Kakudate N.						

Course Description

【Language】English and Japanese In this lecture, you will learn basic aspects of clinical epidemiology and study designs. You will learn about critical appraisal of research articles according to each study design, which will lead to develop practical skills in Evidence-Based Dentistry (EBD).

Attainment Objectives

At the completion of this course, you will be able to:1. Understand the outlines of clinical epidemiology.2. Understand how to read the structure of research articles and abstracts on clinical epidemiology3. Understand the outlines of clinical epidemiological study designs.4. Critically appraise clinical research papers and structured abstracts.5. Practice Evidence-Based Dentistry (EBD).

Textbooks

Title	Author	Publisher
Introduction to Evidence-Based Dentistry		Nagasue Shoten

Reference Books

Title	Author	Publisher
Designing Clinical Research	Stephen B Hulley	Lippincott Williams & Wilkins
Guide to Practice-Based Research and Scientific Writing		Ishiyaku Publishers

Grading Criteria and Method of Evalution

Evaluation item	Ratio
deliverables during your coursework	100%

Etc

【Office hour】Before and after every class, or email at any time.

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2022

Clinical Epidemiology Ⅰ

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4.0
Methods	lesson and seminar	Total time	60.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kakudate N.						
Instructor(s)	Kakudate N.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1,2	IntroductionYou will learn about the definition of clinical epidemiology and study designs.	Lecture	Kakudate	Definition of clinical epidemiology
3,4	Research articles and Structured abstracts:You will learn about the structure of research articles and abstracts on clinical epidemiology.	Lecture	Kakudate	Structure of the research articles and abstracts
5,6	Literature search Ⅰ: You will learn how to search the literature using PubMed.	Practice	Kakudate	Literature search/PubMed
7,8	Literature search Ⅱ: You will learn how to search the literature using the Cochrane library and Minds.	Practice	Kakudate	Literature search/Cochrane review・Minds
9,10	Study design Ⅰ:You will learn about the design of cross sectional study and case control study.	Lecture	Kakudate	Cross sectional study and case control study
11,12	Critical Appraisal Ⅰ: You will learn about critical appraisal of reports of cross sectional study.	Practice	Kakudate	Critical appraisal of research articles of cross sectional study
13,14	Study design Ⅱ:You will learn about the design of cohort study.	Lecture	Kakudate	Cohort study
15,16	Critical Appraisal Ⅱ: You will learn about critical appraisal of reports of cohort study	Practice	Kakudate	Critical appraisal of research articles of cohort study
17,18	Study design Ⅲ:You will learn about the design of interventional study.	Lecture	Kakudate	Interventional Study
19,20	Critical Appraisal Ⅲ: You will learn about critical appraisal of reports of interventional study	Practice	Kakudate	Critical appraisal of research articles of interventional study
21,22	Study design Ⅳ:You will learn about the design of systematic reviews and meta-analyses.	Lecture	Kakudate	Systematic reviews and meta-analyses
23,24	Critical Appraisal Ⅳ: You will learn how to critically appraise systematic reviews and meta-analyses.	Practice	Kakudate	Critical appraisal of research papers of systematic reviews and meta-analysis
25,26	Study design Ⅳ:You will learn about the design of diagnosis and screening.	Practice	Kakudate	Study design of diagnosis and screening.
27,28	Critical Appraisal Ⅴ: You will learn how to critically appraise diagnosis and screening.	Practice	Kakudate	Critical appraisal of research papers of diagnosis and screening
29,30	Clinical Guidelines:You will learn about the role of clinical guidelines and about AGREE and GRADE systems.	Practice	Kakudate	AGREE and GRADE systems.

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Clinical Epidemiology II

Grades	2-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4.0
Methods	lesson and seminar	Total time	60.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kakudate N.						
Instructor(s)	Kakudate N.						

Course Description

【Language】English and Japanese In this lecture, you will obtain specialized knowledge on clinical epidemiology and applied skills in the conduct of clinical epidemiological study. In addition, you will make a study design and statistical design protocol based on a research question. Finally you can develop the practical ability to create a study.

Attainment Objectives

At the completion of this course, you will be able to:1. Formulate a research question derived from your own dental practice.2. Develop a conceptual framework3. Develop an appropriate clinical epidemiological study design.4. Develop an appropriate statistical design.5. Create a study protocol.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
Introduction to Evidence-Based Dentistry		Nagasue Shoten
Designing Clinical Research	Stephen B Hulley	Lippincott Williams & Wilkins
Guide to Practice-Based Research and Scientific Writing		Ishiyaku Publishers

Grading Criteria and Method of Evalution

Evaluation item	Ratio
deliverables during your coursework	100%

Etc

【Office hour】Before and after every class, or email at any time.

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Clinical Epidemiology Ⅱ

Grades	2-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4.0
Methods	lesson and seminar	Total time	60.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kakudate N.						
Instructor(s)	Kakudate N.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1,2	Introduction to clinical research:You will learn how to formulate an answerable question.	Lecture	Kakudate	PICO/Finer’ｓ check
3,4	Setting of outcome measures:You will learn about indicators in measuring outcomes, measurement methods, and patient-reported outcomes.	Lecture	Kakudate	Outcome indicators
5,6	Hypothetical conceptual framework:You will learn how to build a hypothetical conceptual framework.	Lecture and Practice	Kakudate	Hypothetical conceptual framework
7,8	Planning of clinical epidemiology study design:You will devise an appropriate clinical epidemiology study design based on your own research question.You will learn about research methods consistent with various types of design.	Lecture and Practice	Kakudate	Study design of clinical epidemiology
9,10	Controlling bias:You will learn how to control information, selection, and confounding bias.	Lecture	Kakudate	Controlling bias
11,12	Data measurement methods:You will learn about the reliability and validity of data measurement methods, including those of calibration.	Lecture and Practice	Kakudate	Reliability and validity of data measurement
13,14	Statistical analysis part Ⅰ: You will learn about types of data, distribution, descriptive statistics, odds ratio, risk ratio, and the difference between risk difference and hazard ratio.	Lecture and Practice	Kakudate	Odds ratio, Risk ratio, Risk difference and Hazard ratio
15,16	Statistical analysis part Ⅱ: You will learn about statistical hypothesis testing, P values and level of significance, confidence intervals, correlation, and correlation coefficient.	Lecture and Practice	Kakudate	P value and level of significance, confidence intervals, correlation, and correlation coefficient.
17,18	Statistical analysis part Ⅲ: You will learn about statistical test methods for comparison between two groups and comparison among multi-groups, and errors in the test.	Lecture and Practice	Kakudate	Statistical test methods for comparison between two groups and comparison among multi-groups
19,20	Statistical analysis part Ⅳ: You will learn about multivariate analyses including logistic regression analysis and multiple regression analysis.	Lecture and Practice	Kakudate	Logistic regression analysis and multiple regression analysis
21,22	Statistical analysis part Ⅴ: You will learn about methods for survival analysis including Cox regression (proportional hazards model), Kaplan-Meier curves, and log-rank testing.	Lecture and Practice	Kakudate	Survival analysis
23,24	Statistical analysis part Ⅵ: You will learn how to estimate sample size.	Lecture and Practice	Kakudate	Sample size estimation
25,26	Questionnaire survey:You will learn how to produce questionnaires and question items to reduce information bias.	Lecture and Practice	Kakudate	Questionnaire development
27,28	Research protocol:You will learn about guidelines for research reports including the Consort statement and Strobe statement, and understand how to create efficient research protocols.	Lecture	Kakudate	How to make a research protocol
29,30	Ethical considerations in clinical epidemiology research:You will learn about various ethical guidelines, document-based applications to Institutional Review Boards, and registration of clinical research trials.	Lecture	Kakudate	Research protocol for an Institutional Review Board

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Clinical Epidemiology III

Grades	3-4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4.0
Methods	lesson and seminar	Total time	60.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kakudate N.						
Instructor(s)	Kakudate N.						

Course Description

【Language】English and Japanese In this course, you will study examples of various types of clinical epidemiology research in the field of dentistry. In addition, you will learn about international clinical epidemiological studies, and understand the significance and methodology of Practice-based Research.

Attainment Objectives

At the completion of this course, you will:1. understand the theory and examples of various types of clinical epidemiology research in the field of dentistry.2. learn about international clinical epidemiology research.3. understand Practice-based Research.4. understand the Evidence-Practice Gap.5. learn how to create a clinical epidemiology research paper.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
Introduction to Evidence-Based Dentistry		Nagasue Shoten
Designing Clinical Research	Stephen B Hulley	Lippincott Williams & Wilkins
Guide to Practice-Based Research and Scientific Writing		Ishiyaku Publishers

Grading Criteria and Method of Evalution

Evaluation item	Ratio
deliverables during your coursework	100%

Etc

【Office hour】Before and after every class, or email at any time.

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Clinical Epidemiology III

Grades	3-4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4.0
Methods	lesson and seminar	Total time	60.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kakudate N.						
Instructor(s)	Kakudate N.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1,2	Clinical epidemiology of dental caries:You will learn about the clinical epidemiology of dental caries, including its causes, diagnosis, treatment, prevention, and prognosis.	Lecture and Practice	Kakudate	Clinical epidemiology of dental caries
3,4	Clinical epidemiology of periodontal disease:You will learn about the clinical epidemiology of periodontal disease, including its causes, diagnosis, treatment, prevention, and prognosis.	Lecture and Practice	Kakudate	Clinical epidemiology of periodontal disease
5,6	Clinical epidemiology of temporomandibular disorders:You will learn about the clinical epidemiology of temporomandibular disorders including its causes, diagnosis, treatment, prevention, and prognosis.	Lecture and Practice	Kakudate	Clinical epidemiology of temporomandibular disorders
7,8	Clinical epidemiology of crown restoration:You will learn about the clinical epidemiology of prognosis and survival period of dental restoration.	Lecture and Practice	Kakudate	Clinical epidemiology of dental restoration
9,10	Clinical epidemiology of dental health guidance:You will learn about the clinical epidemiology of dental health instruction.	Lecture and Practice	Kakudate	Clinical epidemiology about dental health instruction
11,12	Patient-based outcomes research:You will understand patient-reported outcomes such as patient satisfaction and QOL, and learn about case studies in the field of dentistry.	Lecture and Practice	Kakudate	Patient-reported outcome research
13,14	Clinical epidemiology about behavioral science:You will understand a variety of behavioral science theories, and learn about case studies in the field of dentistry.	Lecture and Practice	Kakudate	Health behavioral science theories
15,16	Clinical epidemiology of cost-effectiveness in dental treatment:You will understand cost-effectiveness in dental treatment, and learn about case studies in the field of dentistry.	Lecture and Practice	Kakudate	Clinical epidemiology of cost-effectiveness
17,18	Clinical epidemiology of the quality of health care:You will understand the quality of health care, and learn about case studies in the field of dentistry.	Lecture and Practice	Kakudate	Studies in the quality of health care
19,20	Practice-Based Research：You will understand the history, meaning, and current status of Practice-based Research, and learn about research examples.	Lecture and Practice	Kakudate	Practice-Based Research
21,22	Evidence-Practice Gap：You will understand the Evidence-Practice Gap, and learn about research examples.	Lecture and Practice	Kakudate	Evidence-Practice Gap
23,24	International clinical epidemiology research:You will understand trends in international clinical epidemiology research, and learn about research examples in the field of dentistry.	Lecture and Practice	Kakudate	Trends in international clinical epidemiology research
25,26	International comparative study on dental practice:You will learn about the international comparison of dental practice patterns, and consider differences in dental health care system.	Lecture and Practice	Kakudate	International comparative study on dental practice
27,28	Dental health care policy and clinical epidemiology:You will learn about the relationship of dental health care policy and clinical epidemiology research.	Lecture and Practice	Kakudate	Dental health care policy and clinical epidemiology research
29,30	Creation of clinical epidemiology research papers:You will learn how to write clinical epidemiology research papers and methods of statistical reporting.	Lecture and Practice	Kakudate	Creation of clinical epidemiology research papers

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Clinical Epidemiology Practice

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kakudate N.						
Instructor(s)	Kakudate N.						

Course Description

You will participate in research progress meetings for presentation of the research content and achievements, and strengthen your understanding of research contents through discussion and Question & Answer. You will review your own research on the basis of the feedback received from the meeting participants, including the supervisor, and improve the quality of your research.

Attainment Objectives

1. You understand and are able to explain research methods.2. You can logically interpret and explain your own research results (data analysis).3. You can create a slide explaining the progress and results of your research and can give an easy-to-understand presentation.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
deliverables during your coursework	50%
presentation and Q&A	50%

Etc

You will select the latest papers related to your research theme.The presenter will prepare materials for presentation in slides, and pre-distribute printed materials to participants.【Office hour】Before and after every class, or email at any time.

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
44211	You will summarize in slides your research progress and data analysis, and give a presentation. The presenter shall answer questions from the participants, and through the discussion you will better understand the research methods and contents.	Reporting and presentation of, and debate about research progress.	Kakudate	Reading of the literature and collection of related literature

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Journal Club in Clinical Epidemiology

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kakudate N.						
Instructor(s)	Kakudate N.						

Course Description

You will understand the latest developments in clinical epidemiology and your own research themes, and critique papers. PhD student shall make a presentation after preparing material from an overview of the paper, and your understanding will be reinforced through Question & Answer.

Attainment Objectives

1. You can read and understand the English literature.2. You can critically appraise clinical epidemiology papers.3. You can make a presentation which explains a paper in an easily understood way.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
deliverables during your coursework	50%
presentation and Q&A	50%

Etc

You will select the latest papers related to your research theme.The presenter will prepare presentation materials as slides, and printed materials for pre-distribution to the participants.【Office hour】Before and after every class, or email at any time.

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
44211	You can understand and explain the findings of and important trends in the latest research in the clinical epidemiology field.	Commentary, presentation, and discussion of the literature.	Kakudate	Review of the literature and collection of related papers

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Oral Health Science Ⅰ

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	秋房　住郎						
Instructor(s)	Soh I., Fujii W., Akifusa S., Sonoki K., Tsujisawa T., Nakamichi A., Izumi M., Funahara M.						

Course Description

【Language】Japanese To obtain the ability for research and instruction on oral health sciences, students learn the recent oral health-related evidences and the research skills/analytical methods with lectures in omnibus form

Attainment Objectives

You should achieve the basic and applied knowledge indicated below.
You can 1. explain the role of dental personnel based on knowledge of the health policy on public health;
2. explain the logical perspective and the research methods to resolve the problems of oral health-related diseases /disorder;
3. explain the basic / clinical methods concerning evidence-based medicine (EBM) on oral health sciences;
4. imagine the oral health related-professional value and ability based on clients background;
5. explain the methodology to provide relationship between oral status/diseases and general status;
6. explain for higher-order brain, neurophysiological, and non-invasive research methods on feeding behavior;
7. explain the logical perspective and the research methods to resolve the problems of nutritional-related health or disease.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
evaluation of after-action report	90%
Oral examination	10%

Etc

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2022

Oral Health Science Ⅰ

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	秋房　住郎						
Instructor(s)	Soh I., Fujii W., Akifusa S., Sonoki K., Tsujisawa T., Nakamichi A., Izumi M., Funahara M.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Public health and health policy (1) To lecture system and policy of healthcare in public health. To discuss how research, human resources development, and other professional activities contribute to social system and policy on healthcare.	Lecture	Soh	before: system and policy of healthcare in public health after: after-action report
2	Public health and health policy (2) To discuss how distribute limiting healthcare resource, based on knowledge that how research, human resources development, and other professional activities contribute to social system and policy on healthcare	Lecture	Soh	before: distribution of healthcare resource after: after-action report
3	Oral health related-perspective (1) To discuss human health from dental health perspective, and strategy from micro to macro to maintain, enhance and recover human health.	remote lecture (Teams, Moodle)	Akifusa	before: concept of health after-action report
4	Oral health related-perspective (2) To lecture dental health perspective regarding with caries and periodontal disease, and to discuss the problems and the solutions.	remote lecture (Teams, Moodle)	Akifusa	before: research reviews on caries and periodontal disease after: after-action report
5	Perspective of oral hygiene in convalescent and chronic phase To lecture background of patients in convalescent and chronic phase with dental health perspective, and to discuss the study subjects and solutions.	Lecture	Izumi	before: states of patients in convalescent and chronic phase after: after-action report
6	Oral adverse event and maintenance of oral function in acute phase To lecture oral adverse event, maintenance of oral function and supporting treatment prevention methods in acute phase with dental health. perspective, and to discuss the study subjects and solutions with referring related articles.	Lecture	Funahara	before: oral adverse event, maintenance of oral function and supporting treatment prevention methods in acute phase after: after-action report
7	Perspective on higher education for dental hygienist (1) In view of change of social situation and oral health, to lecture values and ability required of leader of professionals.	Lecture	Nakamichi	before: values and ability required of leader of professionals after: after-action report
8	Perspective on higher education for dental hygienist (2) To lecture educational methods in medical and nursing, and to discuss educational methods to foster higher professionality of oral health.	Lecture	Nakamichi	before: educational methods in medical and nursing after: after-action report
9	Methodology on relation with oral and general status (1) to lecture experimental methods from past to present to have proven relationship between oral states or oral diseases and general states.	Lecture	Sonoki	before: relationship between oral states or oral diseases and general states after: after-action report

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Oral Health Science Ⅰ

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	秋房　住郎						
Instructor(s)	Soh I., Fujii W., Akifusa S., Sonoki K., Tsujisawa T., Nakamichi A., Izumi M., Funahara M.						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
10	Methodology on relation with oral and general status (2) to lecture epidemiological methods from past to present to have proven relationship between oral states or oral diseases and general states.	Lecture	Sonoki	before: relationship between oral states or oral diseases and general states after: after-action report
11	medical practice for dysphagia (1) To lecture clinical status of swallowing based on clinical knowledge on swallowing.	Lecture	Fujii	before: swallowing after: after-action report
12	medical practice for dysphagia (2) To lecture support of swallowing via case studies.	Lecture	Fujii	before: support of swallowing after-action report
13	Dietetic perspective on health (1) To lecture dietetics perspective regarding with health and life style related disease, and to discuss the problems and the solutions.	Lecture	Tsujisawa	before: dietetics perspective regarding with health and life style related disease after: after-action report
14	Dietetic perspective on health (2) To lecture dietetics perspective regarding with health and life style related disease, and to discuss the problems and the solutions.	Lecture	Tsujisawa	before: dietetics perspective regarding with health and life style related disease after: after-action report
15	Summary	Lecture	all lectures	before: past revies after-action report

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Oral Health Science II

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	4.0
Methods	lesson and seminar	Total time	60.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fujii W.						
Instructor(s)	Soh I., Fujii W., Akifusa S., Sonoki K., Tsujisawa T., Nakamichi A.						
	Akifusa S.、Soh I.、 Sonoki K.、Tsujisawa T.、Nakamichi A.、Fujii W.						

Course Description

【Language】Japanese To understand most recent trend of discipline on oral health sciences, discuss the related papers of international journal.

Attainment Objectives

You should achieve the basic and applied knowledge indicated below.You can1. explain the contents of papers in English.2. explain the background of papers. 3. explain the methods described in papers in detail.4. explain the results described in papers in detail.5. explain critically the discussion described in papers.6. perform presentation for the contents of the read papers.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Presentation	50%
questions and answers	50%

Etc

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1～30	understand and explain the contents of most recent trend of discipline on oral health sciences[Prior learning] Ask educators individually in advance.	Practice	All	paper search, after-action report

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Oral Health Science III

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	4.0
Methods	lesson and seminar	Total time	60.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fujii W.						
Instructor(s)	Fujii W., Akifusa S., Sonoki K., Tsujisawa T., Nakamichi A.						
	Akifusa S.、Soh I.、Sonoki K.、Tsujisawa T.、Nakamichi A.、Fujii W.						

Course Description

【Language】Japanese All teacher and students discuss on the outcome of study, to improve the quality of study, and to develop ability of presentation

Attainment Objectives

You should achieve the basic and applied knowledge indicated below.You can1. explain logically the contents of your study.2. explain the background of your study in detail.3. answer questions on your study.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
presentation	50%
questions and answers	50%

Etc

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1～30	Presentation of your study followed with question and answer[Prior learning] Ask educators individually in advance.	Practice	All	paper search, after-action report

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Practice of Oral Health Science

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	4.0
Methods	seminar	Total time	60.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Chairman of Oral Health Scinece						
Instructor(s)	Dean of School of Oral Health Sciences, Soh I., Fujii W.						
	Fujii.W., Soh.I						

Course Description

Students perform clinical practice to learn the latest knowledge and technique of oral health science.

Attainment Objectives

1. You practice appropriate medical interviews.2. You take measures of medical safety and infection.3. You design general dental hygiene process based on EBM.4. You provide oral prophylaxis service, practice oral health education, and assist within a dental practice based on EBM.5. You practice oral management and play the role of dental hygienists.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Evaluation of practice	100%

Etc

Students can consult staffs in charge of this practice at any time.

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1-3030	Tos perform clinical practice to learn the latest knowledge and technique of oral health science.[Prior learning] To receive guidance from staffs before practice.	Practice	Fujii.W., Soh.I.	Take the training according to the instructor.

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Advanced Oral Health and Welfare Promotion II

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Akifusa S.						
Instructor(s)	Akifusa S.						

Course Description

The purpose of this course is to practice actual activity of community dental healthcare and welfare using model case , based on the knowledge on community dental healthcare and welfare.

Attainment Objectives

The ability to: (1) describe activities community health and welfare activities;
(2) describe collaboration of medical, health, and welfare section in oral healthcare;
(3) learn methods to drive the collaboration of medical, health, and welfare section in oral healthcare;
(4) learn knowledge of methods to practice oral HP/WP in community

Textbooks

Title	Author	Publisher
地方分権時代の健康政策実践書ーみんなで楽しくできるヘルスプロモーション (Japanese)	Aut. 石井 敏弘、中村 譲治、その他	Pub. ライフサイエンスセンター

Reference Books

Title	Author	Publisher
国民衛生の動向(Japanese)	Aut. 厚生労働統計協会編集	
不平等が健康を損なう(Japanese)	Aut. イチロー カワチ,ブルース・P. ケネディ	Pub. 日本評論社
ソーシャル・キャピタルと健康 (Japanese)	Aut. イチロー カワチ	Pub. 日本評論社
各種行政資料（歯科保健に関する事例レポートなど）(Japanese)		

Grading Criteria and Method of Evalution

Evaluation item	Ratio
after-action report on all lectures	80%
practice assignments of No. 5 and 7	20%

Etc

Student who dose not attend the Advanced Oral Health and Welfare Promotion I can attend this course.

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Advanced Oral Health and Welfare Promotion II

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Akifusa S.						
Instructor(s)	Akifusa S.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Theory of health promotion To learn general and new methods for health promotion.	Lecture	Akifusa	before: PRECEDE-PROCEED model after: after-action report
2	Welfare activity with oral healthcare To learn roles and ideal state of oral health in welfare for older adults and impaired persons.	Lecture	Akifusa	before: old-age welfare, welfare for the disabled after: after-action report
3	Theory of oral health promotion To learn theories of health promotion in oral health.	Lecture	Akifusa	before: oral health promotion after: after-action report
4	Practice of oral health promotion (1) To learn methods for oral health promotion through examples in municipalities.	Lecture	Akifusa	before: case collection of oral health promotion after: after-action report
5	Practice of oral health promotion (2) To learn methods for oral health promotion through examples in municipalities.	Lecture	Akifusa	before: case collection of oral health promotion after: after-action report
6	Case study on community oral HP/WP (1) To select examples of oral health promotion and welfare from reports of community oral health.	Lecture	Akifusa	before: case collection of oral health promotion and welfare after: after-action report
7	Case study on community oral HP/WP (2) To discuss problem and its solution of oral health in community, selected in previous lecture.	Lecture	Akifusa	before: case collection of oral health promotion and welfare after: after-action report
8	Case study on community oral HP/WP (3) To discuss case studies of problem and its solution of oral health in community by bibliographical consideration.	Lecture	Akifusa	before: case collection of oral health promotion and welfare after: after-action report
9	Case study on community oral HP/WP (4) To discuss case studies of problem and its solution of oral health in community by bibliographical consideration.	Lecture	Akifusa	before: case collection of oral health promotion and welfare after: after-action report

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2022

Advanced Oral Health and Welfare Promotion II

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Akifusa S.						
Instructor(s)	Akifusa S.						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
10	strategy for community oral HP/WP (1) To extract problems of oral health promotion and welfare of model municipality in Fukuoka prefecture.	Lecture	Akifusa	before: case collection of oral health promotion and welfare after: after-action report
11	Strategy for community oral HP/WP (2) To plan solution for oral health problem of model municipality in Fukuoka prefecture, extracted in previous lecture.	Lecture	Akifusa	before: case collection of oral health promotion and welfare after: after-action report
12	Strategy for community oral HP/WP (3) To plan solution for oral health problem of model municipality in Fukuoka prefecture, extracted in previous lecture.	Lecture	Akifusa	before: case collection of oral health promotion and welfare after: after-action report
13	Strategy for community oral HP/WP (4) To plan solution for oral health problem of model municipality in Fukuoka prefecture, extracted in previous lecture.	Lecture	Akifusa	before: case collection of oral health promotion and welfare after: after-action report
14	Approach to community oral HP/WP To discus methods for approach to local community through case studies.	Lecture	Akifusa	before: community HP and WP after: after-action report
15	Summary Presentation of summary of this course.	Lecture	Akifusa	before: preparation of presentation after: after-action report

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2022

Training Program Ⅰ in Public Health and Social Security Policy

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukuizumi T.						
Instructor(s)	Fukuizumi T.						

Course Description

【Language】Japanese
You can learn about the importance of researching the problems of the dental field, among health issues of all people living in the region, by focusing on the relationship between epidemiological methods and social system. In particular, you can learn about the basic knowledge to study the role that play of the dental health care and dental health care workers among the social security system.

Attainment Objectives

1. You can explain about dignity of the patient, medical ethics and research ethics.
2. You can explain the concept of health and disease.
3. You can explain the basic idea of the dental practitioners laws and related regulations.
4. You can explain the concept of prevention in public health and dental care.
5. You can explain the main overview of health medical statistics.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
Health in Japan : Recent Vital Statistics. Japan.		Health, Labour and Welfare Statistics Association
Concise Text of Hygiene and Public Health. Japan. 2022.	Ichiro Tsuji	Nankodo.Co.
Visual Guide: Medical Care and Public Health 2022-2023. Japan.	Medic Media Co.	Institute for Health Care Information Sciences, Inc.
Dental Practice Management. Japan. 2018.	Ishiyaku Pub,Inc	Japanese Society of Dental Practice Administration

Grading Criteria and Method of Evalution

Evaluation item	Ratio
percentage of reports	50%
oral examination	50%

You can study online by distance learning from any location.

Etc

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2022

Training Program Ⅰ in Public Health and Social Security Policy

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukuizumi T.						
Instructor(s)	Fukuizumi T.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Society and dentistry① You can learn about the concepts of health which become a foundation of public health, the relations between society and the environment, and the concepts of prevention.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
2	Society and dentistry② You can learn about the patient's dignity, the ethics of medicine which support this and the various norms.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
3	Society and dentistry③ You can learn about the relations between dentistry and society, and the responsibilities of the dentist.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
4	Medical insurance system You can recognize about the whole picture of the social security system, and learn about the national health insurance system which supports the medical care among the social insurance.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
5	Pension insurance system, Workers' compensation insurance system You can learn about pension insurance system and workers' compensation insurance system which constitute the social insurance.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
6	Nursing care insurance system You can learn about the long-term care insurance system which is one of the social insurance.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
7	Employment insurance, Social welfare system You can learn about the employment insurance system which is one of the social insurance, and the social welfare and public assistance which are component of the social security.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
8	Dental doctor and related regulations① You can recognize the responsibility of dentist and the overview of Dental Practitioners Law which defines the business, and learn about the current situation surrounding the dentist from the relevant statistics.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
9	Dental doctor and related regulations② You can recognize the overview of medical law that defines the healthcare delivery system in Japan and learn about the support of the selection for medical and the ensuring the safety of medical.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
10	Dental doctor and related regulations③ You can learn about the management of hospitals and clinics which defined in the Medical Care Act, and the ensuring of the health care provider system of medical care plans.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
11	Dental doctor and related regulations⑤ You can recognize about the overview of the Pharmaceuticals and Medical Devices Act and learn about management of the pharmacy, examination of pharmaceutical products, and the relationship of medical equipment and health insurance treatment.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
12	Dental doctor and related regulations⑥ You can recognize about the advertising regulations and adverse reaction reports which are defined in the Pharmaceuticals and Medical Devices Act, and learn about the regulations such as poison and narcotic.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
13	Society and demographics You can recognize about the overview of Statistics Act and learn about the typical official statistics and the typical indicators, related to health care among the fundamental statistics and general statistics.	lecture	Fukuizumi	Reading an article, handout, reference book intensively

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Training Program Ⅰ in Public Health and Social Security Policy

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukuizumi T.						
Instructor(s)	Fukuizumi T.						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
14	The actual condition of dental health administration in urban and rural prefectures Following the trend of dental health care administration promoted by the country, you can learn about the concrete efforts of the dental health administration which is carried out in the prefectures.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
15	The actual condition of dental health administration in cities, towns and villages Following the trend of dental health care administration promoted by the national and prefectural, you can learn about the concrete efforts of the dental health administration which is carried out in the municipality.	lecture	Fukuizumi	Reading an article, handout, reference book intensively

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2022

Training Program Ⅱ in Public Health and Social Security Policy

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukuizumi T.						
Instructor(s)	Fukuizumi T.						

Course Description

【Language】Japanese
You can learn about the basic idea of epidemiology, the underlying law of regulations and the relations between the dental doctors and the health services in each field such as dental health in region, school dental health, health promotion, disease prevention, international health and mental health. In particular, you can learn about the basic knowledge to study the role of dental health care workers in various health businesses.

Attainment Objectives

1. You can explain about the basic idea of the medical occupations and related laws and regulations.
2. You can explain about health, medical care, welfare and social institutions related to nursing care, community health care and social environment.
3. You can explain about the relations between the environment and health.
4. You can explain about the population level prevention and health management.
5. You can explain about the medical care based on epidemiological and scientific basis, and application of health statistics.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
Health in Japan : Recent Vital Statistics. Japan.		Health, Labour and Welfare Statistics Association
Concise Text of Hygiene and Public Health. Japan. 2022.	Ichiro Tsuji	Nankodo.Co.
Visual Guide: Medical Care and Public Health 2022-2023. Japan.	Medic Media Co.	Institute for Health Care Information Sciences,Inc.
Manual of epidemiology. Japan. 2012.	Hiroshi Yanagawa	Nanzando.Co.

Grading Criteria and Method of Evalution

Evaluation item	Ratio
percentage of reports	50%
oral examination	50%

You can study online by distance learning from any location.

Etc

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2022

Training Program Ⅱ in Public Health and Social Security Policy

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukuizumi T.						
Instructor(s)	Fukuizumi T.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Related laws and regulations and health care occupations① You can learn about the overview of Dental Hygienists Act and Health Nurses Midwives and Nurses Act, the relevant government ordinance, the system based on law and the situation of employment.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
2	Related laws and regulations and health care occupations② You can learn about the dental technician method, pharmacist method, the overview of the Medical Practitioners Law, and the relevant government ordinance, the system based on the law, and the situation of employment.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
3	Related laws and regulations and health care occupations③ You can learn about the radiological technologists method, speech therapist method, physical therapists and occupational therapists method, a compendium of the law of relationship occupations of dietitian method, and the situation of employment.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
4	Adult health You can recognize about the change of the disease structure and the current situation of lifestyle-related diseases, and learn about the target value which defined as health promotion business of the municipality, specific medical examinations and specific health guidance, Healthy Japan 21 (second) and Dental and Oral Health Law.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
5	Community health, public health centers You can recognize about the business of the health centers and municipal health centers which become a base of the public health of the region, and learn about the importance of regional diagnosis.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
6	Epidemiology and dental care① You can learn about the basic idea of epidemiology which is the foundation of public health, and epidemiological approach, research procedures, and the applications of dental medicine.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
7	Epidemiology and dental care② Give the topics of specific epidemiological studies in order to understand the detailed exposition of epidemiology, and you can learn about the study design and the level of evidence.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
8	Epidemiology and dental care③ You can recognize the concept of screening, and learn about the relationship of various epidemiological indicators and research design.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
9	Maternal and child health You can get the overview of maternal and child health which supports the healthy growth of children, and learn about maternal and child health policy in Japan.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
10	Health Promotion You can get the overview of health promotion law, and learn about current state of health promotion measures in the municipality.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
11	International Health You can recognize about the overview of international health and the concept of the important disease prevention in public health, and learn about various infectious diseases prescribed in the Infectious Disease Law and Preventive Vaccination Law.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
12	School Health You can recognize about the concept of school health which is important for health management in the school age, and learn about variety of measures prescribed in the School Health and Safety Act.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
13	Environment and Health You can recognize about relationship of the various environmental factors and Basic Environment Law which affect the public health, and learn about the hygiene standards of water supply and sewerage systems.	lecture	Fukuizumi	Reading an article, handout, reference book intensively

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Training Program Ⅱ in Public Health and Social Security Policy

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukuizumi T.						
Instructor(s)	Fukuizumi T.						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
14	Mental Health and Welfare You can recognize about the overview of mental health and welfare, and learn about Mental Health Act and medical observation method.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
15	Care of the elderly You can recognize about the current state of aging and the Elderly, and learn about overview of the oral-related care service in long-term care insurance, the relationship between the long-term care insurance facilities and the elderly welfare facilities.	lecture	Fukuizumi	Reading an article, handout, reference book intensively

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Training Program Ⅲ in Public Health and Social Security Policy

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukuizumi T.						
Instructor(s)	Fukuizumi T.						

Course Description

【Language】Japanese
You can learn about the measures to responses to industrial dental health, labor management, medical safety management (including the safety management of pharmaceuticals and medical devices), medical information management, food hygiene, people with disabilities health and welfare and responding to medical malpractice. In particular, you can learn about the basic knowledge to study the role of dental health care workers in the efforts that are required in the position and social security system on a variety of systems.

Attainment Objectives

1 .You can explain about the relations between environment and health.
2 . You can explain about health, medical care, welfare and social institutions related to nursing care, the regional medical care and social environment.
3 . You can explain the prevention and health management of the office level.
4 . You can explain about the use and management methods of health care information.
5 . You can explain about the dialogue capability, the attitude and mindset necessary to obtain the principal consent of the patient after conducting an appropriate description of the order to practice medicine in the patient-oriented.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
Health in Japan : Recent Vital Statistics. Japan.		Health, Labour and Welfare Statistics Association
Concise Text of Hygiene and Public Health. Japan. 2022.	Ichiro Tsuji	Nankodo.Co.
Visual Guide: Medical Care and Public Health 2022-2023. Japan.	Medic Media Co.	Institute for Health Care Information Sciences,Inc.
Manual of epidemiology. Japan. 2012.	Hiroshi Yanagawa	Nanzando.Co.

Grading Criteria and Method of Evalution

Evaluation item	Ratio
percentage of reports	50%
oral examination	50%

You can study online by distance learning from any location.

Etc

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Training Program Ⅲ in Public Health and Social Security Policy

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukuizumi T.						
Instructor(s)	Fukuizumi T.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Occupational health① You can understand about the overview of the occupational health which is responsible for the health management of workers, and learn about worker protection measures stipulated in the Labor Standards Act and the Occupational Safety and Health Act.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
2	Occupational health② You can understand about the overview of the Labor Contract Law which is one of the worker protection measures, and learn about the handing of fixed-term employment contract of dentist and the features of medical contract.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
3	Medical information and its management① You can understand about the handling of medical records associated with dental care and learn about the provisions in Dental Practitioners Law, the medical law and the recuperation charge rules.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
4	Medical information and its management② You can understand about the handling of personal information in the dental clinic and learn about the provisions in the Personal Information Protection Act and the guidelines for handling.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
5	Pharmaceuticals (including biologics) and the safety management of medical equipment (medical Care law, etc.) You can understand about the safety management of the pharmaceuticals and medical devices in dental clinic, and learn about the provisions in the Medical Care Act.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
6	National Nutrition and Food Health (National Health and Nutrition Examination Survey, the Food Sanitation Law, etc.) You can understand about the significance of the National Health and Nutrition Examination Survey, and learn about the overview of food hygiene involved in closely public health, and trend of food poisoning.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
7	Disability health and welfare You can understand about the overview of health and welfare measures for people with disabilities and learn about the circumstance leading to the enactment of the Disability Comprehensive Support Law, and the Convention on the Rights of Persons with Disabilities, and normalization.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
8	Dentistry viewed from the patient's point of view You can understand about patient’ s dignity and medical ethics and learn about legal status related to responsibility of the dentist.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
9	Conflict Management① You can understand about the cause of medical dispute in dental clinic and learn about Medical Mediation which is a method to solve this.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
10	Conflict Management② To understand alternative dispute resolution procedures, which are attracting attention as a method of resolving medical disputes, and to learn about trends in medical litigation.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
11	Recent Trends in dental health care administration As a summary of health care theory in general, you can learn about recent developments in the dental health care administration.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
12	Study design① You can learn about whole picture of the level of evidence, the various study design and the outcome measures.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
13	Study design② You can learn about the design outcome measures, advantages and disadvantages of cross-sectional study.	lecture	Fukuizumi	Reading an article, handout, reference book intensively

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Training Program III in Public Health and Social Security Policy

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukuizumi T.						
Instructor(s)	Fukuizumi T.						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
14	Study design③ You can learn about the design outcome measures, advantages and disadvantages of the cohort study.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
15	Study design④ You can learn about the design outcome measures, advantages and disadvantages of randomized controlled trials (RCT).	lecture	Fukuizumi	Reading an article, handout, reference book intensively

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Training Program Ⅳ in Public Health and Social Security Policy

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukuizumi T.						
Instructor(s)	Fukuizumi T.						

Course Description

【Language】Japanese
Based on objective documentation, while to clarify the current status and changes in disease, risk and lifestyle, you can learn about the epidemiology technique which is essential in order to evaluate the results of individual health policy. In particular, you can learn about the basic knowledge to study the stretching of the healthy life expectancy and the reduction of health disparities, and the prevention of the onset and severity of lifestyle-related diseases.

Attainment Objectives

1 .You can explain about the epidemiological studies and ethics. 2 . You can explain about the basic method of epidemiology. 3 . You can explain about the distraction of healthy life expectancy and reduction of health disparities. 4 . You can explain the onset prevention and aggravation prevention of lifestyle-related diseases. 5 . You can explain about the practice of policy epidemiology.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
Health in Japan : Recent Vital Statistics. Japan.		Health, Labour and Welfare Statistics Association
Concise Text of Hygiene and Public Health. Japan. 2022.	Ichiro Tsuji	Nankodo.Co.
Visual Guide: Medical Care and Public Health 2022-2023. Japan.	Medic Media Co.	Institute for Health Care Information Sciences,Inc.
Manual of epidemiology. Japan. 2012.	Hiroshi Yanagawa	Nanzando.Co.

Grading Criteria and Method of Evalution

Evaluation item	Ratio
percentage of reports	50%
artifacts of practice	50%

You can study online by distance learning from any location.

Etc

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Training Program Ⅳ in Public Health and Social Security Policy

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukuizumi T.						
Instructor(s)	Fukuizumi T.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Epidemiology of meaning and ethics You can learn about the epidemiology's meaning and purpose, ethics of epidemiological research, and the validity of the intervention studies and subject selection.	lecturepractice	Fukuizumi	Reading an article, handout, reference book intensively
2	Measurement of disease frequency You can learn about prevalence, cumulative incidence, prevalence, mortality, fatality rate, relative frequency.	lecturepractice	Fukuizumi	Reading an article, handout, reference book intensively
3	Measurement of exposure effect You can learn about the rate of difference ratio, survival rate, and healthy life expectancy.	lecturepractice	Fukuizumi	Reading an article, handout, reference book intensively
4	Epidemiological research methods You do the review of the contents of the scientific papers using the CASP (CRITICAL APRAISAL SKILLS PROGRAMME), and learn and to clarify the difference between observational studies.	lecturepractice	Fukuizumi	Reading an article, handout, reference book intensively
5	Sample survey You can learn about complete enumeration and sample surveys, the population and the sample, randomization, the concept of sampling, method of determining the size of the specimen.	lecturepractice	Fukuizumi	Reading an article, handout, reference book intensively
6	Error, bias and its control You can learn about error classification, bias, exclusion of confounding factors, and the standardization of the rate.	lecturepractice	Fukuizumi	Reading an article, handout, reference book intensively
7	The judgement of the cause-and-effect relationship You can learn about criteria for causality, evaluation methods, risk factors and prevention factors.	lecturepractice	Fukuizumi	Reading an article, handout, reference book intensively
8	Epidemiological factors You can learn about host factors, environmental factors, and multi-factor etiology.	lecturepractice	Fukuizumi	Reading an article, handout, reference book intensively
9	Screening You can learn about the significance of Screening, evaluation method, implementation conditions, program evaluation, and typical screening program.	lecturepractice	Fukuizumi	Reading an article, handout, reference book intensively
10	Epidemiology of infectious diseases You can learn about three conditions of the infection onset, the index of spread of infection, resistance force of epidemic and host, pathogen and the route of infection, and the epidemic investigation.	lecturepractice	Fukuizumi	Reading an article, handout, reference book intensively
11	Etiology epidemiology You can learn about etiology epidemiology, risk factors, and molecular epidemiology.	lecturepractice	Fukuizumi	Reading an article, handout, reference book intensively
12	Policy epidemiology You can learn about population approach, high-risk approach, and medical economic evaluation (outcome analysis).	lecturepractice	Fukuizumi	Reading an article, handout, reference
13	Actual research plan You can learn about selection of the survey items, information collection method, the creation of questionnaire, and the flow of data analysis.	lecturepractice	Fukuizumi	Reading an article, handout, reference book intensively
14	Epidemiological analysis technique You can learn about contingency tables, regression and correlation, actual assays, and multivariate analysis.	lecturepractice	Fukuizumi	Reading an article, handout, reference book intensively

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Training Program Ⅳ in Public Health and Social Security Policy

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukuizumi T.						
Instructor(s)	Fukuizumi T.						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
15	Creating a statistical chart You can learn about the principle of charting, and the formats and features of the statistics chart.	lecturepractice	Fukuizumi	Reading an article, handout, reference book intensively

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Practice Ⅰ of Public Health and Social Security Policy

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukuizumi T.						
Instructor(s)	Fukuizumi T.						

Course Description

【Language】Japanese
About the medical service fee system which revised every two years, and the long-term care compensation plans which revised every three years, You can analyze the background leading up to each of the most recent changes and institutional reforms. Also, from the statistical survey associated with each reward including Survey of Medical Care Activities in Public Health Insurance and Survey of Long-term Care Benefit Expenditures, you can understand the trends of the post-reform of the system and learn a method of utilizing Policy Research, and a research technique for performing a simulation.

Attainment Objectives

1. You can explain the long-term care compensation system and the medical fee system.
2. You can explain the statistical survey associated with each reward including the social care intervention surveys and nursing care payment survey.
3. You can take advantage of the policy research and practice the simulation.

Textbooks

Title	Author	Publisher
The list of Statistical Surveys conducted by Ministry of Health		Labour and Welfare
The Portal Site of Official Statistics of Japan(e-Stat)		

Reference Books

Title	Author	Publisher
Health in Japan : Recent Vital Statistics. Japan.		Health, Labour and Welfare Statistics Association
The Trends of Insurance and Pension. Japan.		Health, Labour and Welfare Statistics Association
Health, Labour and Welfare Statistics Association		Health, Labour and Welfare Statistics Association

Grading Criteria and Method of Evalution

Evaluation item	Ratio
results of simulation	35%
oral presentation	35%
discussion	30%

You can earn 8 units for 4 years maximum.You can study online by distance learning from any location.

Etc

〔Text〕・The list of Statistical Surveys conducted by Ministry of Health, Labour and Welfarehttp://www.mhlw.go.jp/toukei/itiran/・The Portal Site of Official Statistics of Japan(e-Stat)https://www.e-stat.go.jp/

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Practice Ⅰ of Public Health and Social Security Policy

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukuizumi T.						
Instructor(s)	Fukuizumi T.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
44211	Recognize the background of institutional reforms and the relationship of the statistical survey associated with each reward, You can take advantage of the policy research and practice the simulation.Give your presentation about the results of the simulation and discuss about the latest trend.	Take advantage of the policy research and practice the simulation. Practice including Presentation and Discussion	Fukuizumi	Reading an article,handout,reference book intensively and investigate issues on the related area

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Practice Ⅱ of Public Health and Social Security Policy

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukuizumi T.						
Instructor(s)	Fukuizumi T.						

Course Description

【Language】Japanese
Among the Health,Labor and Welfare statistics,for each area of health and sanitation sector(Survey of Medical Institutions,Hospital Reports,Patient Survey,Patient's Behavior Survey,National Health and Nutrition Survey,Report on Public Health Administration and Services,Estimates of National Medical Care Expenditure,Survey of Physicians,Dentists and Pharmacists,Survey of Dental Diseases,Survey on No-Dentist Districts),population and household sector(Vital Statistics,Life tables,Comprehensive Survey of Living Conditions),social welfare sector(Report on Social Welfare Administration and Services,National Survey on Public Assistance Recipients),the sector of health and welfare for elderly(Survey of Institutions and Establishments for Long-term Care,Report on Long-term care insurance business situation),social security sector(Survey on the Redistribution of Income),you can understand the latest trends of the post-reform of the system and learn a method of utilizing Policy

Attainment Objectives

1. You can explain the features of Health, Labour and Welfare statistics, etc.
2. You can explain the overview of each area of Health, Labour and Welfare statistics.
3. You can take advantage of policy research of each statistic and practice the simulation.

Textbooks

Title	Author	Publisher
The list of Statistical Surveys conducted by Ministry of Health		Labour and Welfare
The Portal Site of Official Statistics of Japan(e-Stat)		

Reference Books

Title	Author	Publisher
Health in Japan : Recent Vital Statistics. Japan.		Health, Labour and Welfare Statistics Association
Health, Labour and Welfare Statistics Association		The Trends of Insurance and Pension. Japan.
Health, Labour and Welfare Statistics Association		Health, Labour and Welfare Statistics Association

Grading Criteria and Method of Evalution

Evaluation item	Ratio
the results of simulation	35%
oral presentation	35%
discussion	30%

You can earn 8 units for 4 years maximum.You can study online by distance learning from any location.

Etc

〔Text〕・The list of Statistical Surveys conducted by Ministry of Health, Labour and Welfarehttp://www.mhlw.go.jp/toukei/itiran/・The Portal Site of Official Statistics of Japan(e-Stat)https://www.e-stat.go.jp/

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Practice Ⅱ of Public Health and Social Security Policy

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukuizumi T.						
Instructor(s)	Fukuizumi T.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
44211	Recognize the trends of results in each area of Health, Labour and Welfare statistics, you can take advantage of the policy research and practice the simulation.Give your presentation about the results of the simulation and discuss about the latest trend.	Take advantage of the policy research of Health, Labour and Welfare statistics and practice the simulation. Practice including Presentation and Discussion	Fukuizumi	Reading an article, handout, reference book intensively and investigate issues on the related area

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2022

Colloquium of Public Health and Social Security Policy

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukuizumi T						
Instructor(s)	Fukuizumi T.						

Course Description

You examine carefully several article related public health and social security policy in order to recognize latest trend of the study. Moreover, you give your own presentation about state of progress and discuss the development of your study.

Attainment Objectives

1. You can learn the way of critical thinking throughout examining carefully several article related public health and social security policy.
2. You can recognize the background and methods of your own study.
3. You can explain your own research exactly.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
Choose an article that you would like to introduce and discuss with the members.		

Grading Criteria and Method of Evalution

Evaluation item	Ratio
comprehension of the article	35%
oral presentation	35%
discussion	30%

You can earn 8 units for 4 years maximum.You can study online by distance learning from any location.

Etc

We accept your visit at any time at our office in the 3rd floor of main building.

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1~15	Recognize background, methods and the latest trend of the study.Give your presentation about state of progress and discuss to embody and to develop your study.	Practice including Presentation and Discussion	Fukuizumi	Reading an article intensively and investigate issues on the related area to your study.

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2022

Primary Dental Care Ⅰ(Clinical Basic Course)

Grades	1 grade	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Awano S.						
Instructor(s)	Awano S., Muraoka K., Morishita M.						

Course Description

This course is designed to practice primary dental care based on holistic dentistry in the clinical work

Attainment Objectives

You should achieve the following competencies;
・practice a medical interview to patients based on patient-centered dentistry
・perform prevention and control of medical accidents and infection
・create a comprehensive treatment plan according to EBM
・practice prevention, treatment and management of oral and dental diseases according to EBM
・practice a medical management which needs to perform social roles as a dentist

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Evaluation of the clinical performance and report	100%

Etc

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2022

Primary Dental Care Ⅰ(Clinical Basic Course)

Grades	1 grade	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Awano S.						
Instructor(s)	Awano S., Muraoka K., Morishita M.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1-60	The contents of this course are as follows; ・understand speciality of primary dental care ・master knowledges and skills in searching for and applying evidence ・practice prevention and control of medical accidents and infection ・practice medical interview and examinatio ・diagnose oral and dental diseases ・create a comprehensive treatment plan according to EBM ・practice of primary dental care according to EBM	lecturepracticeseminarpresentationdiscussion	Awano SMorishita MMuraoka K	You should readthe referencerelated to thiscourse and submit the report after each class.

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2022

Primary Dental Care II (Clinical Advance Course)

Grades	2-4 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Awano S.						
Instructor(s)	Awano S., Muraoka K., Morishita M., Soh I.						

Course Description

This course is designed to improve various special clinical abilities which are needed for primary dental care related to improvement in QOL of patients

Attainment Objectives

You should be achieve the following competencies;
・practice prevention and control of medical accidents and infection in every clinical fields
・create a comprehensive treatment plan according to the difference in the life-stage of each patient
・practice prevention, treatment and management of oral and dental diseases based on the life-stage of patients
・practice patient-centered team care medicine with other health care professionals who are experts in different specialties
・understand Japanese system of community-based comprehensive health care・participate in the community-based comprehensive health care

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Evaluation of clinical performance and report	100%

Etc

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2022

Primary Dental Care II (Clinical Advance Course)

Grades	2-4 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Awano S.						
Instructor(s)	Awano S., Muraoka K., Morishita M., Soh I.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1-60	The contents of this course is are as follows; ・practice primary dental care based on life-stage of patients ・practice the risk assessment of dental caries and periodontal diseases of patients ・practice basic periodontal surgery ・practice treatment of patients with xerostomia ・practice primary dental care for elderly patients with some systemic disease in the fields of the community-based health care	lecturepracticeseminarpresentationdiscussion	Awano SMorishita MMuraoka KSoh I	You should prepare for each practice and summarize the content of the case after practice.

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2022

Primary Dental Care Ⅲ(Clinical Conference)

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Awano S.						
Instructor(s)	Awano S., Muraoka K., Morishita M.						

Course Description

This course is designed to improve the ability which solve various clinical problems to need the practice for primary dental care via case studies.

Attainment Objectives

You should be achieve the following competencies;
・make a list of the clinical problem based on patient information
・create a comprehensive treatment plan according to the latest EBM
・collect information of the latest dental treatment from the international journals of various special fields
・prepare the material for a case presentation and make a presentaion

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Evaluation of presentation	100%

Etc

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
44211	The contents of this course is are as follows; ・learn the latest clinical information by making a case presentation based on primarydental care	Seminar	Awano S.,Morishita MMuraoka K.	You should prepare the material for a case presentation

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2022

Educational Research of Comprehensive Clinical Dentistry Ⅰ

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Awano S.						
Instructor(s)	Awano S., Muraoka K., Morishita M.						

Course Description

This course is designed to improve the comprehensive research ability which needs as a postgraduate student by learning various researches linked to development of dentistry.

Attainment Objectives

You should be achieve the following competencies;
・find the paper which you need using PubMed
・review the English paper and explain the content
・create the research plan
・master the statistical analysis method related to your research
・make a questionnaire for the survey

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Evaluation of presentationa	40%
Evaluation of report	40%
Evaluation of questionnaire	20%

Etc

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2022

Educational Research of Comprehensive Clinical Dentistry Ⅰ

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Awano S.						
Instructor(s)	Awano S., Muraoka K., Morishita M.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
44211	The contents of this course is are as follows; ・review the research paper related to the latest dentistry ・practice the statistical analysis method using the statistical analysis soft ・create the research plan accoroding to the research theme ・make a questionnaire for the survey using in various fields	lecturepracticeseminarpresentationdiscussion	Awano SMorishita MMuraoka K	You should readthe referencerelated to thiscourse andprepare thematerial.

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2022

Educational Research of Comprehensive Clinical Dentistry II

Grades	3-4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Awano S.						
Instructor(s)	Awano S., Muraoka K., Morishita M.						
	Awano S, Morishita M, Muraoka K						

Course Description

This course is designed to train the ability of comprehensive management for research through the research work to complete the research subjects.

Attainment Objectives

You should be achieve the following competencies;
・review the reference paper related to your research theme
・summarize the problems and subjects in your research
・analyze the research data for the conference presentation and writing the research paper
・make the presentation material for the conference presentation
・write the research paper to publish to the international academic journals

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Evaluation of presentation	100%

Etc

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
44211	The contents of this course is are as follows; ・present the review of reference papers for your research ・present the results and process in your research work	Presentation	Awano SMorishita MMuraoka K	You shouldprepare thematerial for apresentation

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2022

Comprehensive dentistry Ⅰ(Basic course)

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Konoo T.						
Instructor(s)	Konoo T., Nagamatsu H., Onizuka C., Yasunaga A.						
	Clinical training instructor：Konoo, Nagamatsu, Onizuka, Yasunaga Certified dentist of the Japanese Society of Dental Practice Administration：Konoo, Onizuka Certified dentist and instructor of Japanese Orthodontic Society：Konoo						

Course Description

You can practice the comprehensive dental treatment with the cognitive, affective and psychomotor domain.

Attainment Objectives

1．Knowledge and competence for the comprehensive dentistry
2．Knowledge and competence for the primary care and treatment
3．Making the general comprehensive treatment plan
4．Practice of the team treatment

Textbooks

Title	Author	Publisher
Handouts will be distributed as needed. eded.		

Reference Books

Title	Author	Publisher
Essential handbook for dental resident		
Real medical interview matched with the patients’ needs		

Grading Criteria and Method of Evalution

Evaluation item	Ratio
The minimum requirements	100%

The minimum requirements are the reports (5 cases), case presentation (2 cases), initial treatment (5 cases) and conservative treatment (5 cases).
If the required number of cases is not enough, you can supplement it by taking the lecture again the following year.

Etc

Learning Counseling： Counseling is available at any time, but you should make a reservation by email or phone in advance.
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2022

Comprehensive dentistry Ⅰ(Basic course)

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Konoo T.						
Instructor(s)	Konoo T., Nagamatsu H., Onizuka C., Yasunaga A.						
	Clinical training instructor：Konoo, Nagamatsu, Onizuka, Yasunaga Certified dentist of the Japanese Society of Dental Practice Administration：Konoo, Onizuka Certified dentist and instructor of Japanese Orthodontic Society：Konoo						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Guidance	Lecture	Konoo	-
2~3	Impression taking	Lecture, Practice	Konoo Nagamatsu Onizuka Yasunaga	Types of impression taking methods by purpose
4~7	Impression takingOptical impression	Practice	Konoo Nagamatsu Onizuka Yasunaga	Individual tray
8	Impression takingOptical impression taking	Practice	Konoo Nagamatsu Onizuka Yasunaga	Oral optical scanner
9~14	Study model making	Practice	Konoo Nagamatsu Onizuka Yasunaga	Oral examination using a study model
15~22	Information gathering (pictures etc.)	Practice	Konoo Nagamatsu Onizuka Yasunaga	Oral examination with intraoral photographsPeriodontal tissue examination
23~24	Referral patient from other clinical office	Lecture, Practice	Konoo Nagamatsu Onizuka Yasunaga	Interpretation of CT X-ray examinationEvaluation of clinical examination
25~29	Medical interview 1	Practice	Konoo Nagamatsu Onizuka Yasunaga	Communicatesk ills
30~34	Medical interview 2	Practice	Konoo Nagamatsu Onizuka Yasunaga	Narrative Based Medicine
35~37	Clinical system and treatment posture	Practice	Konoo Nagamatsu Onizuka Yasunaga	Mirror techniqueMedical treatment posture by awareness of proprioception
38~41	Endodontic treatment	Practice	Konoo Nagamatsu Onizuka Yasunaga	Endodontic treatment based on tooth anatomy
42~45	Periodontal initial treatment	Practice	Konoo NagamatsuOnizuka Yasunaga	Scaling root planing
46~49	Treatment of the teeth disease	Practice	Konoo Nagamatsu Onizuka Yasunaga	Minimal Intervention
50~54	Limited orthodontic treatment	Practice	Konoo	Minor Tooth MovementTypodont

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Comprehensive dentistry Ⅰ(Basic course)

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Konoo T.						
Instructor(s)	Konoo T., Nagamatsu H., Onizuka C., Yasunaga A.						
	Clinical training instructor：Konoo, Nagamatsu, Onizuka, Yasunaga Certified dentist of the Japanese Society of Dental Practice Administration：Konoo, Onizuka Certified dentist and instructor of Japanese Orthodontic Society：Konoo						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
55~57	Presentation resume making	Practice	Konoo Nagamatsu Onizuka Yasunaga	Handling digital images
58~60	Oral Presentation	Practice	Konoo Nagamatsu Onizuka Yasunaga	How to use presentation software

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2022

Comprehensive dentistry Ⅱ (advanced course)

Grades	2-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Konoo T.						
Instructor(s)	Konoo T., Nagamatsu H., Onizuka C., Yasunaga A.						
	Clinical training instructor：Konoo, Nagamatsu, Onizuka,Yasunaga Certified dentist of the Japanese Society of Dental Practice Administration：Konoo, Onizuka Certified dentist and instructor of Japanese Orthodontic Society：Konoo						

Course Description

You can practice the comprehensive dental treatment with the competences of the cognitive, affective and Psychomotor domain.

Attainment Objectives

1．Knowledge and competence for the comprehensive dentistry
2．Practice and competence for the primary care and treatment
3．Practice the general comprehensive treatment plan

Textbooks

Title	Author	Publisher
Handouts will be distributed as needed.		

Reference Books

Title	Author	Publisher
Essential handbook for dental resident,		
Real medical interview matched with the patients’ needs		

Grading Criteria and Method of Evalution

Evaluation item	Ratio
The minimum requirements	100%

The minimum requirements are the reports (5 cases), case presentation (2 cases), initial treatment (5 cases) and conservative treatment (5 cases).
If the required number of cases is not enough, you can supplement it by taking the lecture again the following year.

Etc

Learning Counseling： Counseling is available at any time, but you should make a reservation by email or phone in advance.
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Comprehensive dentistry Ⅱ (advanced course)

Grades	2-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Konoo T.						
Instructor(s)	Konoo T., Nagamatsu H., Onizuka C., Yasunaga A.						
	Clinical training instructor：Konoo, Nagamatsu, Onizuka,Yasunaga Certified dentist of the Japanese Society of Dental Practice Administration：Konoo, Onizuka Certified dentist and instructor of Japanese Orthodontic Society：Konoo						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
44200	Guidance, Medical interview	Practice	Konoo Nagamatsu Onizuka Yasunaga	-
44324	Medical interview	Practice	Konoo Nagamatsu Onizuka Yasunaga	-
44451	Periodontal treatment	Practice	Konoo Nagamatsu Onizuka Yasunaga	-
13-17	Endodontic treatment	Practice	Konoo Nagamatsu Onizuka Yasunaga	microscope
18-21	Endodontic treatment	Practice	Konoo Nagamatsu Onizuka Yasunaga	Minimal Intervention
22-26	Dental crown treatment	Practice	Konoo Nagamatsu Onizuka Yasunaga	Clinical dental technique
27-31	Fixed prosthetic treatment for the missing teeth	Practice	Konoo Nagamatsu Onizuka Yasunaga	Fixed prosthetics
32-36	Removable prosthetic treatment for the missing teeth	Practice	Konoo Nagamatsu Onizuka Yasunaga	Partial denture
37-40	Orthodontic treatment	Practice	Konoo	-
41-44	Team approach treatment	Practice	Konoo Nagamatsu Onizuka Yasunaga	Multidisciplinary collaboration
45-46	Application of the explanatory model	Practice	Konoo Nagamatsu Onizuka Yasunaga	LEARN's approach
47-48	Occlusal development	Practice	Konoo Nagamatsu Onizuka Yasunaga	Occlusal development
49-50	Infection control	Practice	Konoo Nagamatsu Onizuka Yasunaga	・Standard precaution ・COVID19
51-52	Medical safety management	Practice	Konoo Nagamatsu Onizuka Yasunaga	Incident report
53-57	Comprehensive dentistry	Practice	Konoo Nagamatsu Onizuka Yasunaga	Comprehensive treatment plan

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2022

Comprehensive dentistry Ⅱ (advanced course)

Grades	2-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Konoo T.						
Instructor(s)	Konoo T., Nagamatsu H., Onizuka C., Yasunaga A.						
	Clinical training instructor：Konoo, Nagamatsu, Onizuka,Yasunaga Certified dentist of the Japanese Society of Dental Practice Administration：Konoo, Onizuka Certified dentist and instructor of Japanese Orthodontic Society：Konoo						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
58-60	Oral presentation	Practice	Konoo Nagamatsu Onizuka Yasunaga	Utilization of presentation software

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2022

Research of the dental education Ⅰ

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Konoo T.						
Instructor(s)	Konoo T., Nagamatsu H., Onizuka C., Yasunaga A.						
	Clinical training instructor：Konoo, Nagamatsu, Onizuka, Yasunaga Certified dentist of the Japanese Society of Dental Practice Administration：Konoo,Onizuka Certified dentist and instructor of Japanese Orthodontic Society：Konoo						

Course Description

For the practice of the holistic treatment, you can understand and practice the communication skills and dental education methods based on the cognitive, affective and psychomotor domains.

Attainment Objectives

1. Understanding the communication methodology
2. Understanding the dental educational methodology
3. To be competent in communication
4. To be competent in dental educational methodology
5. Application of educational methodology
6. Professionalism

Textbooks

Title	Author	Publisher
Handouts will be distributed as needed.		

Reference Books

Title	Author	Publisher
Method of medical communication analysis		
Introduction to Text Mining for Welfare / Psychology / Nursing		
How to make a research question		
Narrative Dental Communication		
Read other educational technique literature, related literature, and reference books.		

Grading Criteria and Method of Evalution

Evaluation item	Ratio
portfolios	30%
oral examinations	50%
paper examination	20%

Etc

Learning Counseling： Counseling is available at any time, but you should make a reservation by email or phone in advance.
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2022

Research of the dental education Ⅰ

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Konoo T.						
Instructor(s)	Konoo T., Nagamatsu H., Onizuka C., Yasunaga A.						
	Clinical training instructor：Konoo, Nagamatsu, Onizuka, Yasunaga Certified dentist of the Japanese Society of Dental Practice Administration：Konoo,Onizuka Certified dentist and instructor of Japanese Orthodontic Society：Konoo						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	orientation	Lecture	Konoo	Communication skills,Educational technique
2	Communication skills 1 (Active listening, empathy and Cross-cultural communication)	Lecture	Konoo Nagamatsu	Communication skills,Cross-cultural communication
3	Communication research methods	Lecture	Konoo Onizuka	Ethnomethodology ,Taxonomy
4~5	Communication skills 2	Practice	Konoo Nagamatsu Onizuka Yasunaga	Communication skills,Competences, Dialect
6~7	Interaction analysis (quantitative)	Lecture, Practice	Konoo Nagamatsu Onizuka	Scripts,RIAS
44417	Interaction analysis (qualitative)	Lecture, Practice	Konoo Nagamatsu Onizuka Yasunaga	Textmining Competences
10	Global standard of the dental education	Lecture	Konoo	Outcomes
11	Problem Based Learning	Lecture	Konoo	OutcomesPBL
44543	Medical Interview	Lecture	Konoo Nagamatsu Onizuka Yasunaga	Psychosocial factors
14-15	Model simulation 1(guidance, automatic trace pursuit and preparation pressure	Lecture, Practice	Konoo Nagamatsu Onizuka Yasunaga	simulation

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Research of the dental education Ⅱ

Grades	2-4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Konoo T.						
Instructor(s)	Konoo T., Nagamatsu H., Onizuka C., Yasunaga A.						
	Clinical training instructor：Konoo, Nagamatsu, Onizuka, Yasunaga Certified dentist of the Japanese Society of Dental Practice Administration：Konoo, Onizuka Certified dentist and instructor of Japanese Orthodontic Society：Konoo						

Course Description

For the practice of the holistic treatment, you can understand and practice the communication skills and dental education methods based on the cognitive, affective and psychomotor domains.

Attainment Objectives

1. Understanding the communication methodology
2. Understanding the dental educational methodology
3. To be competent in communication
4. Application of educational methodology
5. Professionalism

Textbooks

Title	Author	Publisher
Handouts will be distributed as needed.		

Reference Books

Title	Author	Publisher
Read other educational technique literature, related literature, and reference books.		

Grading Criteria and Method of Evalution

Evaluation item	Ratio
portfolios	30%
oral examinations	50%
paper examination	20%

Etc

Learning Counseling： Counseling is available at any time, but you should make a reservation by email or phone in advance.
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Research of the dental education Ⅱ

Grades	2-4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Konoo T.						
Instructor(s)	Konoo T., Nagamatsu H., Onizuka C., Yasunaga A.						
	Clinical training instructor：Konoo, Nagamatsu, Onizuka, Yasunaga Certified dentist of the Japanese Society of Dental Practice Administration：Konoo, Onizuka Certified dentist and instructor of Japanese Orthodontic Society：Konoo						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
44201	Model simulation 2(Cavity, preparation and root canal measuring)	Lecture, Practice	Konoo Nagamatsu Onizuka Yasunaga	simulator
44354	Microteaching	Lecture, Practice	Konoo Nagamatsu Onizuka	Characteristic
44417	Medical Behavior	Lecture	Konoo Onizuka	Behavior education
44480	Medical Ethics	Lecture	Konoo Nagamatsu Onizuka Yasunaga	Professionalism
44543	KJ method	Lecture, Practice	Konoo Nagamatsu Onizuka Yasunaga	Characteristic
14-15	Facilitation skills	Lecture, Practice	Konoo Nagamatsu Onizuka Yasunaga	Behavior changesFacilitation

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Research of the dental education III

Grades	3-4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Konoo T.						
Instructor(s)	Konoo T., Nagamatsu H., Onizuka C., Yasunaga A.						
	Clinical training instructor：Konoo, Nagamatsu, Onizuka, Yassunaga Certified dentist of the Japanese Society of Dental Practice Administration：Konoo,Onizuka Certified dentist and instructor of Japanese Orthodontic Society：Konoo						

Course Description

For the practice of the holistic treatment, you can understand and practice the communication skills and dental education methods based on the cognitive, affective and psychomotor domains.

Attainment Objectives

1. Understanding the communication methodology
2. Understanding the dental educational methodology
3. To be competent in communication
4. Application of educational methodology
5. Professionalism

Textbooks

Title	Author	Publisher
Handouts will be distributed as needed.		

Reference Books

Title	Author	Publisher
Read other educational technique literature, related literature, and reference books.		

Grading Criteria and Method of Evalution

Evaluation item	Ratio
portfolios	30%
oral examinations	50%
paper examination	20%

Etc

Learning Counseling： Counseling is available at any time, but you should make a reservation by email or phone in advance.
Subject manager: Tetsuro Konoo Email or extension: 7911

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Research of the dental education III

Grades	3-4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Konoo T.						
Instructor(s)	Konoo T., Nagamatsu H., Onizuka C., Yasunaga A.						
	Clinical training instructor：Konoo, Nagamatsu, Onizuka, Yassunaga Certified dentist of the Japanese Society of Dental Practice Administration：Konoo,Onizuka Certified dentist and instructor of Japanese Orthodontic Society：Konoo						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
44198	Coaching	Lecture, Practice	Konoo Nagamatsu Onizuka Yassunaga	Coaching theory Assertion
44259	Paper questionnaire	Lecture, Practice	Konoo Nagamatsu Onizuka Yassunaga	Characteristic and benefits of Questionnaire method
44323	dental psychosomatic disease	Lecture	Konoo	Behavioral characteristics Dental psychosomatic disorder
8	patient psychology	Lecture	Konoo	Cognitive psychology
9	correspondence to a complainer	Lecture, Practice	Konoo Nagamatsu Onizuka	Complainer Cognitive psychology
44480	Simulated (Standardized)patient	Lecture	Konoo Nagamatsu Onizuka Yassunaga	SP Facilitation
44544	Safety medical environment design	Lecture	Onizuka	Risk management Incident
15	Professionalism	Lecture	Konoo Nagamatsu Onizuka Yassunaga	competence

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Education and research of the general dentistry Ⅰ

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Konoo T.						
Instructor(s)	Konoo T., Nagamatsu H., Onizuka C., Yasunaga A.						
	Clinical training instructor：Konoo, Nagamatsu, Onizuka, Yasunaga Certified dentist of the Japanese Society of Dental Practice Administration：Konoo, Onizuka Certified dentist and instructor of Japanese Orthodontic Society：Konoo						

Course Description

Abstract the research paper to understand the worldwide research trend of the general dentistry. Report, discuss and present the own research.

Attainment Objectives

1. Explanation the article of the specialty domain. (cognitive domain)
2. Understanding, evaluation and discussion about the study of other fields. (cognitive and affective domain)
3. Competence to understand research paper written in English mainly. (psychomotor domain)
4. Competence for the research discussion. (psychomotor domain)
5. Presentation the own research. (psychomotor domain)

Textbooks

Title	Author	Publisher
Handouts will be distributed as needed.		

Reference Books

Title	Author	Publisher
An important related research article and appropriate reference book		

Grading Criteria and Method of Evalution

Evaluation item	Ratio
portfolios, oral and paper examination.	100%

Evaluation is performed using the rubric evaluation table for research presentations and debate presentations.

Etc

Learning Counseling： Counseling is available at any time, but you should make a reservation by email or phone in advance.
Subject manager: Tetsuro Konoo Email or extension: 7911

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
44211	Understanding the educational research paper	Abstract , report and discussion	Konoo Nagamatsu Onizuka Yasunaga	Investigation the associated research paper

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Education and research of the general dentistry Ⅱ

Grades	2-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Konoo T.						
Instructor(s)	Konoo T., Nagamatsu H., Onizuka C., Yasunaga A.						
	Clinical training instructor：Konoo, Nagamatsu, Onizuka, Yasunaga Certified dentist of the Japanese Society of Dental Practice Administration：Konoo,Onizuka Certified dentist and instructor of Japanese Orthodontic Society：Konoo						

Course Description

Abstract the research paper to understand the worldwide research trend of the general dentistry. Report, discuss and present the own research.

Attainment Objectives

1. Explanation the article of the specialty domain. (cognitive domain)
2. Understanding, evaluation and discussion about the study of other fields. (cognitive and affective domain)
3. Competence to understand research paper written in English mainly. (psychomotor domain)
4. Competence for the research discussion. (psychomotor domain)
5. Presentation the own research. (psychomotor domain)
6. Write the research report and abstract. (psychomotor domain)
7. Planning and conducting the seminar. (psychomotor domain)

Textbooks

Title	Author	Publisher
Handouts will be distributed as needed.		

Reference Books

Title	Author	Publisher
An important related research article and appropriate reference book		

Grading Criteria and Method of Evalution

Evaluation item	Ratio
portfolios, oral and paper examination	100%

Evaluation is performed using the rubric evaluation table for research presentations and debate presentations.

Etc

Learning Counseling： Counseling is available at any time, but you should make a reservation by email or phone in advance.
Subject manager: Tetsuro Konoo Email or extension: 7911

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
44211	Understanding the educational research paper	Abstract , report and discussion	Konoo Nagamatsu Onizuka Yasunaga	Investigation the associated research paper

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Education and research of the general dentistry III

Grades	3-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Konoo T.						
Instructor(s)	Konoo T., Nagamatsu H., Onizuka C., Yasunaga A.						
	Clinical training instructor：Konoo, Nagamatsu, Onizuka, Yasunaga Certified dentist of the Japanese Society of Dental Practice Administration：Konoo, Onizuka Certified dentist and instructor of Japanese Orthodontic Society：Konoo						

Course Description

Abstract the research paper to understand the worldwide research trend of the general dentistry. Report, discuss and present the own research.

Attainment Objectives

1. Explanation the article of the specialty domain. (cognitive domain)
2. Understanding, evaluation and discussion about the study of other fields. (cognitive and affective domain)
3. Competence to understand research paper written in English mainly. (psychomotor domain)
4. Competence for the research discussion. (psychomotor domain)
5. Presentation the own research. (psychomotor domain)
6. Write the research report and abstract. (psychomotor domain)
7. Planning and conducting the seminar. (psychomotor domain)
8. Competence to make the research paper. (psychomotor domain)
9. Instruction the seminar contents. (affective and psychomotor domain)

Textbooks

Title	Author	Publisher
Handouts will be distributed as needed.		

Reference Books

Title	Author	Publisher
An important related research article and appropriate reference book		

Grading Criteria and Method of Evalution

Evaluation item	Ratio
portfolios, oral and paper examination	100%

Evaluation is performed using the rubric evaluation table for research presentations and debate presentations.

Etc

Learning Counseling： Counseling is available at any time, but you should make a reservation by email or phone in advance.
Subject manager: Tetsuro Konoo Email or extension: 7911

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
44211	Understanding the educational research paper	Abstract , report and discussion	Konoo Nagamatsu Onizuka Yasunaga	Investigation the associated research paper

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Endodontics and Restorative Dentistry Ⅰ(Clinical Basic Course)

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	2.0
Methods	practice	Total time	60.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kitamura C.						
Instructor(s)	Kitamura C., Washio A., Orimoto A., Aihara R. Kitamura C.　Washio A.　Orimoto A.　Aihara R. Accredited Supervisor of Conservative Dentistry：Kitamura, Washio Accredited Supervisor and Specialist of Endodontics：Kitamura Accredited Specialist of Conservative Dentistry：Kitamura,Washio Certified Specialist of Conservative Dentistry：Orimoto						

Course Description

In the present, the elderly person has many teeth, and the importance of the tooth is recognized. High-precision skills to carry out dental treatment of a tooth is demanded. In this course, you will practice basic skills about Restorative Dentistry, Endodontics, Aesthetic Dentistry and Prosthodontics. Under the management by Supervisors, you will carry out simulation training and clinical practice, and acquire fundamental knowledge as well as skills for a specialist in the area of Conservative Dentistry.

Attainment Objectives

To acquire fundamental knowledge and skills for tooth therapeutics, you will practice basic skills about Restorative Dentistry, Endodontics, Aesthetic Dentistry and Prosthodontics.You should achieve following assignments; ・ Construction of good relationship with patients and stuffs ・ Pass to grade tests (1) and (2) ・ Collection of clinical cases ・ Acquisition of skills for Endodontics, Pulp Preservation, Pre-treatment before Endodontics ・ Acquisition of skills for tooth preparation ・ Acquisition of basic skills for dissection and suturing of gingiva

Textbooks

Title	Author	Publisher
Related textbooks		
Training textbook made by the division		

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
the average of Tests (1) and (2)	100%

Etc

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Endodontics and Restorative Dentistry Ⅰ(Clinical Basic Course)

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	2.0
Methods	practice	Total time	60.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kitamura C.						
Instructor(s)	Kitamura C., Washio A., Orimoto A., Aihara R.						
	Kitamura C.　Washio A.　Orimoto A.　Aihara R. Accredited Supervisor of Conservative Dentistry：Kitamura, Washio Accredited Supervisor and Specialist of Endodontics：Kitamura Accredited Specialist of Conservative Dentistry：Kitamura,Washio Certified Specialist of Conservative Dentistry：Orimoto						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
44199	Basic of Endodonitcs I You will master basic endodontics skills in simulator to clear Test (1).	Practice	Kitamura, Washio, Orimoto, Aihara	【Before Learning Task】Preparation about Endodontics 【After Learning Task】Review about Endodontics
44292	Basic of Restorative Dentistry I You will master basic restorative dentistry skills in simulator to clear Test (1).	Practice	Kitamura, Washio, Orimoto, Aihara	【Before Learning Task】Preparation about Restorative dentistry 【After Learning Task】Review about Restorative dentistry
44386	Basic of Tooth Preparation I You will master basic prosthodontics skills in simulator to clear Test (1).	Practice	Kitamura, Washio, Orimoto, Aihara	【Before Learning Task】Preparation about Prosthodontics 【After Learning Task】Review about Prosthodontics
44481	Test (1) You will take exams of basic skills in simulator.	Practice	Kitamura, Washio, Orimoto, Aihara	【Before Learning Task】Preparation about Endodontics, Restorative dentistry, and Prosthodontics 【After Learning Task】Review about Endodontics, Restorative dentistry, and Prosthodontics
13-15	Basic of Endodonitcs II You will master basic endodontics skills in clinic to clear Test (2).	Practice	Kitamura, Washio, Orimoto, Aihara	【Before Learning Task】Preparation about Endodontics 【After Learning Task】Review about Endodontics

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Endodontics and Restorative Dentistry Ⅰ(Clinical Basic Course)

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	2.0
Methods	practice	Total time	60.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kitamura C.						
	Kitamura C., Washio A., Orimoto A., Aihara R.						
Instructor(s)	Kitamura C.　Washio A.　Orimoto A.　Aihara R. Accredited Supervisor of Conservative Dentistry：Kitamura, Washio Accredited Supervisor and Specialist of Endodontics：Kitamura Accredited Specialist of Conservative Dentistry：Kitamura,Washio Certified Specialist of Conservative Dentistry：Orimoto						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
16-18	Basic of Restorative Dentistry II You will master basic restorative dentistry skills in clinic to clear Test (2).	Practice	Kitamura, Washio, Orimoto, Aihara	【Before Learning Task】Preparation about Restorative dentistry 【After Learning Task】Review about Restorative dentistry
19-21	Basic of Tooth Preparation II You will master basic prosthodontic skills in clinic to clear Test (2).	Practice	Kitamura, Washio, Orimoto, Aihara	【Before Learning Task】Preparation about Prosthodontics 【After Learning Task】Review about Prosthodontics
22-24	Basic of Periodontal treatment You will master basic Periodontics skills in clinic to clear Test (2).	Practice	Kitamura, Washio, Orimoto, Aihara	【Before Learning Task】Preparation about Periodontics 【After Learning Task】Review about Periodontics
25-27	Test (2) You will take exams of basic skills in clinical cases.	Practice	Kitamura, Washio, Orimoto, Aihara	【Before Learning Task】Preparation about Preparation about Endodontics, Restorative dentistry, Prosthodontics, and Periodontics 【After Learning Task】Review about Preparation about Preparation about Endodontics, Restorative dentistry, Prosthodontics, and Periodontics
28-30	Basic of Dissection and Suturing You will master basic dissection and suturing skills in simulator.	Practice	Kitamura, Washio, Orimoto, Aihara	【Before Learning Task】Preparation about dissection and suturing skills 【After Learning Task】Review about dissection and suturing skills

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Endodontics and Restorative Dentistry Ⅱ (Clinical Advance Course S)

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	2.0
Methods	practice	Total time	60.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kitamura C.						
Instructor(s)	Kitamura C., Washio A., Orimoto A., Aihara R. Kitamura C.　Washio A.　Orimoto A.　Aihara R. Accredited Supervisor of Conservative Dentistry：Kitamura, Washio Accredited Supervisor and Specialist of Endodontics：Kitamura Accredited Specialist of Conservative Dentistry：Kitamura,Washio Certified Specialist of Conservative Dentistry：Orimoto						

Course Description

In this course, you will collect cases to be a specialist in the area of Conservative Dentistry, and practice basic skills about Restorative Dentistry, Endodontics, Aesthetic Dentistry and Prosthodontics. Also, you will carry out training of microscope-enhanced dentistry to pass to grade test (3).

Attainment Objectives

To acquire full knowledge and high-precision skills for tooth therapeutics and be a specialist in the area of Conservative Dentistry, you will practice special skills about Restorative Dentistry, Endodontics, Aesthetic Dentistry and Prosthodontics.You should achieve following assignments;・ Pass to grade test (3)・ Acquisition of special skills for Microscope-Enhanced Dentistry・ Full planning of dental treatment

Textbooks

Title	Author	Publisher
Related textbooks		
Training textbook made by the division		

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Test (3)	100%

Etc

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Endodontics and Restorative Dentistry Ⅱ (Clinical Advance Course S)

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	2.0
Methods	practice	Total time	60.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kitamura C.						
Instructor(s)	Kitamura C., Washio A., Orimoto A., Aihara R.						
	Kitamura C.　Washio A.　Orimoto A.　Aihara R. Accredited Supervisor of Conservative Dentistry：Kitamura, Washio Accredited Supervisor and Specialist of Endodontics：Kitamura Accredited Specialist of Conservative Dentistry：Kitamura,Washio Certified Specialist of Conservative Dentistry：Orimoto						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1～5	Micro-Endodontics You will master micro-endodontics skills in simulator to clear Test (3).	Practice	Kitamura, Washio, Orimoto, Aihara	【Before Learning Task】Preparation about Microendodontics 【After Learning Task】Review about Microendodontics
6～10	Aesthetic Dentistry under Microscope You will master aesthetic dentistry skills under microscope in simulator to clear Test (3).	Practice	Kitamura, Washio, Orimoto, Aihara	【Before Learning Task】Preparation about Microscope and Aesthetic Dentistry 【After Learning Task】Review about Microscope and Aesthetic Dentistry
11～15	Tooth Preparation under Microscope You will master prosthodontics skills in simulator to clear Test (3).	Practice	Kitamura, Washio, Orimoto, Aihara	【Before Learning Task】Preparation about Microscope and Prosthodoncits 【After Learning Task】Review about Microscope and Prosthodoncits
16～20	Removal of Post under Microscope You will master removal of post under microscope in simulator to clear Test (3).	Practice	Kitamura, Washio, Orimoto, Aihara	【Before Learning Task】Preparation about removal of post under microscope 【After Learning Task】Review about removal of post under microscope
21～25	Dissection and Suturing under Microscope You will master dissection and suturing under microscope in simulator to clear Test (3).	Practice	Kitamura, Washio, Orimoto, Aihara	【Before Learning Task】Preparation about rdissection and suturing under microscope 【After Learning Task】Review about dissection and suturing under microscope

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Endodontics and Restorative Dentistry Ⅱ (Clinical Advance Course S)

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	2.0
Methods	practice	Total time	60.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kitamura C.						
Instructor(s)	Kitamura C., Washio A., Orimoto A., Aihara R. Kitamura C.　Washio A.　Orimoto A.　Aihara R. Accredited Supervisor of Conservative Dentistry：Kitamura, Washio Accredited Supervisor and Specialist of Endodontics：Kitamura Accredited Specialist of Conservative Dentistry：Kitamura,Washio Certified Specialist of Conservative Dentistry：Orimoto						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
26～30	Test (3) You will take exams of basic microscipe skills in simulator.	Practice	Kitamura, Washio, Orimoto, Aihara	【Before Learning Task】Preparation about Microscope Enhanced Dentistry 【After Learning Task】Review about Microscope Enhanced Dentistry

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Endodontics and Restorative Dentistry Ⅲ(Clinical Advance Course H)

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kitamura C.						
Instructor(s)	Kitamura C., Washio A., Orimoto A., Aihara R. Kitamura C.　Washio A.　Orimoto A.　Aihara R. Accredited Supervisor of Conservative Dentistry：Kitamura, Washio Accredited Supervisor and Specialist of Endodontics：Kitamura Accredited Specialist of Conservative Dentistry：Kitamura,Washio Certified Specialist of Conservative Dentistry：Orimoto						

Course Description

In this course, you will collect cases to be a specialist in the area of Conservative Dentistry, and acquire special skills of microscope-enhanced dentistry to pass to grade test (4). Also, you will acquire skills for presentation and clinical reasoning through clinical seminar.

Attainment Objectives

To acquire full knowledge and high-precision skills for tooth therapeutics and be a specialist of Conservative Dentistry, you will practice special skills about Microscope Enhanced Dentistry. Also, you will acquire skills for presentation and clinical reasoning.You should achieve following assignments; ・ Pass to grade test (4) ・ Acquisition of special skills for Microscope-Enhanced Dentistry ・ Full planning of dental treatment ・ Case Presentation

Textbooks

Title	Author	Publisher
Related textbooks		
Training textbook made by the division		

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Test (4)	100%

Etc

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Endodontics and Restorative Dentistry Ⅲ(Clinical Advance Course H)

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kitamura C.						
Instructor(s)	Kitamura C., Washio A., Orimoto A., Aihara R.						
	Kitamura C.　Washio A.　Orimoto A.　Aihara R. Accredited Supervisor of Conservative Dentistry：Kitamura, Washio Accredited Supervisor and Specialist of Endodontics：Kitamura Accredited Specialist of Conservative Dentistry：Kitamura,Washio Certified Specialist of Conservative Dentistry：Orimoto						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1～8	Micro-Endodontics You will master micro-endodontics skills in clinic to clear Test (4).	Practice	Kitamura, Washio, Orimoto, Aihara	【Before Learning Task】Preparation about Microndodontics 【After Learning Task】Review about Microndodontics
9～16	Aesthetic Dentistry under Microscope You will master aesthetic dentistry skills under microscope in clinic to clear Test (4).	Practice	Kitamura, Washio, Orimoto, Aihara	【Before Learning Task】Preparation about Microscope and Aesthetic Dentistry 【After Learning Task】Review about Microscope and Aesthetic Dentistry
17～24	Micro-Endodontic Surgery You will master micro-endodontic surgery skills in clinic to clear Test (4).	Practice	Kitamura, Washio, Orimoto, Aihara	【Before Learning Task】Preparation about Endodontic Microsurgery 【After Learning Task】Review about Endodontic Microsurgery
25～32	Test (4) You will take exams of microscope skills in clinical cases.	Practice	Kitamura, Washio, Orimoto, Aihara	【Before Learning Task】Preparation about Microscope Enhanced Dentistry 【After Learning Task】Review about Microscope Enhanced Dentistry

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Endodontics and Restorative Dentistry Ⅲ(Clinical Advance Course H)

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kitamura C.						
Instructor(s)	Kitamura C., Washio A., Orimoto A., Aihara R.						
	Kitamura C.　Washio A.　Orimoto A.　Aihara R. Accredited Supervisor of Conservative Dentistry：Kitamura, Washio Accredited Supervisor and Specialist of Endodontics：Kitamura Accredited Specialist of Conservative Dentistry：Kitamura,Washio Certified Specialist of Conservative Dentistry：Orimoto						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
33～40	Planning in clinics You will plan to treat in clinic to obtain accredited specialist.	Practice	Kitamura, Washio, Orimoto, Aihara	【Before Learning Task】Preparation about Accredited Specialist and Treatment Planning 【After Learning Task】Review about Accredited Specialist and Treatment Planning
41～48	Clinics You will carry out clinical cases to obtain accredited specialist.	Practice	Kitamura, Washio, Orimoto, Aihara	【Before Learning Task】Preparation about Accredited Specialist and Case Presentation 【After Learning Task】Review about Accredited Specialist and Case Presentation
49～56	Case Presentation and Lectures You will carry out clinical case presentations, and attend lectures to obtain accredited specialist.	Practice	Kitamura, Washio, Orimoto, Aihara	【Before Learning Task】Preparation about Accredited Specialist and Case Presentation 【After Learning Task】Review about Accredited Specialist and Case Presentation
57～60	Preparation of Cases for Accredited Specialists You will prepare clinical case presentations to obtain accredited specialist.	Practice	Kitamura, Washio, Orimoto, Aihara	【Before Learning Task】Preparation about Accredited Specialist and Case Presentation 【After Learning Task】Review about Accredited Specialist and Case Presentation

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Endodontics and Restorative Dentistry Ⅳ(Research Seminar)

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kitamura C.						
Instructor(s)	Kitamura C., Washio A., Orimoto A., Aihara R. Kitamura C.　Washio A.　Orimoto A.　Aihara R. Accredited Supervisor of Conservative Dentistry：Kitamura, Washio Accredited Supervisor and Specialist of Endodontics：Kitamura Accredited Specialist of Conservative Dentistry：Kitamura,Washio Certified Specialist of Conservative Dentistry：Orimoto						

Course Description

In this course, you will read and present papers related your research to acquire logical thinking as well as international point of view. Also, you will present results of your research to discuss.

Attainment Objectives

To acquire full knowledge and skills for research and presentation, you will read and present international papers related your research to acquire logical thinking as well as international point of view.You should achieve following assignments;・ Collect international papers related to your research・ Read and present papers・ Acquire presentation skills・ Case Presentation

Textbooks

Title	Author	Publisher
Related textbooks		
Training textbook made by the division		

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Presentation	100%

Etc

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2022

Endodontics and Restorative Dentistry Ⅳ(Research Seminar)

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kitamura C.						
Instructor(s)	Kitamura C., Washio A., Orimoto A., Aihara R.						
	Kitamura C.　Washio A.　Orimoto A.　Aihara R. Accredited Supervisor of Conservative Dentistry：Kitamura, Washio Accredited Supervisor and Specialist of Endodontics：Kitamura Accredited Specialist of Conservative Dentistry：Kitamura,Washio Certified Specialist of Conservative Dentistry：Orimoto						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
44201	Reading and presentation of research paper You will master reading and presentation of related international research paper.	Introduction and Discussion of Papers	Kitamura, Washio, Orimoto, Aihara	【Before Learning Task】Preparation about reading and presentation of related international research paper 【After Learning Task】Review about reading and presentation of related international research paper
44357	Presentation of research You will show and explain your research.	Discussion of Research	Kitamura, Washio, Orimoto, Aihara	【Before Learning Task】Preparation about show and explain your research 【After Learning Task】Review about show and explain your research
44515	Introduction of international papers by supervisors You will learn and attend lectures by specialists.	Introduction and Discussion of Papers	Kitamura, Washio, Orimoto, Aihara	【Before Learning Task】Preparation about lectures by specialists 【After Learning Task】Review about lectures by specialists

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Endodontics and Restorative Dentistry Ⅴ(Research Practice)

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kitamura C.						
Instructor(s)	Kitamura C., Washio A., Orimoto A., Aihara R. Kitamura C.　Washio A.　Orimoto A.　Aihara R. Accredited Supervisor of Conservative Dentistry：Kitamura, Washio Accredited Supervisor and Specialist of Endodontics：Kitamura Accredited Specialist of Conservative Dentistry：Kitamura,Washio Certified Specialist of Conservative Dentistry：Orimoto						

Course Description

In this course, you will acquire skills related to research for PhD.

Attainment Objectives

To be a international researcher, dentist, and educator, you will acquire abilities to carry out experiments and prepare papers for PhD.You should achieve following assignments;・ Acquisition of knowledge and skills to carry out research・ Preparation of results from experiments・ Presentation in scientific meeting・ Prepare scientific papers

Textbooks

Title	Author	Publisher
Related textbooks		

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Practices	100%

Etc

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Endodontics and Restorative Dentistry Ⅴ(Research Practice)

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kitamura C.						
Instructor(s)	Kitamura C., Washio A., Orimoto A., Aihara R.						
	Kitamura C.　Washio A.　Orimoto A.　Aihara R. Accredited Supervisor of Conservative Dentistry：Kitamura, Washio Accredited Supervisor and Specialist of Endodontics：Kitamura Accredited Specialist of Conservative Dentistry：Kitamura,Washio Certified Specialist of Conservative Dentistry：Orimoto						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Orientation You will discuss and decide your research theme with supervisors.	Lecture	Kitamura, Washio, Orimoto, Aihara	【Before Learning Task】Preparation about research theme 【After Learning Task】Review about research theme
2,3	Research with Cells You will master research skills with cells.	Discussion of Research	Kitamura, Washio, Orimoto, Aihara	【Before Learning Task】Preparation about research skills with cells 【After Learning Task】Review about research skills with cells
4,5	Research with animals You will master research skills with animals.	Practice	Kitamura, Washio, Orimoto, Aihara	【Before Learning Task】Preparation about research skills with animals. 【After Learning Task】Review about research skills with animals.
6,7	Research of Materials You will master research skills about dental materials.	Practice	Kitamura, Washio, Orimoto, Aihara	【Before Learning Task】Preparation about esearch skills about dental materials 【After Learning Task】Review about esearch skills about dental materials
8,9	Research of Devises You will master research skills about medical and dental devices.	Practice	Kitamura, Washio, Orimoto, Aihara	【Before Learning Task】Preparation about research skills about medical and dental devices 【After Learning Task】Review about research skills about medical and dental devices

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Endodontics and Restorative Dentistry Ⅴ(Research Practice)

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kitamura C.						
Instructor(s)	Kitamura C., Washio A., Orimoto A., Aihara R. Kitamura C.　Washio A.　Orimoto A.　Aihara R. Accredited Supervisor of Conservative Dentistry：Kitamura, Washio Accredited Supervisor and Specialist of Endodontics：Kitamura Accredited Specialist of Conservative Dentistry：Kitamura,Washio Certified Specialist of Conservative Dentistry：Orimoto						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
10,11	Clinical Research You will master clinical research skills.	Practice	Kitamura, Washio, Orimoto, Aihara	【Before Learning Task】Preparation about clinical research skills 【After Learning Task】Review about Eclinical research skills
12～15	Preparation of Presentation and Papers You will master preparation of presentation and paper to obtain PhD.	Practice	Kitamura, Washio, Orimoto, Aihara	【Before Learning Task】Preparation about preparation of presentation and paper to obtain PhD 【After Learning Task】Review about preparation of presentation and paper to obtain PhD

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Periodontology Ⅰ (Clinical Basic Course)

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Nakashima K.						
Instructor(s)	Nakashima K., Usui M., Nakamura T., Sano K., Kasai S.						
	JSP Supervisor : Nakashima K., Usui M. JSCD Supervisor : Nakashima K. JSCD Accredited Specialists : Usui M. JSP Periodontist : Nakamura T., Onizuka S., Sano K., Kasai S.						

Course Description

【Language】English and Japanese Periodontitis have received a lot of attention as an oral disease associated with systemic disease in recent years. This course deals with effective diagnosis and treatment procedure of periodontitis based on EBM. You will be able to read a number of published articles related to periodontitis all over the world and acquire diagnostic ability and clinical problem resolution skill as a periodontist.

Attainment Objectives

By the end of the course, students should be able to do the following;1. Practice a medical interview to patients of periodontitis (1),2. Describe and explain periodontal tissue examination (2～7, 20),3. Design a treatment plan based on periodontal tissue examination (8), 4. Practice an effective patient education (9～14),5. Practice ultrasonic scaling and scaling and root plaining (15～19),6. Recognize basic techniques of periodontal surgery and explain wound healing after surgery (21～23),7. Recognize periodontal regenerative therapy and explain prognosis after regenerative surgery (24, 25), 8. Describe and explain prosthetics, orthodontics and implant in periodontal therapy (26～28),9. Explain significance and procedure of SPT (29),10. Report a case of periodontitis and explain treatment plan and outcome of periodontal therapy (30)、

Textbooks

Title	Author	Publisher
Journal of Periodontology		
Journal of Clinical Periodontology		

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
oral examination in clinical conference	100%

If oral examinations and classes are difficult to conduct face-to-face, they will be conducted in Teams or Zoom.

Etc

Texts will be delivered in every class.

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2022

Periodontology Ⅰ (Clinical Basic Course)

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Nakashima K.						
Instructor(s)	Nakashima K., Usui M., Nakamura T., Sano K., Kasai S.						
	JSP Supervisor : Nakashima K., Usui M. JSCD Supervisor : Nakashima K. JSCD Accredited Specialists : Usui M. JSP Periodontist : Nakamura T., Onizuka S., Sano K., Kasai S.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Medical interview to patient of periodontitis	Practice	Nakashima	post-learning : medical interview
2	Periodontal Tissue Examination (Intraoral photograph 1)	Practice	Nakashima	post-learning : Intraoral photo
3	Periodontal Tissue Examination (Intraoral photograph 2)	Practice	Nakashima	post-learning : Intraoral photo
4	Periodontal Tissue Examination (Probing)	Practice	Nakashima	post-learning : probing
5	Periodontal Tissue Examination (Radiologic image reading)	Practice	Nakashima	post-learning : X-ray photo
6	Periodontal Tissue Examination (Measurement and analysis of occlusal force)	Practice	Nakashima	post-learning : occlusal force
7	Periodontal Tissue Examination (Tooth mobility measurement)	Practice	Kasai	post-learning : mobility
8	Design of treatment plan	Practice	Kasai	post-learning : treatment plan
9	Effective Patient Education 1	Practice	Kasai	post-learning : motivation
10	Effective Patient Education 2	Practice	Kasai	post-learning : motivation
11	Effective Patient Education 3	Practice	Kasai	post-learning : motivation
12	Effective Patient Education 4	Practice	Kasai	post-learning : motivation
13	Effective Patient Education 5	Practice	Nakamura	post-learning : motivation
14	Effective Patient Education 6	Practice	Nakamura	post-learning : motivation
15	Ultrasonic Scaling (supragingiva)	Practice	Nakamura	post-learning : ultrasonic scaling
16	Ultrasonic Scaling (subgingiva and furcation)	Practice	Nakamura	post-learning : ultrasonic scaling
17	Scaling and Root Planing 1 (operator position)	Practice	Nakamura	post-learning : SRP
18	Scaling and Root Planing 2 (sharpening scaler)	Practice	Nakamura	post-learning : SRP
19	Scaling and Root Planing 3 (nonsurgical periodontal therapy)	Practice	Sano	post-learning : SRP
20	Design of treatment plan based on reevaluation and response to periodontal therapy	Practice	Sano	post-learning : revaluation
21	Periodontal Surgery 1 (basic techniques in periodontal surgery; periodontal flap (full and partial thickness) and method for suturing)	Practice	Sano	post-learning : Flap operation
22	Periodontal Surgery 2 (Flap operation)	Practice	Sano	post-learning : Flap operation

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2022

Periodontology Ⅰ (Clinical Basic Course)

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Nakashima K.						
Instructor(s)	Nakashima K., Usui M., Nakamura T., Sano K., Kasai S.						
	JSP Supervisor : Nakashima K., Usui M. JSCD Supervisor : Nakashima K. JSCD Accredited Specialists : Usui M. JSP Periodontist : Nakamura T., Onizuka S., Sano K., Kasai S.						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
23	Periodontal Surgery 3 (connective tissue graft)	Practice	Sano	post-learning : connective tissue graft
24	Periodontal Regenerative Therapy 1 (GTR method)	Practice	Sano	post-learning : GTR method
25	Periodontal Regenerative Therapy 2 (Emdogain)	Practice	Usui	post-learning : Emdogain
26	Periodontal Prosthetics	Practice	Usui	post-learning : Periodontal Prosthetics
27	Implants in Periodontal Therapy	Practice	Usui	post-learning : Implants in Periodontal Therapy
28	Orthodontics in Periodontal Therapy	Practice	Usui	post-learning : Emdogain
29	Practical Significance of Supportive Periodontal Theray (SPT)	Practice	Usui	post-learning : SPT
30	Clinical Conference	Practice	Usui	post-learning : Clinical Conference

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Periodontology II

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Nakashima K.						
Instructor(s)	Nakashima K., Usui M., Nakamura T., Sano K., Kasai S.						
	JSP Supervisor : Nakashima K., Usui M.　JSCD Supervisor : Nakashima K.　JSCD Accredited Specialists : Usui M.　JSP Periodontist : Nakamura T., Onizuka S., Sano K., Kasai S.						

Course Description

【Language】English and Japanese　Research of periodontology is constantly advancing field in dentistry. It is important to recognize the latest data of the field before you start research. This course introduces a variety of tools to understand paper in English and also deals with clinical statistics, meta-analysis and sentence writing for scientific paper and presentation.

Attainment Objectives

By the end of the course, students should be able to do the following;1. Understand content of paper in English using online dictionary2. Create database searching references by PubMed3. Perform basic analysis of clinical data by statistical procedure4. Understand procedure of meta-analysis5. Make simple and logical sentences for scientific papers

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
oral examination	100%

If oral examinations and classes are difficult to conduct face-to-face, they will be conducted in Teams or Zoom.

Etc

Text;Life science dictionary project（http://lsd.pharm.kyoto-u.ac.jp/ja/index.html）JMP（statistical software）、EndNote（literature retrieval software）Cochrane Reviews、Journal of Periodontology、Journal of Clinical Periodontology

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Periodontology II

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Nakashima K.						
Instructor(s)	Nakashima K., Usui M., Nakamura T., Sano K., Kasai S.						
	JSP Supervisor : Nakashima K., Usui M. JSCD Supervisor : Nakashima K. JSCD Accredited Specialists : Usui M. JSP Periodontist : Nakamura T., Onizuka S., Sano K., Kasai S.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Search on Online Dictionary	practice	Nakashima	post-learning: Online Dictionary
2	Search on PubMed	practice	Nakashima	post-learning: PubMed
3	Preparation of Literature Database	practice	Nakashima	post-learning: Preparation of Literature Database
4	Clinical Statistics (Control of data)	practice	Kasai	post-learning: Control of data
5	Clinical Statistics (normal distribution of data)	practice	Kasai	post-learning: normal distribution of data
6	Clinical Statistics (mean and comparison between groups)	practice	Kasai	post-learning: mean and comparison between groups
7	Clinical Statistics (analysis of variance)	practice	Nakamura	post-learning: analysis of variance
8	Clinical Statistics (simple linear regression analysis)	practice	Nakamura	post-learning: simple linear regression analysis
9	Clinical Statistics (multiple linear regression analysis)	practice	Nakamura	post-learning: multiple linear regression analysis
10	Analysis of Clinical Data 1	practice	Sano	post-learning: Analysis of Clinical Data
11	Analysis of Clinical Data 2	practice	Sano	post-learning: Analysis of Clinical Data
12	Basis of meta-analysis	practice	Sano	post-learning: Basis of meta-analysis
13	Application of meta-analysis	practice	Usui	post-learning: Application of meta-analysis
14	Preparation of a paper in Japanese	practice	Usui	post-learning: Preparation of a paper
15	Preparation of a paper in English	practice	Usui	post-learning: Preparation of a paper

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Periodontology III （Clinical Conference）

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Nakashima K.						
Instructor(s)	Nakashima K., Usui M., Nakamura T., Sano K., Kasai S.						
	JSP Supervisor : Nakashima K., Usui M.　JSCD Supervisor : Nakashima K.　JSCD Accredited Specialists : Usui M.　JSP Periodontist : Nakamura T., Onizuka S., Sano K., Kasai S.						

Course Description

【Language】English and Japanese　You will read a number of the latest articles associated with periodontitis and learn methods for solving problems based on clinical cases.

Attainment Objectives

By the end of the course, students should be able to do the following;1. Respond to acute and chronic periodontitis2. Develop the knowledge of surgical and nonsurgical periodontal therapy3. Recognize the concept of refractory chronic periodontitis4. Learn dental treatment based on psychosomatic dentistry and respond to the patients5. Develop the knowledge of periodontal regenerative therapy

Textbooks

Title	Author	Publisher
Journal of Periodontology		
Journal of Clinical Periodontology		
Journal of Periodontal Research		

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
oral examination in seminar, clinical conference	100%

If oral examinations and classes are difficult to conduct face-to-face, they will be conducted in Teams or Zoom.

Etc

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1～15	Seminar・Clinical conferencesYou will consider future development of periodontal research and treatment from the latest articles and examine application of them to clinical case.	Seminar and clinical conference	Nakashima, Usui, Nakamura, Kasai, Sano	Post-learning: handouts of clinical papers

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Periodontology Ⅳ（Advanced Periodontal Surgery）

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	2.0
Methods	lesson and practice	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Nakashima K.						
Instructor(s)	Nakashima K., Usui M., Nakamura T., Sano K., Kasai S.						
	JSP Supervisor : Nakashima K., Usui M.　JSCD Supervisor : Nakashima K.　JSCD Accredited Specialists : Usui M.　JSP Periodontist : Nakamura T., Onizuka S., Sano K., Kasai S.						

Course Description

【Language】English and Japanese　Periodontists need technological capacity and knowledge of periodontal surgery. This course deal with the basic concept and knowledge of periodontal surgery. It also enhances the development of student’ s skill of periodontal surgery on practicing phantom and porcine jawbone and assistance of supervisory doctor.

Attainment Objectives

By the end of the course, students should be able to do the following;1. Describe and explain a basic concept of periodontal surgery2. Select appropriate operative procedure according to cases3. Handle and select necessary surgical instruments on periodontal surgery4. Practice periodontal surgery under the guidance of supervisory doctor

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
oral examination	100%

Etc

Texts will be delivered in every class.

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Periodontology Ⅳ（Advanced Periodontal Surgery）

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	2.0
Methods	lesson and practice	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Nakashima K.						
Instructor(s)	Nakashima K., Usui M., Nakamura T., Sano K., Kasai S.						
	JSP Supervisor : Nakashima K., Usui M.　JSCD Supervisor : Nakashima K.　JSCD Accredited Specialists : Usui M.　JSP Periodontist : Nakamura T., Onizuka S., Sano K., Kasai S.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Flap operation using mucoperiosteal flap	lecture	Nakashima	Post-learning: Flap Operation
2	Flap operation using mucosal flap	lecture	Nakashima	Post-learning: Flap Operation
3	Flap operation You will practice flap operation using phantom and porcine jawbone.	practice	Nakashima	Post-learning: Flap Operation
4	Frenectomy	lecture	Kasai	Post-learning: Frenectomy
5	Vestibuloplasty	lecture	Kasai	Post-learning: Vestibuloplasty
6	Periodontal plastic surgery (pedicle gingival graft)	lecture	Kasai	Post-learning: Periodontal plastic surgery
7	Periodontal plastic surgery (free gingival graft)	lecture	Nakamura	Review
8	Periodontal plastic surgery (connective tissue graft)	lecture	Nakamura	Review
9	Periodontal plastic surgery You will practice periodontal plastic surgery using phantom and porcine jawbone.	practice	Nakamura	Post-learning: Periodontal plastic surgery
10	GTR method	lecture	Sano	Post-learning: GTR method
11	GTR method You will practice GTR method using phantom and porcine jawbone.	practice	Sano	Post-learning: GTR method
12	Emdogain	lecture	Sano	Post-learning: Emdogain
13	Autogenous bone graft	lecture	Usui	Post-learning: Autogenous bone graft
14	Assistance of periodontal plastic surgery You will assist periodontal plastic surgery in clinic.	practice	Usui	Post-learning: Periodontal plastic surgery
15	Assistance of periodontal regenerative surgery You will assist periodontal regenerative surgery in clinic.	practice	Usui	Post-learning: Regenerative Therapy

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Removable Prosthesis Ⅰ (Basic Course)

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	lesson and seminar	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Arita, M.						
Instructor(s)	Arita M., Makihara E., Watanabe T.						
	Arita, M., Watanabe, T.						

Course Description

Acquire clinical techniques for practicing all-deficiency prosthetic treatment in clinical settings.

Attainment Objectives

1. All can be clinically and technically performed up to the installation of complete dentures.2. The occlusal adjustment is possible.3. Can adjust dentures.4. Can repair dentures.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
Complete denture technique		Ishiyaku Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Report	58%
Final test	40%
Total evaluation	2%

Report (submitted after each lecture) 2 points x 29 = 58 pointsCredit test (Moodle) 2 points x 20 questions = 40 points Comprehensive evaluation 2 pointsBased on the above, excellent (100-90 points), very good (89-80 points), good (79-70 points), and acceptable (69-60 points) are passed. Rubric evaluation is include.
Students were shown about the Rubric evaluation list at the time of the first lecture.

Etc

Learning consultationArita: m-arita@kyu-dent.ac.jpWatanabe: r15watanabe@fa.kyu-dent.ac.jp

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Removable Prosthesis Ⅰ (Basic Course)

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	lesson and seminar	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Arita, M.						
Instructor(s)	Arita M., Makihara E., Watanabe T.						
	Arita, M., Watanabe, T.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1,2	Preliminary impression	Remote Lecture (Moodle)Exercise	Arita, M.	Preliminary impression
3,4	Study model	Remote Lecture (Moodle)Exercise	Arita, M.	Study model
5,6	Individual tray	Remote Lecture (Moodle)Exercise	Arita, M.	Individual tray
7,8	Border molding	Remote Lecture (Moodle)Exercise	Arita, M.	Border molding
9,10	Precise impression	Remote Lecture (Moodle)Exercise	Arita, M.	Precise impression
11,12	Definitive cast	Remote Lecture (Moodle)Exercise	Arita, M.	Definitive cast
13,14	Bite plate	Remote Lecture (Moodle)Exercise	Arita, M.	Bite plate
15,16	Bite taking 1Occlusal plane	Remote Lecture (Moodle)Exercise	Arita, M.	Bite taking
17,18	Bite taking 2Vertical dimension	Remote Lecture (Moodle)Exercise	Arita, M.	Bite taking
19,20	Mount to the articulator 1Face-bow transfer	Remote Lecture (Moodle)Exercise	Arita, M.	Face-bow transfer
21,22	Mount to the articulator 2Mounting plate	Remote Lecture (Moodle)Exercise	Arita, M.	Mounting plate
23,24	Gothic arch tracing	Remote Lecture (Moodle)Exercise	Arita, M.	Gothic arch
25,26	Check-bite technique	Remote Lecture (Moodle)Exercise	Arita, M.	Check-bite
27,28	Simultaneous recording method of Gothic arch tracing and check bite technique	Remote Lecture (Moodle)Exercise	Arita, M.	Gothic archCheck-bite
29,30	Artificial tooth selectionAnterior	Remote Lecture (Moodle)Exercise	Watanabe, T.	Artificial tooth
31,32	Artificial tooth selectionPosterior	Remote Lecture (Moodle)Exercise	Watanabe, T.	Artificial tooth
33,34	Tooth arrangementAnterior	Remote Lecture (Moodle)Exercise	Watanabe, T.	Tooth arrangement
35,36	Tooth arrangementPosterior	Remote Lecture (Moodle)Exercise	Watanabe, T.	Tooth arrangement
37,38	Festoon	Remote Lecture (Moodle)Exercise	Watanabe, T.	Festoon
39,40	Investment	Remote Lecture (Moodle)Exercise	Watanabe, T.	Investment
41,42	Curing	Remote Lecture (Moodle)Exercise	Watanabe, T.	Curing
43,44	Polishing	Remote Lecture (Moodle)Exercise	Watanabe, T.	Polishing
45,46	Occlusal adjustment	Remote Lecture (Moodle)Exercise	Watanabe, T.	Occlusal adjustment
47,48	Fitness of mucosal surface	Remote Lecture (Moodle)Exercise	Watanabe, T.	Fitness of mucosal surface

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Removable Prosthesis Ⅰ (Basic Course)

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	lesson and seminar	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Arita, M.						
Instructor(s)	Arita M., Makihara E., Watanabe T.						
	Arita, M., Watanabe, T.						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
49,50	Patient education	Remote Lecture (Moodle)Exercise	Watanabe, T.	Patient education
51,52	Reline	Remote Lecture (Moodle)Exercise	Watanabe, T.	Reline
53,54	Denture repair 1Decrease of vertical dimension	Remote Lecture (Moodle)Exercise	Watanabe, T.	Adjust of VD
55,56	Denture repair 2Replacement method for metal teeth	Remote Lecture (Moodle)Exercise	Watanabe, T.	Metal teeth
57,58	Coping with mucosal redness	Remote Lecture (Moodle)Exercise	Watanabe, T.	Denture stomatitis
59,60	Final test	Remote Test (Moodle)	Arita, M.Watanabe,	Prepare for final test

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2022

Removable Prosthesis Ⅱ (Flange Technique)

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Arita M.						
Instructor(s)	Arita M., Makihara E.						
	Arita M.						

Course Description

Learn a basic technique for the higher special technical acquisition

Attainment Objectives

・You can treat a removable prosthetic treatment with flange technique.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
Prosthetic treatment for edentulous patients		Ishiyaku Publishers

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Report	42%
Final test	50%
Overall evaluation	8%

Report (after each lecture) 3 points x 14 = 42 pointsCredit test (Moodle) 5 points x 10 questions = 50 points Comprehensive evaluation 8 pointsBased on the above, excellent (100-90 points), very good (89-80 points), good (79-70 points), and acceptable (69-60 points) are passed.
Rubric evaluation is include.
Students were shown about the Rubric evaluation list at the time of the first lecture.

Etc

Learning consultationMakihara: maki-eri@kyu-dent.ac.jp

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2022

Removable Prosthesis Ⅱ (Flange Technique)

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Arita M.						
Instructor(s)	Arita M., Makihara E.						
	Arita M.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1,2	Orientation	Remote Lecture(Moodle)	Arita M.	Denture space
3,4	What is denture space?	Remote Lecture(Moodle)	Arita M.	Denture space
5,6	Denture space 1Neutral zone technique	Remote Lecture(Moodle)	Arita M.	Neutral zone technique
7,8	Denture space 2Piezography	Remote Lecture(Moodle)	Arita M.	Piezography
9,10	Denture space 3Flange technique	Remote Lecture(Moodle)	Arita M.	Flange technique
11,12	Clinic of Flange technique 1Preliminary impressionStudy model	Remote Lecture(Moodle)Exercise	Arita M.	Preliminary impressionStudy model
13,14	Clinic of Flange technique 2Closed impression technique	Remote Lecture(Moodle)Exercise	Arita M.	Closed impression technique
15,16	Clinic of Flange technique 3Precise impressionDefinitive cast	Remote Lecture(Moodle)Exercise	Arita M.	Precise impressionDefinitive cast
17,18	Clinic of Flange technique 4Face-bow transferBite taking	Remote Lecture(Moodle)Exercise	Arita M.	Face-bow transferBite taking
19,20	Clinic of Flange technique 5Preparation for denture space taking	Remote Lecture(Moodle)Exercise	Arita M.	Preparation for denture space taking
21,22	Clinic of Flange technique 6Denture space taking	Remote Lecture(Moodle)Exercise	Arita M.	Denture space taking
23,24	Clinic of Flange technique 7Gypsum core and artificial tooth arrangement	Remote Lecture(Moodle)Exercise	Arita M.	Gypsum core and artificial tooth arrangement
25256	Clinic of Flange technique 8Flange technique for gingival region	Remote Lecture(Moodle)Exercise	Arita M.	Flange technique for gingival region
27,28	Clinic of Flange technique 9Reline	Remote Lecture(Moodle)Exercise	Arita M.	Reline
29,30	Conclusion, final test	Remote Test(Moodle)	Arita M.	Prepare for final test

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2022

Removable Prosthesis III （Magnet Denture）

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Watanabe T.						
Instructor(s)	Makihara E., Watanabe T.						
	Masumi S.　Watanabe T.						

Course Description

Learn a basic technique for the higher special technical acquisition

Attainment Objectives

You can treat a removable prosthetic treatment with dental magnetic attachment.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
Dental magnetic attachment Q&A		Ishiyaku Pub. Inc.

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Report	42
Final test	50
Total evaluation	8

Report (submitted after each lecture) 3 points × 14=42 points Credit test 5 points × 10=50 points Comprehensive evaluation 2 points Based on the above, xcellent (100-90 points), very good (89-80 points), good (79-70 points), and acceptable (69-60 points) are passed. Rubric evaluation is include.
Students were shown about the Rubric evaluation list at the time of the first lecture.

Etc

Learning consultation
Watanabe: r15watanabe@fa.kyu-dent.ac.jp

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Removable Prosthesis III （Magnet Denture）

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Watanabe T.						
Instructor(s)	Makihara E., Watanabe T.						
	Masumi S.　Watanabe T.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1,2	Orientation	Lecture	Watanabe T.	Dental magnetic attachment
3，4	History of dental magnetic attachment	Lecture	Watanabe T.	History
5，6	Construction of DMA Cap-york, Sandwich, Split-pole	Lecture	Watanabe T.	Construction
7,8	Characteristics of DMA Basic form	Lecture	Watanabe T.	Basic form
9,10	Clinical application of DMA	Lecture	Watanabe T.	Clinical application
11,12	Effect on MRI 1 Dental metal	Lecture Exercise	Watanabe T.	Dental metal
13,14	Effect on MRI 2 Casting method	Lecture Exercise	Watanabe T.	Casting method
15,16	Countermeasures for MRI Removable attachment	Lecture Exercise	Watanabe T.	Removable attachment
17,18	Countermeasures for MRI Modification of commercial keeper	Lecture Exercise	Watanabe T.	Modification of commercial keeper
19,20	New generation magnetic attachment	Lecture Exercise	Watanabe T.	New DMA
21,22	Direct bonding method	Lecture Exercise	Watanabe T.	Direct bonding method
23,24	Magnet denture (case) Removable partial denture	Lecture Exercise	Watanabe T.	Removable partial denture
25,26	Magnet denture (case) Maxillofacial prosthesis	Lecture Exercise	Watanabe T.	Maxillofacial prosthesis
27,28	Magnet denture (case) Removable bridge	Lecture Exercise	Watanabe T.	Removable bridge
29,30	Final test	Test	Watanabe T.	Prepare for final test

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2022

Removable Prosthodontics Ⅰ (Obstructive sleep apnea)

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Makihara, E.						
Instructor(s)	Makihara E.						
	Makihara, E.						

Course Description

Learn the basic clinical knowledge of obstructive sleep apnea.

Attainment Objectives

Knowledge of OSA and treatment of patients.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
Clinical of sleep medicine and dentistry		Hyoron Publishers

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Report	42%
Final test	50%
Total evaluation	8%

Report (after each lecture) 3 points x 14 = 42 points
Credit test (Moodle) 5 points x 10 questions = 50 points
Comprehensive evaluation 8 points.
Rubric assessment will be adopted. Based on the above, excellent (100-90 points), very good (89-80 points), good (79-70 points), and acceptable (69-60 points) are passed.
Students were shown about the Rubric evaluation list at the time of the first lecture.

Etc

Learning consultationMakihara: maki-eri@kyu-dent.ac.jp

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2022

Removable Prosthodontics Ⅰ (Obstructive sleep apnea)

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Makihara, E.						
Instructor(s)	Makihara E.						
	Makihara, E.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1,2	Orientation	Remote Lecture(Moodle)	Makihara, E.	SAS
3,4	Overview of sleep apnea (SAS)	Remote Lecture(Moodle)	Makihara, E.	SAS
5,6	Overview of obstructive sleep apnea (OSAS)	Remote Lecture(Moodle)	Makihara, E.	OSAS
7,8	Diagnosis of SAS	Remote Lecture(Moodle)	Makihara, E.	ESS, PSG
9,10	Treatment of SAS	Remote Lecture(Moodle)	Makihara, E.	Treatment of SAS
11,12	When an OSA patient comes to the hospital	Remote Lecture(Moodle)	Makihara, E.	Outcome patient
13,14	OA clinical 1 Examination / diagnosis	Remote Lecture(Moodle)Exercise	Makihara, E.	Examination / diagnosis
15,16	OA clinical 2Impression taking , Bite taking	Remote Lecture(Moodle)Exercise	Makihara, E.	Fabrication
17,18	OA clinical 3 Oral appliance (OA) 1	Remote Lecture(Moodle)Exercise	Makihara, E.	Fabrication
19,20	OA clinical 4 Oral appliance (OA) 2	Remote Lecture(Moodle)Exercise	Makihara, E.	Fabrication
21,22	OA clinical 5 Therasnore	Remote Lecture(Moodle)Exercise	Makihara, E.	Therasnore
23,24	OA clinical 6Commercial OA	Remote Lecture(Moodle)	Makihara, E.	Commercial OA
25,26	OA clinical 7Titration	Remote Lecture(Moodle)Exercise	Makihara, E.	Titration
27,28	OA clinical 8 Compliance	Remote Lecture(Moodle)	Makihara, E.	Compliance
29,30	Final test	Remote Test(Moodle)	Makihara, E.	prepare for final test

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Removable Prosthodontics Ⅱ （TMD）

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Makihara　E						
Instructor(s)	Makihara E.						
	Makihara　E						

Course Description

Learn the basic knowledge and clinical practice of occlusal temporomandibular disorders.

Attainment Objectives

Knowledge of TMD and therapy of patients.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
Temporomandibular disorders		Nagasue Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Report	42%
Final test	50%
Total evaluation	8%

Report (after each lecture) 3 points x 14 = 42 points
Credit test (Moodle) 5 points x 10 questions = 50 points
Comprehensive evaluation 8 points.
Rubric assessment will be adopted. Based on the above, excellent (100-90 points), very good (89-80 points), good (79-70 points), and acceptable (69-60 points) are passed.
Students were shown about the Rubric evaluation list at the time of the first lecture.

Etc

Learning consultation: Eri Makihara :maki-eri@kyu-dent.ac.jp

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Removable Prosthodontics Ⅱ （TMD）

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Makihara　E						
Instructor(s)	Makihara E.						
	Makihara　E						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1,2	Orientation	Remote lecture (Moodle)	Eri Makihara	TMD
3,4	TMD tide	Remote lecture (Moodle)	Eri Makihara	TMD
5,6	DC/TMD	Remote lecture (Moodle)	Eri Makihara	DC/TMD
7,8	Thought of the Japanese Society for Temporomandibular joint	Remote lecture (Moodle)	Eri Makihara	The Japanese Society fo Temporomandibular joint
9,10	Contribution factors of TMD	Remote lecture (Moodle)	Eri Makihara	Contribution factors
11,12	Low vertical occlusion	Remote lecture (Moodle)	Eri Makihara	Low vertical occlusion
13,14	Force control	Remote lecture (Moodle)	Eri Makihara	Force control
15,16	Increase Vertical dimension and TMD	Remote lecture (Moodle)	Eri Makihara	Increase VD and TMD
17,18	Occlusal adjustment	Remote lecture (Moodle)	Eri Makihara	Occlusal adjutment
19,20	Neuromuscular regulation mechanism	Remote lecture (Moodle)	Eri Makihara	Neuromuscular regulation mechanism
21,22	Habitural mastication	Remote lecture (Moodle)	Eri Makihara	Habitual mastication
23,24	Fabrication of appliance for TMD	Remote lecture (Moodle)	Eri Makihara	Fabrication
25,26	Adjustment of appliance 1	Remote lecture (Moodle)	Eri Makihara	Adjustment
27,28	Adjustment of appliance 2	Remote lecture (Moodle)	Eri Makihara	Adjustment
29,30	Final test	Remote lecture (Moodle)	Eri Makihara	Prepare for final test

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Removable Prosthodontics III （Research Discussion）

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Arita M.						
Instructor(s)	Arita M., Makihara E.						
	Arita M.						

Course Description

Read the literature in detail to understand the latest trends in dental prosthodontics-related research. Discussions on your research.
Temporomandibular disorders team approach, clinical seminar in the field of our division.

Attainment Objectives

1. Develop the ability to read English literature.2. Understand the content of the research.3. Develop the ability to criticize research.4. Understand the background and trends of research.5. Develop the latest clinical techniques.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Total evaluation	100%

Evaluate based on presentations / remarks and attendance rate during the seminar, and pass excellent (100-90 points), very good (89-80 points), good (79-70 points), and acceptable (69-60 points). Rubric evaluation is include.
Students were shown about the Rubric evaluation list at the time of the first lecture.

Etc

Learning consultationTsuda: r13tsuda@fa.kyu-dent.ac.jp

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1~30	Understand the background of research, the contents of the latest literature, and the future prospects of research in related fields	Round reading, literature introduction and discussionAlthough it is basically a face-to-face meeting, since abstracts of documents are also delivered by e-mail, questions and answers can be sent by e-mail.	Arita M.	Detailed literature reading and research in related fields

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Prosthodontics Ⅰ Implant supported Prosthesis

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	lesson and practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Hosokawa R.						
Instructor(s)	Hosokawa R., Masaki C., Kondou Y., Mukaibou T., Munemasa T., Nodai T.						
	Accredited Specialist of Prosthodontics Dentistry : Kondo, Mukaibo Supervisor of Prosthodontics Dentistry : Hosokawa, Masaki Accredited Specialist of Implant Dentistry : Kondo, Mukaibo Supervisor of Implant Dentistry : Hosokawa, Masaki						

Course Description

【Language】English and Japanese
In this course, you will learn basic theories such as anatomy, diagnostic imaging, and the use of simulation software to pursue implant treatment safely and reliably. You will also need to learn broad clinical knowledge to make total treatment plans. You will be able to train yourselves on phantom or pig bone to place implant, to make incisions, to suture, to take impressions, and other procedures to acquire basic skills needed for implant treatment.

Attainment Objectives

When you successfully complete this course, you will be able to explain:
(1) history of dental implant,
(2) anatomy needed for implant treatment,
(3) the importance of diagnostic wax-up and stent and actually fabricate them,
(4) healing process of dental implant,
(5) basic theory of simulation software,
(6) prosthodontics procedure for implant treatment,
(7) importance of maintenance for implant treatment.

Textbooks

Title	Author	Publisher
Fundamental Concepts and Techniques of Oral Implants (2nd ed.)		ISHIYAKU PUBLISHERS, INC.
Implant Positioning (Practice in Prosthodontics Extra Issue)		ISHIYAKU PUBLISHERS, INC.

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Responses upon consultation with instructors during the practice	60%
Contents and attitudes at the case conferences	40%

Etc

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2022

Prosthodontics Ⅰ Implant supported Prosthesis

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	lesson and practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Hosokawa R.						
Instructor(s)	Hosokawa R., Masaki C., Kondou Y., Mukaibou T., Munemasa T., Nodai T.						
	Accredited Specialist of Prosthodontics Dentistry : Kondo, Mukaibo Supervisor of Prosthodontics Dentistry : Hosokawa, Masaki Accredited Specialist of Implant Dentistry : Kondo, Mukaibo Supervisor of Implant Dentistry : Hosokawa, Masaki						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
44200	Orientation “What is implant supported prosthesis?” : You will learn about the significance of implant treatment in dental medicine.	Lecture	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts
44328	History of dental implant, clinical evidence, major implant system: You will learn about fundamental concept of implant treatment based on implant history.	Lecture	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts
13-20	Anatomy important for implant treatment: Pathology of dental implantYou will learn about anatomy and pathology crucial for implant treatment.	Lecture	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts
21-28	Preoperative diagnosis and treatment planning & Case practice using Simplant (implant simulating software): You will practice using simulation software an actual cases and practice making a treatment plan.	Lecture and practice	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts
29-36	Diagnostic wax-up and stent fabrication: You will prepare wax-up and fabricate diagnostic stent on ongoing patient.	Lecture and practice	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts
37-44	Implant placement surgical procedure: You will learn about the total image of implant placement surgery by watching recorded tapes.	Lecture and practice	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts
45-52	Impression procedure and prosthodontics procedure: You will learn about implant prosthesis of different implant system using case materials.	Lecture and practice	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts
53-60	Prosthesis by CAD/CAM, occlusal control and postoperative management: You will learn about CAD/CAM prosthesis from actual cases.	Lecture and practice	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts

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2022

Prosthodontics Ⅱ Implant supported Prosthesis

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	lesson and practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Hosokawa R.						
Instructor(s)	Hosokawa R., Masaki C., Kondou Y., Mukaibou T., Munemasa T., Nodai T.						
	Accredited Specialist of Prosthodontics Dentistry : Kondo, Mukaibo Supervisor of Prosthodontics Dentistry : Hosokawa, Masaki Accredited Specialist of Implant Dentistry : Kondo, Mukaibo Supervisor of Implant Dentistry : Hosokawa, Masaki						

Course Description

【Language】English and Japanese
In this course, after acquiring basic knowledge necessary, such as anatomy, diagnostic imaging and CT simulation, to make implant treatment plan, you will practice implant treatment on a patient. You will learn about advanced procedures such as bone grafts, sinus elevation, immediate loading, and immediate implant placement in the post-extraction site. You are expected to learn broad knowledge and acquire high skills of implant dentistry through case conferences and various lectures.

Attainment Objectives

When you successfully complete this course, you will be able to:
(1) explain advantages and disadvantages of implant treatment in comparison with other prosthodontics treatments.
(2) plan implant treatment by understanding basic principles of CT simulating software.
(3) conduct implant placement surgery safely and reliably by undergoing necessary preoperative examinations.
(4) practice supplemental operating methods such as bone graft, immediate loading and immediate implant placement in the post-extraction site by appropriately judging their necessity.
(5) apply provisional prosthesis with knowledge of its significance and purpose.
(6) fabricate adequate implant prosthesis.(7) perform implant maintenance with knowledge of its importance.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Responses upon consultation with instructors during the practice	60%
Contents and attitudes at the case conferences	40%

Etc

Latest Clinical Guide for Japanese Patient-oriented “All-on-4” Treatment-Keys to Success in Immediate Loaded-Implant Treatment for Totally Edentulous Cases, ISHIYAKU PUBLISHERS, INC.Implant Positioning (Practice in Prosthodontics Extra Issue), ISHIYAKU PUBLISHERS, INC.

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Prosthodontics Ⅱ Implant supported Prosthesis

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	lesson and practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Hosokawa R.						
Instructor(s)	Hosokawa R., Masaki C., Kondou Y., Mukaibou T., Munemasa T., Nodai T.						
	Accredited Specialist of Prosthodontics Dentistry : Kondo, Mukaibo Supervisor of Prosthodontics Dentistry : Hosokawa, Masaki Accredited Specialist of Implant Dentistry : Kondo, Mukaibo Supervisor of Implant Dentistry : Hosokawa, Masaki						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
44200	Informed consent: You will learn about the informed consent necessary for dental implant treatment.	Lecture and practice	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts
44327	Diagnostic wax-up and diagnostic stent: You will learn how to prepare diagnostic cast, diagnostic wax-up and to fabricate diagnostic stent.	Lecture and practice	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts
44548	Treatment planning using simulating software on CT images: You will learn how to use implant simulation software by working on difficult prosthodontics cases.	Lecture and practice	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts
19-25	Hands-on training to place implant with the instructor: You will learn about the surgical procedure for implant placement.	Lecture and practice	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts
26-32	Bone graft, immediate loading and immediate implant placement in the post-extraction site: You will learn about the supplemental operating methods for implant surgical procedure.	Lecture and practice	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts
33-39	Case report on the outcome of experienced implant treatment cases: You will be required to make a case presentation and get feedbacks and evaluation from multiple instructors.	Lecture and practice	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts
40-46	Fabrication of provisional prosthesis with adequate occlusion: You will learn about the timing and the technique to fabricate provisional prosthesis.	Lecture and practice	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts
47-53	Impression taking and implant denture fabrication: You will learn about the fabrication of implant-supported dentures.	Lecture and practice	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts
54-60	Postoperative management of dental implant treatment: You will learn about postoperative management of dental implant treatment by studying actual cases.	Lecture and practice	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts

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Oral Reconstruction and Rehabilitation Ⅰ

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Hosokawa R.						
Instructor(s)	Hosokawa R., Masaki C., Kondou Y., Mukaibou T., Munemasa T., Nodai T.						

Course Description

【Language】English and Japanese
In this course, you should aim to master the art of capturing dental clinics in a scientific point of view by learning about translational research which act as intermediary between dental clinics and basic science. Some of the examples of such researches are as follows; investigating on ways to gain early osseointegration, factors controlling bone remodeling, risk factors concerning implant treatment by analyzing gene expression of oral mucosa, application of ultrasonic or very high frequency wave devices to speed up osseointegration, ways to recover functions of dysfunctioned salivary glands and influence of the recovery of salivary glands on oral rehabilitation.

Attainment Objectives

When you successfully complete this course, you will learn and acquire:
(1) basic principles of implant treatment and be able to actually perform it.
(2) knowledge and skills to analyze gene expression of human mucosa samples
(3) basic knowledge and experimental skills to see the effects of ultrasounds on gene expression of oral mucosa cells.
(4) basic knowledge on in vivo and in vitro xerostomia models using mouse salivary glands.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Attainment on the subject	70%
Attainment on the technique	30%

Each is required to make presentations on lectures and exercises adequately and will be evaluated upon an attainment on each subject. Attainment on the technique will also be evaluated and their distribution would be 70:30.

Etc

Latest articles on the topic should be handed out before each lecture and exercise. Taking a lecture on animal experiments in advance is desirable.

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2022

Oral Reconstruction and Rehabilitation Ⅰ

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Hosokawa R.						
Instructor(s)	Hosokawa R., Masaki C., Kondou Y., Mukaibou T., Munemasa T., Nodai T.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Orientation (What is the significance of practicing basic research in clinical course?)	Lecture and exercise	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts
2	Literature reading 1 (How to read scientific literature? How should scientific presentation be like?)	Lecture and exercise	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts
3	Literature reading 2 (How to search for referential materials? What makes your research valuable?)	Lecture and exercise	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts
4	How you should use the laboratory 1 (Basics in handling laboratory equipment)	Exercise	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts
5	How you should use the laboratory 2 (Basics in handling and preparing experimental reagents)	Exercise	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts
6	Gene extraction and analysis from oral mucosa samples 1 (Sampling and treatments)	Lecture and exercise	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts
7	Gene extraction and analysis from oral mucosa samples 2 (Analysis of genetic polymorphism)	Lecture and exercise	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts
8	Investigation on the effect of ultrasonic waves on gene expression of oral mucosa cells	Lecture and exercise	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts
9	Investigation on the effect of sialagogue on water secretion using mouse submandibular gland 1 (Learning the basics on epithelial membrane transport)	Lecture and exercise	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts
10	Investigation on the effect of sialagogue on water secretion using mouse submandibular gland 2 (Basic principle and methods for perfusion experiments)	Exercise	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts

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Oral Reconstruction and Rehabilitation Ⅱ

Grades	2-4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Hosokawa R.						
Instructor(s)	Hosokawa R., Masaki C., Kondou Y., Mukaibou T., Munemasa T., Nodai T.						

Course Description

【Language】English and Japanese
This course is an advanced course for the “Oral Reconstruction and Rehabilitation Ⅰ”. In this course, you should aim to learn basic research methods based on theory by studying background of the research, planning experiments, getting data, analyzing data and discussing data with the colleges and instructors.

Attainment Objectives

When you successfully complete this course, you will learn and acquire:
(1) skills to analyze gene expression of human mucosa samples and put into practice to gain data.
(2) basic knowledge and experimental skills to see the effects of ultrasounds on gene expression of oral mucosa cells and gain data from the experiment.
(3) methods for perfusion experiments using mouse submandibular glands and gain data on dynamics of water secretion.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Attainment on the subject	70%
Attainment on the technique	30%

Each is required to make presentations on lectures and exercises adequately and will be evaluated upon an attainment on each subject. Attainment on the technique will also be evaluated and their distribution would be 70:30.

Etc

Latest articles on the topic should be handed out before each lecture and exercise. Taking a lecture on animal experiments in advance is desirable.

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Oral Reconstruction and Rehabilitation II

Grades	2-4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Hosokawa R.						
Instructor(s)	Hosokawa R., Masaki C., Kondou Y., Mukaibou T., Munemasa T., Nodai T.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Orientation (Preparations for the experiment such as learning how to handle special experimental equipment and making reagents)	Lecture and exercise	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts
2	Gene extraction and analysis from oral mucosa samples 1 (Literature reading, learning basic skills, and planning experiments)	Lecture and exercise	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts
3	Gene extraction and analysis from oral mucosa samples 2 (Sample taking from oral mucosa and pretreatments)	Exercise	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts
4	Gene extraction and analysis from oral mucosa samples 3 (Learning methods on PCR and electrophoresis)	Exercise	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts
5	Investigation on the effect of ultrasonic waves on oral mucosa 1 (Literature reading and learning basic skills)	Lecture and exercise	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts
6	Investigation on the effect of ultrasonic waves on oral mucosa 2 (Learning how to set exposure conditions and how to analyze data)	Exercise	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts
7	Investigation on the effect of ultrasonic waves on oral mucosa 3 (Learning methods on PCR, western blotting and others)	Exercise	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts
8	Investigation on epithelial membrane transport of water using mouse submandibular gland 1 (Learning principles of aqua transport and getting basic skills)	Lecture and exercise	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts
9	Investigation on epithelial membrane transport of water using mouse submandibular gland 2 (Learning how to handle experimental mice and how to operate under stereoscope)	Exercise	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts
10	Investigation on epithelial membrane transport of water using mouse submandibular gland 3 (Perfusion experiments and data analysis)	Exercise	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts

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Oral Reconstruction and Rehabilitation III

Grades	2-4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Hosokawa R.						
Instructor(s)	Hosokawa R., Masaki C., Kondou Y., Mukaibou T., Munemasa T., Nodai T.						

Course Description

【Language】English and Japanese
In this course, you will select one research subject from ongoing research projects in the division. You should inquire into scientific background of the subject and draw up plans for the experiment. Then you should carry out preliminary experiments, give reconsideration to the plan and carry out experiments to get results. Once you got the results, inquire into those with criticism and build bases for the thesis.
Few examples for our division research projects are as follows.
(1) Clinical research to investigate risk factors on immediate loaded oral implant treatment.
(2) Clinical and basic research to investigate clinical diagnostic indicator for the loss of osseointegration.
(3) Investigation on the effects of Low Intensity Pulsed Ultrasound and Ultrashort-wave devices in acquiring osseointegration.
(4) Clinical and basic research to investigate the effect of xerostomia on oral health.

Attainment Objectives

You should learn scientific background of the subject, inquire into the subject closely, and become a practitioner who can practice medicine based on evidence.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Attainment on the subject	70%
Attainment on the technique	30%

Each is required to make presentations on lectures and exercises adequately and will be evaluated upon an attainment on each subject. Attainment on the technique will also be evaluated and their distribution would be 70:30.

Etc

Latest articles on the topic should be handed out before each lecture and exercise. Taking a lecture on animal experiments in advance is desirable.

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Orientation (Have discussion with the instructors on the theme of each research)	Lecture and exercise	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts
44242	Each instructor will be assigned to lead and carry out each research.	Lecture and exercise	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts

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Advanced Oral Reconstruction and Rehabilitation

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Hosokawa R.						
Instructor(s)	Hosokawa R., Masaki C., Kondou Y., Mukaibou T., Munemasa T., Nodai T.						

Course Description

【Language】English and Japanese
This course will be in a seminar style using literature review, which include assigned readings and classroom discussions. Newly published research articles on implantology, prosthetic dentistry, bone biology, salivary research, periodontal research should be reviewed.

Attainment Objectives

To acquire higher knowledge in the field, you should come to understand how to read an outline and scientific backgrounds of a scientific research paper, how to prepare handouts, which efficiently explain the topic, and how to use presentation software and make effective presentation slides.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Contents of the presentation	60%
Attendance, participation and comprehension in the discussion	40%

Etc

Latest articles on the topic should be handed out before each seminar.

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Orientation	Exercise	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts
44242	Each allocated should review a paper of ones selection. You should prepare handouts and make a presentation.	Exercise	Hosokawa Masaki Kondo Mukaibo Munemasa Nodai	Review handouts

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Basic Studies in Community Oral Health

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ansai T.						
Instructor(s)	Ansai T., Soh I., Kakuta S., Kataoka S., Shigeyama H.						
	Certified Dentists of the Japanese Society for Oral Health : Ansai, Kakuta						

Course Description

【Language】Japanese and English You can learn the knowledge and practical skills of community oral health standard based health-oriented concept and minimum intervention concept. You can understand biofilm-related diseases such as dental caries and periodontal disease and treatment and prevention as well as clinical skills based health behavior.

Attainment Objectives

You should achieve following assignments:(1) Acquisition of the fundamental knowledge and skills for standard precaution(2) Acquisition of communication skills(3) Acquisition of risk assessment by saliva- or bacterial tests(4) Acquisition of oral health instruction skills based on health-psychology(5) Acquisition of re-calcification strategy(6) Acquisition of community-based health practice along their life stage

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
Handbook of Practical Preventive Dentistry 2004		Ishiyaku Publishers
Preventive Periodontology 2007		Ishiyaku Publishers

Grading Criteria and Method of Evalution

Evaluation item	Ratio
report	50%
oral presentations	30%
discussion	20%

Etc

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Basic Studies in Community Oral Health

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ansai T.						
Instructor(s)	Ansai T., Soh I., Kakuta S., Kataoka S., Shigeyama H.						
	Certified Dentists of the Japanese Society for Oral Health : Ansai, Kakuta						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
44198	Standard precautionYou will learn basic knowledge and skills of standard precaution.	Lecture and Practice	Ansai	Pre- and post-reading of textbook
44259	Disinfectant and classification of SpauldingYou will learn basic knowledge kinds of disinfectant and classification of Spaulding.	Lecture and Practice	Ansai	Pre- and post-reading of textbook
44322	Basic strategy of prevention of infectionYou will learn basic strategy of prevention of infection.	Lecture and Practice	Ansai	Pre- and post-reading of textbook
44387	Medical communicationYou will learn basic knowledge and skills of medical communication.	Lecture and Practice	Kakuta	Pre- and post-reading of textbook
44515	WHO Oral Survey method and method of calibrationYou will learn the WHO Oral Survey method and method of calibration.	Lecture and Practice	Soh	Pre- and post-reading of textbook
16-20	Diagnosis and clinical devises of dental caries and periodontal diseaseYou will learn up-to-date diagnosis and devices for dental caries and periodontal diseases.	Lecture and Practice	Shigeyama	Pre- and post-reading of textbook
21-24	Diagnosis techniques using non-invasive samples including salivaYou will learn basic knowledge of up-to-date diagnostic techniques using non-invasive samples like saliva.	Lecture and Practice	Shigeyama	Pre- and post-reading of textbook
25-29	Non-smoking health guidance based on behavioral scienceYou will learn health guidance strategy of preventing smoking.	Lecture and Practice	Ansai	Pre- and post-reading of textbook
30-34	Assessment in clinical epidemiologyYou will learn basic knowledge of various assessment in epidemiological study.	Lecture and Practice	Kakuta	Pre- and post-reading of textbook
35-38	Basic fluoride application I (water fluoridation)You will learn basic fluoride application such as water fluoridation.	Lecture and Practice	Kataoka	Pre- and post-reading of textbook
39-41	Basic fluoride application II (topical fluoridation)You will learn basic fluoride application such as topical fluoridation.	Lecture and Practice	Kataoka	Pre- and post-reading of textbook
42-45	Theory and clinical practice of oral biofilmYou will learn basic theory and clinical practice regarding oral biofilm.	Lecture and Practice	Kakuta	Pre- and post-reading of textbook
46-50	Theory and clinical practice of re-mineralization techniqueYou will learn basic theory and clinical practice regarding re-mineralization of teeth.	Lecture and Practice	Ansai	Pre- and post-reading of textbook
51-55	Health/social support according to their life stage IYou will learn basic strategy of health/social support in school and work place.	Lecture and Practice	Kakuta	Pre- and post-reading of textbook
56-60	Health/social support according to their life stage IIYou will learn basic strategy of health/social support of the elderly.	Lecture and Practice	Ansai	Pre- and post-reading of textbook

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Advanced Studies in Community Oral Health

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ansai T.						
Instructor(s)	Ansai T., Soh I., Kakuta S., Kataoka S., Shigeyama H.						
	Certified Dentists of the Japanese Society for Oral Health : Ansai, Kakuta						

Course Description

【Language】Japanese You can understand community system to support health strategy for community-dwelling population in the medical care, nursing care, and health care. Also, you can learn the knowledge and clinical skills based health behavior and health-oriented guidance.

Attainment Objectives

You should achieve following assignments:(1)　Acquisition of the fundamental knowledge regarding the system and roles of medical care, nursing care, and health care in community(2)　Acquisition of the role of system of comprehensive care for elderly(3)　Acquisition of health instruction and clinical skills based on behavioral psychology(4)　Acquisition of health oriented program construction according to their life stage(5)　Acquisition of clinical skills to promote oral health and medical support at emergency

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
Community-based medicine 2009		Igakushoin
Behavioral Medicine　A Guide for Clinical Practice, 3rd Ed. 2010		Medical Sci. Int

Grading Criteria and Method of Evalution

Evaluation item	Ratio
report	50%
oral presentations	30%
discussion	20%

Etc

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Advanced Studies in Community Oral Health

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ansai T.						
Instructor(s)	Ansai T., Soh I., Kakuta S., Kataoka S., Shigeyama H.						
	Certified Dentists of the Japanese Society for Oral Health : Ansai, Kakuta						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
44200	Outline of Community based oral health strategy IYou will learn the knowledge regarding current status and roles of medical care, nursing care, and health care.	Lecture and Practice	Ansai	Pre- and post-reading of textbook
44324	Outline of Community based oral health strategy IIYou will learn the knowledge regarding the primary care as basic concept of medical care, nursing care, and health care.	Lecture and Practice	Ansai	Pre- and post-reading of textbook
44451	Outline of Community based oral health system IYou will learn the knowledge regarding the system and roles of human resources, medical institutions, and local government.	Lecture and Practice	Ansai	Pre- and post-reading of textbook
13-16	Outline of Community based oral health system IIYou will learn the knowledge regarding the system and roles of nursing care, health and welfare.	Lecture and Practice	Ansai	Pre- and post-reading of textbook
17-20	Outline of Community based oral health system IIIYou will learn the knowledge regarding the system and roles of community comprehensive care.	Lecture and Practice	Kakuta	Pre- and post-reading of textbook
21-24	Outline of Community based oral health system IVYou will learn the knowledge regarding the health guidance strategy and health support based on health promotion.	Lecture and Practice	kakuta	Pre- and post-reading of textbook
25-28	Outline of practical health guidance strategy IYou will learn the knowledge regarding the concept and skills of health-communication.	Lecture and Practice	Soh	Pre- and post-reading of textbook
29-32	Outline of practical health guidance strategy IIYou will learn the knowledge regarding basic concept of health behavioral psychology and behavioral science.	Lecture and Practice	Ansai	Pre- and post-reading of textbook
33-36	Details of practical health guidance strategy IYou will learn the knowledge regarding the dietary education, eating behavior, and health support.	Lecture and Practice	Ansai	Pre- and post-reading of textbook
37-41	Details of practical health guidance strategy IIYou will learn the knowledge regarding the non-smoking guidance program and health support.	Lecture and Practice	Kakuta	Pre- and post-reading of textbook
42-45	Health support / health guidance according to their life stage IYou will learn the knowledge regarding health support/ guidance from maternal and child care stage to school / puberty stage.	Lecture and Practice	Shigeyama	Pre- and post-reading of textbook
46-48	Health support / health guidance according to their life stage IIYou will learn the knowledge regarding health support/ guidance in adults stage including health guidance from adults and occupational field to elderly/care stage.	Lecture and Practice	Shigeyama	Pre- and post-reading of textbook
49-54	Multi-professional collaboration in CommunityYou will learn the knowledge and practice home-care in the community.	Lecture and Practice	Ansai	Pre- and post-reading of textbook
55-58	Details of perioperative period in HospitalYou will learn the knowledge and practice perioperative care in the hospital.	Lecture and Practice	Kataoka	Pre- and post-reading of textbook
59-60	Oral health support at emergencyYou will learn the knowledge regarding the practical skills of oral health support program at emergency	Lecture and Practice	Ansai	Pre- and post-reading of textbook

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Practice in Community Oral Health Ⅰ

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ansai T.						
Instructor(s)	Ansai T., Soh I., Kakuta S., Kataoka S., Shigeyama H.						

Course Description

【Language】Japanese This course deals with epidemiological and basic statistical knowledge to conduct oral health research. The aim of this course is to help students acquire an understanding of principles and methodologies of epidemiology by lectures, and an understanding of biostatistical concepts by analyzing data, using the statistical software.

Attainment Objectives

By the end of the course, students should be able to do following;(1) Describe and explain the roles and relationships between epidemiology and biostatistics in the prevention of disease and the improvement of health.(2) Describe and explain methodologies of descriptive epidemiology for identifying problems and establishing hypotheses.(3) Describe and explain methodologies of analytical epidemiology for clarifying risk and protector factors of diseases.(4) Describe and explain the concept of confounding.(5) Conduct statistical analyses using the statistical software SPSS and R.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
Designing Clinical Research, 4th Edition 2013	Stephen B Hulley	A Guide for Clinicians & Laboratory
Medical Epidemiology, 4th Edition 2004		LANGE Basic Science

Grading Criteria and Method of Evalution

Evaluation item	Ratio
reports	60%
presentations	40%

Post-lecture reports: 5 points*8, presentations: 15 points*1, preparations: 3 points*15. Total 100 points.

Etc

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Practice in Community Oral Health Ⅰ

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ansai T.						
Instructor(s)	Ansai T., Soh I., Kakuta S., Kataoka S., Shigeyama H.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Epidemiological theory 1 — Variables and probability distributionYou will learn variables and probability distribution.	Lecture	Ansai	Learning material will be distributed in advance.
2	Epidemiological theory 2 — Group comparison and significance level.You will learn basic concept of group comparison and significance level.	Lecture	Shigeyama	Learning material will be distributed in advance.
3	Epidemiological theory 3 — Multiple comparisonYou will learn various multiple comparison methods and essential points for use.	Lecture	Shigeyama	Learning material will be distributed in advance.
4	Epidemiological theory 4 — Bias and confoundingYou will learn controlling methods of bias and confounding factors such as CBC based on designing research.	Lecture	Ansai	Learning material will be distributed in advance.
5	Epidemiological theory 5 —EBM and research designYou will learn 5 steps of EBM and research question, category of clinical research design, and international rules.	Lecture	Ansai	Learning material will be distributed in advance.
6	Health care service evaluation in oral health care policyYou will learn health care service evaluation methods including effects, efficacy, and benefit in oral health care policy based on concrete examples.	Lecture	Ansai	Learning material will be distributed in advance.
7	Oral health care data analysis 1 — summary statisticsYou will learn summary statistics, using the statistical software SPSS.	Lecture	Kakuta	Learning material will be distributed in advance.Submit a report after the lecture.
8	Oral health care data analysis 2 — Univariate analysisYou will learn Univariate analysis, using the statistical software SPSS.	Practice	kakuta	Learning material will be distributed in advance.Submit a report after the lecture.
9	Oral health care data analysis 3 — Association and regression modelYou will learn association and regression model, using the statistical software SPSS.	Practice	Kakuta	Learning material will be distributed in advance.Submit a report after the lecture.
10	Oral health care data analysis 4 — Control of confoundingYou will learn control of confounding and interaction, using the statistical software SPSS.	Practice	Soh	Learning material will be distributed in advance.Submit a report after the lecture.
11	Oral health care data analysis 5 — Cox’ s proportional hazard model You will learn Cox’ s proportional hazard model, using the statistical software SPSS.	Practice	Soh	Learning material will be distributed in advance.Submit a report after the lecture.
12	Bayesian statistics IYou will learn a concept and basic points of Bayesian statistics including the comparison with the Fisher statistics.	Practice	Kataoka	Learning material will be distributed in advance.Submit a report after the lecture.

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Practice in Community Oral Health Ⅰ

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ansai T.						
Instructor(s)	Ansai T., Soh I., Kakuta S., Kataoka S., Shigeyama H.						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
13	Bayesian statistics IIYou will learn basic concept of the Bayesian inference and MCMC (Markov chain Monte Carlo) methods.	Practice	Kataoka	Learning material will be distributed in advance.Submit a report after the lecture.
14	Bayesian statistics IIIYou will learn application of the Bayesian statistics using R and basic skills to use the Stan and Rstan.	Lecture	Kataoka	Learning material will be distributed in advance.
15	Research hypothesis presentation Give a presentation of formulating the research hypothesis of your interesting theme.	Practice	Ansai	Submit a report after the lecture.

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Practice in Community Oral Health Ⅱ

Grades	2-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ansai T.						
Instructor(s)	Ansai T., Kataoka S.						

Course Description

【Language】Japanese High-level scientific report is demanded. This course is designed for students who have basic statistical and epidemiological knowledge to conduct oral health research. The aim of this course is (1) to learn practical reporting skill for research preparation and scientific paper writing based on information provided by statistical analysis, and (2) to archive the practical skills for scientific presentation and writing the papers.

Attainment Objectives

You should achieve following assignments;(1) Acquisition of effective data reporting methods in health science.(2) Acquisition of basic and advanced reporting methods for values and descriptive statistics.(3) Acquisition of effective way for presenting data using tables and figures.(4) Acquisition of effective presentation skills for research results in health science.

Textbooks

Title	Author	Publisher
Prepared text		

Reference Books

Title	Author	Publisher
How to Write, Publish, & Present in the Health Sciences	Amer College of Physicians	Thomas A. Lang
Presentation Zen	Garr Reynolds	New Riders Press

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Reports	40%
Presentations	40%
Debates	20%

Etc

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Practice in Community Oral Health II

Grades	2-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ansai T.						
Instructor(s)	Ansai T., Kataoka S.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Structure of scientific article and basic skills to write articleYou will learn structure of scientific article and basic skills to write article.	Lecture	Ansai	Learning material will be distributed in advance.
2	How to make effective tables and figures essential for article makingYou will learn basic skills for making effective tables and figures.	Lecture	Ansai	Learning material will be distributed in advance.
3	Skills to summarize discussion and conclusionsYou will learn basic concept and skills to summarize discussion and conclusions.	Lecture	Ansai	Learning material will be distributed in advance.
4	Process to submit article and skill for response for commentsYou will learn process to submit article and skill for response for comments.	Lecture	Ansai	Learning material will be distributed in advance.
5	Uniform requirements for manuscripts submitted to scientific journalsYou will learn uniform requirements for manuscripts submitted to scientific journals: writing and editing for publication.	Lecture	Ansai	Learning material will be distributed in advance.
6, 7	Basic skills for preparation for academic meetingYou will learn basic skills for preparation for academic meeting.	Lecture	Ansai	Learning material will be distributed in advance.
8, 9	Presentation methods in health science 1You will learn effective way for poster presentation.	Lecture	Kataoka	Learning material will be distributed in advance.Submit a report after the lecture.
10, 11	Presentation methods in health science 2You will learn effective way for oral presentation.	Practice	Kataoka	Learning material will be distributed in advance.
12, 13	How to write the application of research fundingYou will learn how to find research funding and apply to it effectively.	Practice	Ansai	Learning material will be distributed in advance.
14	Guideline for medical research ethics and IRB including points to write application of IRBYou will learn guideline for research ethics and IRB including how to write application of IRB.	Practice	Ansai	Learning material will be distributed in advance.Submit a report after the lecture.
15	SummaryFeedback for the presentation and debates.Introduce outstanding poster and oral presentations for reference of future research.	Lecture	Ansai	Learning material will be distributed in advance.

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Current Topics in Community Oral Health Ⅰ

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ansai T.						
Instructor(s)	Ansai T., Kakuta S., Kataoka S., Shigeyama H.						
	Certified Dentists of the Japanese Society for Oral Health : Ansai T.& Kakuta S.						

Course Description

【Language】Japanese and English You can learn and study how to read any up-to-date scientific articles, write articles and make presentation regarding any outcomes to understand the knowledge and scientific significance in preventive/ oral health, public health, clinical nutrition and epidemiological research

Attainment Objectives

To understand the contents of scientific articles, and acquire the skills for exploring any scientific evidence, and learn how to make presentation and write articles of any outcomes.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Oral presentations	50%
Discussion	50%
Assessment	20%

Etc

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
44211	To understand the background, contents, and perspective of article interested in every time	Introduction of evidence and discussion (Microsoft Teams)	Ansai, Kakuta, Kataoka, Shigeyama	Preparing any needed handouts and slides for participants

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2022

Internal Medicine for Dentistry

Grades	1-4 grades	Semester (or Term)	Winter	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	I. Nakamichi						
Instructor(s)	Nakamichi I.						

Course Description

【Language】English and Japanese It is important to understand the dental implications of medical problems, for improving dental practice. In this course, we discuss about systemic diseases through the case presentation. After learning diagnostic methods and therapies of common diseases, you learn the pathophysiology for finding a new focus in clinical dentistry. Pathophysiological consideration, including cell biology and immunology, may enhance your doctoral thesis.

Attainment Objectives

1. Understand etiology, diagnosis and therapy of common systemic disease. 2. Understand systemic disease's physiology that affects the dental practice.
3. Prevent systemic disease's exacerbation that is due to dental practice.

Textbooks

Title	Author	Publisher
Discuss after watching a lecture video.		

Reference Books

Title	Author	Publisher
(Japanese textbook)		

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Discussion and presentation	100%

Evaluate using rubrics.

Etc

Feel free to email me any questions that you have.

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2022

Internal Medicine for Dentistry

Grades	1-4 grades	Semester (or Term)	Winter	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	I. Nakamichi						
Instructor(s)	Nakamichi I.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Circulation	Discussion	Nakamichi	Reading books
2	Blood	Discussion	Nakamichi	Reading books
3	Respiration	Discussion	Nakamichi	Reading books
4	Digestion	Discussion	Nakamichi	Reading books
5	Metabolism	Discussion	Nakamichi	Reading books
6	Renal function	Discussion	Nakamichi	Reading books
7	Neurology	Discussion	Nakamichi	Reading books
8	Mental disorder	Discussion	Nakamichi	Reading books
9	Immunology	Discussion	Nakamichi	Reading books
10	Oncology	Discussion	Nakamichi	Reading books

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2022

Diagnosis and Treatment of Hypertension

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukuhara M.						
Instructor(s)	Fukuhara M.						

Course Description

【Language】Japanese Hypertension is one of the most common diseases in Japan. Many dental patients have hypertension. In this course "Diagnosis and Treatment of Hypertension ", you learn the evaluation of hypertenson and target organ damage. Furthermore, you learn the treatment of hypertension and the perioperative blood pressure management. The course is especially recommended to graduate students, who specialize oral surgery and dental care in the elderly.

Attainment Objectives

You should achieve following assignments;
・ To explain the mechanism of blood pressure regulation.
・ To explain the evaluation of target organ damage due to hypertension.
・ To explain target organ damage of hypertension (stroke, ischemic heart disease, chronic kidney disease).
・ To explain the types and characteristics of antihypertensive drugs.
・ To explain the characteristics and treatment of hypertension in the elderly.
・ To explain the treatment of hypertension in the patients with diabetes or metabolic syndrome.
・ To explain blood pressure changes during dental treatment.
・ To practice the perioperative blood pressure management.

Textbooks

Title	Author	Publisher
The Japanese Society of Hypertension Guidelines for the Management of Hypertension 2019		JSH

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
discussion and presentation	45%
test	55%

Etc

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2022

Diagnosis and Treatment of Hypertension

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukuhara M.						
Instructor(s)	Fukuhara M.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Introduction and epidemiology of hypertension.Measurement and clinical evaluation of blood pressure.	Lecture Practice	Fukuhara	Text Keywords: epidemiology of hypertension, vital signs
2	Mechanism of blood pressure regulation: Neural and humoral regulation of blood pressure. Blood pressure changes during dental treatment.	Lecture Practice	Fukuhara	Text Keywords: blood pressure regulation, blood pressure fluctuation
3	Hypertension and target organ damage. Clinical evaluation of target organ damage I: Urinalysis and blood test. Fundus examination.	LecturePractice	Fukuhara	Text Keywords: target organ damage
4	Clinical evaluation of target organ damage II: Electrocardiogram and chest X-ray. Pulse wave velosity. Basic principles of ultrasonography.	Lecture Practice	Fukuhara	Text
5	Clinical evaluation of target organ damage III: Carotid ultrasonography① Echocardiography①	Lecture Practice	Fukuhara	Text
6	Clinical evaluation of target organ damage IV: Carotid ultrasonography②. Echocardiography②. Abdominal ultrasonography.	Lecture Practice	Fukuhara	Text
7	Principles of treatment for hypertension: Lifestyle modifications.	Lecture Practice	Fukuhara	Text
8	Treatment with antihypertensive drugs. Treatment of resistant hypertension.	Lecture Practice	Fukuhara	Text
9	Hypertension complicated by other diseases:Diabetes.Metabolic syndrome.Sleep apnea syndrome.	Lecture Practice	Fukuhara	Text
10	Hypertension in the elderly.Hypertension and dementia.	Lecture Practice	Fukuhara	Text
11	Perioperative blood pressure management.	Lecture Practice	Fukuhara	Text
12	Case conference I	Lecture Discussion	Fukuhara	Text Clinical cases
13	Case conference II	Lecture Discussion	Fukuhara	Text Clinical cases
14	Case conference III	Lecture Discussion	Fukuhara	Text Clinical cases
15	Case conference IV	Lecture Discussion	Fukuhara	Text Clinical cases

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Introduction of Internal Medicine

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukuhara M.						
Instructor(s)	Fukuhara M.						

Course Description

【Language】Japanese. In this course "Introduction of Internal Medicine", you read the book "Internal Medicine for Dentists" and acquire fundamental knowledge of the internal medicine which dentists need.

Attainment Objectives

You should achieve following assignments;
・ To explain the introduction of medical diagnostics.
・ To explain the cardiovascular disease.
・ To explain the respiratory disease.
・ To explain the digestive diseases.
・ To explain the metabolic and endocrine disorders.
・ To explain the neuromuscular disease.
・ To explain the blood disease.
・ To explain the renal disease.
・ To explain the collagen disease.
・ To explain the elderly medicine.

Textbooks

Title	Author	Publisher
Internal Medicine for Dentists		Ishiyaku Publishers

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
discussion and presentation	45%
test	55%

Etc

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2022

Introduction of Internal Medicine

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukuhara M.						
Instructor(s)	Fukuhara M.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	The fundamental knowledge of the internal medicine:Diagnosis, medical interview, physical examination, medical record description, vital signs, laboratory tests.	Lecture and discussion Test	Fukuhara	Keywords: medical examination, symptoms
2	Respiratory disease	Lecture and discussion Test	Fukuhara	Keywords: Chronic obstructive pulmonary disease (COPD), bronchial asthma
3	Endocrine disease	Lecture and discussion Test	Fukuhara	Keywords: thyroid disease, adrenal disease
4	Cardiovascular disease 1	Lecture and discussion Test	Fukuhara	myocardial infarction, angina pectoris, heart failure
5	Cardiovascular disease 2	Lecture and discussion Test	Fukuhara	Keywords: Infective endocarditis, hypertension, arrhythmia
6	Gastrointestinal disease	Lecture and discussion Test	Fukuhara	Keywords: gastric ulcer, needlestick injury, hepatitis, liver cirrhosis
7	Malignant tumor	Lecture and discussion Test	Fukuhara	Keywords: lung cancer, stomach cancer, colon cancer
8	Metabolic diseases	Lecture and discussion Test	Fukuhara	Keywords: diabetes mellitus
9	Kidney disease	Lecture and discussion Test	Fukuhara	Keywords: infusion, chronic kidney disease, renal failure
10	Blood disease	Lecture and discussion Test	Fukuhara	Keywords: anemia, leukemia, thrombocytopenic purpura, hemophilia
11	Neuromuscular disease	Lecture and discussion Test	Fukuhara	Keywords: cardiovascular disease, dementia, epilepsy, Parkinson's disease

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2022

Introduction of Internal Medicine

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukuhara M.						
Instructor(s)	Fukuhara M.						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
12	Autoimmune disease	Lecture and discussion Test	Fukuhara	Keywords: rheumatoid arthritis, systemic lupus erythematosus, Sjogren's syndrome, Behcet's disease, allergy
13	Elderly medicine	Lecture and discussion Test	Fukuhara	Keywords: elderly, aging
14	Infection	Lecture and discussion Test	Fukuhara	Keywords: bacterial change phenomenon, AIDS
15	Dental treatment for patients with medical disorders	Lecture and discussion Test	Fukuhara	Keywords: Dental treatment for patients with medical disorders

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2022

Pediatric Dentistry Ⅰ (Basic Course)

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kenshi Maki						
Instructor(s)	Maki K., Nishida I., Fujita Y., Saeki K., Watanabe K.						
	Koji Watanabe						

Course Description

To acquire comprehensive levels of knowledge, technique, and skill for continued management by taking into consideration physical and mental growth and development in childhood for guidance to normal permanent dentition.

Attainment Objectives

1.Gain ability to provide treatment to pediatric patients.2.Gain ability to treat dental caries.3.Gain ability to provide protective care and health guidance.4.Gain ability to treat dental injuries.5.Gain ability to perform surgical treatment.6.Gain ability to provide dental treatment for uncooperative or handicapped children.7.Gain ability to deal with occlusal development.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Tests using Teams	30%
Case presentation using Teams	30
Test	40%

Etc

[office hours]If necessary, contact instructors by e-mail.Kenshi Maki: k-maki@kyu-dent.ac.jpIkuko Nishida: nishida@kyu-dent.ac.jpKoji Watanabe: r17watanabe2@fa.kyu-dent.ac.jp

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2022

Pediatric Dentistry Ⅰ (Basic Course)

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kenshi Maki						
Instructor(s)	Maki K., Nishida I., Fujita Y., Saeki K., Watanabe K.						
	Koji Watanabe						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1,2	Medical care interview II	Practical training Role play Students will be divided into two groups, and take part in the training for group.	MakiNishidaSaekiFujitaWatanabe	【preparation】 Medical care interview Mental and physical growth of children 【review】 The contents of the lecture
3,4	Behavior modification therapy for pedodontic patients I	Practical training Role play Students will be divided into two groups, and take part in the training for group.	MakiNishidaSaekiFujitaWatanabe	【preparation】 Mental and physical growth of children Behavior modification therapy 【review】 The contents of the lecture
5,6	Radiography I	Practical training Students will be divided into two groups, and take part in the training for group.	MakiNishidaSaekiFujitaWatanabe	【preparation】 Diagnostic imaging for pedodontic cases 【review】 The contents of the lecture
7,8	Impression taking	Practical training Students will be divided into two groups, and take part in the training for group.	MakiNishidaSaekiFujitaWatanabe	【preparation】 Developmental growth of oral cavity 【review】 The contents of the lecture
9,10	Drafting of the treatment planYou learn a diagnosis, treatment strategy while standing on a medical interview, an Xray photograph, the treatment plan using the study model about the drafting of the treatment plan	Practical training Students will be divided into two groups, and take part in the training for group.	MakiNishidaSaekiFujitaWatanabe	【preparation】 Diagnosis and treatment strategy 【review】 The contents of the lecture
11,12	Oral examination 1DiscussionCase presentation	Teams	MakiNishidaSaekiFujitaWatanabe	【preparation】 Review of the training 【review】 The contents of the lecture
13,14	Local anesthesia I	Practical training Students will be divided into two groups, and take part in the training for group.	MakiNishidaSaekiFujitaWatanabe	【preparation】 Procedure of local anesthesia 【review】 The contents of the lecture
15,16	Exclusion of moisture with rubber dam	Practical training Students will be divided into two groups, and take part in the training for group.	MakiNishidaSaekiFujitaWatanabe	【preparation】 Exclusion of moisture withrubber dam 【review】 The contents of the lecture

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2022

Pediatric Dentistry Ⅰ (Basic Course)

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kenshi Maki						
Instructor(s)	Maki K., Nishida I., Fujita Y., Saeki K., Watanabe K.						
	Koji Watanabe						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
17,18	Crown restoration for primary teeth Ⅰ	Practical training Students will be divided into two groups, and take part in the training for group.	MakiNishidaSaekiFujitaWatanabe	【preparation】 Characteristics of primary teeth 【review】 The contents of the lecture
19,20	Crown restoration for immature permanent teeth Ⅰ	Practical training Students will be divided into two groups, and take part in the training for group.	MakiNishidaSaekiFujitaWatanabe	【preparation】 Characteristics of immature permanent teeth 【review】 The contents of the lecture
21,22	Inlay restoration of the deciduous teeth	Practical training Students will be divided into two groups, and take part in the training for group.	MakiNishidaSaekiFujitaWatanabe	【preparation】 Inlay restoration of the deciduous teeth 【review】 The contents of the lecture
23,24	Preformed crown restoration of the deciduous teeth	Practical training Students will be divided into two groups, and take part in the training for group.	MakiNishidaSaekiFujitaWatanabe	【preparation】 Preformed crown restoration Casting crown restoration 【review】 The contents of the lecture
25,26	Pulp capping of deciduous tooth and the immature permanent tooth	Practical training Students will be divided into two groups, and take part in the training for group.	MakiNishidaSaekiFujitaWatanabe	【preparation】 Pulp capping 【review】 The contents of the lecture
27,28	Pulpotomy to deciduous tooth	Practical training Students will be divided into two groups, and take part in the training for group.	MakiNishidaSaekiFujitaWatanabe	【preparation】 Pulpotomy 【review】 The contents of the lecture
29,30	Pulpectomy、Infection Root Canal Treatment 、Root Canal Filling	Practical training Students will be divided into two groups, and take part in the training for group.	MakiNishidaSaekiFujitaWatanabe	【preparation】 Pulpectomy Infected root canal treatment Root canal filling 【review】 The contents of the lecture
31,32	Oral examination 2Discussion	Teams	MakiNishidaSaekiFujitaWatanabe	【preparation】 Review of the training 【review】 The contents of the lecture
33,34	A diagonois and measures of periodontal disease	Practical training Students will be divided into two groups, and take part in the training for group.	MakiNishidaSaekiFujitaWatanabe	【preparation】 Periodontal disease of theinfant period diagnosis and measures of periodontal disease 【review】 The contents of the lecture

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2022

Pediatric Dentistry Ⅰ (Basic Course)

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kenshi Maki						
Instructor(s)	Maki K., Nishida I., Fujita Y., Saeki K., Watanabe K.						
	Koji Watanabe						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
35,36	Diagnosis of the dental trauma	Practical training Students will be divided into two groups, and take part in the training for group.	MakiNishidaSaekiFujitaWatanabe	【preparation】 Diagonois Fixing method Prognosis 【review】 The contents of the lecture
37,38	Tooth extraction I	Practical training Students will be divided into two groups, and take part in the training for group.	MakiNishidaSaekiFujitaWatanabe	【preparation】 Diagnosis Tooth extraction 【review】 The contents of the lecture
39,40	Resolution measure	Practical training Students will be divided into two groups, and take part in the training for group.	MakiNishidaSaekiFujitaWatanabe	【preparation】 Diagnosis Fenestration Incison 【review】 The contents of the lecture
41,42	Oral examination 3Discussion	Teams	MakiNishidaSaekiFujitaWatanabe	【preparation】 Review of the training 【review】 The contents of the lecture
43,44	Preventive treatment I	Practical training Students will be divided into two groups, and take part in the training for group.	MakiNishidaSaekiFujitaWatanabe	【preparation】 Pit and fissure sealant 【review】 The contents of the lecture
45,46	Preventive treatment II	Practical training Students will be divided into two groups, and take part in the training for group.	MakiNishidaSaekiFujitaWatanabe	【preparation】 Preventive treatment Health guidance 【review】 The contents of the lecture
47,48	Treatment of apprehensive child	Practical training Students will be divided into two groups, and take part in the training for group.	MakiNishidaSaekiFujitaWatanabe	【preparation】 Restrainning Nitrous oxide and oxygen inhalation sedation 【review】 The contents of the lecture
49,50	The Denture guidance diagnosis and explanation method to a protector	Practical training Students will be divided into two groups, and take part in the training for group.	MakiNishidaSaekiFujitaWatanabe	【preparation】 Diagnosis Treatment plan and explanation 【review】 The contents of the lecture
51,52	Preparation of appliances for occlusal guidance I	Practical training Students will be divided into two groups, and take part in the training for group.	MakiNishidaSaekiFujitaWatanabe	【preparation】 Space maintenance 【review】 The contents of the lecture
53,54	Preparation of appliances for occlusal guidance II	Practical training Students will be divided into two groups, and take part in the training for group.	MakiNishidaSaekiFujitaWatanabe	【preparation】 Space regainer 【review】 The contents of the lecture

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Pediatric Dentistry Ⅰ (Basic Course)

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kenshi Maki						
Instructor(s)	Maki K., Nishida I., Fujita Y., Saeki K., Watanabe K.						
	Koji Watanabe						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
55,56	Dental treatment of the child with a disability	Practical training Students will be divided into two groups, and take part in the training for group.	MakiNishidaSaekiFujitaWatanabe	【preparation】 Child with disability 【review】 The contents of the lecture
57,58	Oral examination 4Discussion	Teams	MakiNishidaSaekiFujitaWatanabe	【preparation】 Review of the practical training 【review】 The contents of the lecture
59,60	Case presentationExamination for accreditation	Teams	MakiNishidaSaekiFujitaWatanabe	【preparation】 Review of thepracticaltraining 【review】 The contents of the lecture

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Pediatric Dentistry Ⅱ (Advanced Course)

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Maki K.						
Instructor(s)	Maki K., Nishida I., Fujita Y., Saeki K., Watanabe K.						
	Pediatric Dentistry Specialist : Maki, Nishida, Watanabe Specialist in Pediatric dentistry Specialist instruction : Maki, Nishida, Watanabe						

Course Description

To acquire comprehensive levels of knowledge, technique, and skill for continued management by taking into consideration physical and mental growth and development in childhood for guidance to normal permanent dentition.

Attainment Objectives

1. Gain ability to provide treatment to pediatric patients.
2. Gain ability to treat dental caries.
3. Gain ability to provide protective care and health guidance.
4. Gain ability to treat dental injuries.
5. Gain ability to perform surgical treatment.
6. Gain ability to provide dental treatment for uncooperative or handicapped children.
7. Gain ability to deal with occlusal development.
8. Gain ability to provide basic treatment for the oral cavity as a single unit.
9. Gain ability to practice continuous management by taking growth into consideration.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Case presentation	30%
Test using Teams	30%
Teast using Moodle	40%

Etc

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Pediatric Dentistry II (Advanced Course)

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Maki K.						
Instructor(s)	Maki K., Nishida I., Fujita Y., Saeki K., Watanabe K.						
	Pediatric Dentistry Specialist : Maki, Nishida, Watanabe Specialist in Pediatric dentistry Specialist instruction : Maki, Nishida, Watanabe						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1,2	Medical care interview II	Practical training Role play Students will take part in the training in 3 groups.	Maki Nishida Watanabe	【preparation】 ・Medical care interview・Adjacent area of medical science 【review】 The contents of the lecture
3,4	Behavior modification therapy for pedodontic patients II	Practical training Role play Students will take part in the training in 3 groups.	Maki Nishida Watanabe	【preparation】 ・Mental and physical growth of children-Behavior modification therapy 【review】 The contents of the lecture
5,6	Radiography II	Practical training Students will take part in the training in 3 groups.	Maki Nishida Watanabe	【preparation】 ・Diagnostic imaging for pedodontic cases 【review】 The contents of the lecture
7,8	Oral roentgenography	Practical training Students will take part in the training in 3 groups.	Maki Nishida Watanabe	【preparation】 ・ Developmental growth of oral cavity in children 【review】 The contents of
9,10	Whole-body management	Practical training Students will take part in the training in 3 groups.	Maki Nishida Watanabe	Pharmacotherapy Systemic illness 【review】 The contents of
11,12	Oral examination 1DiscussionCase presentation	Practical training Students will take part in the training in 3 groups.	Maki Nishida Watanabe	【preparation】 Review of practical training 【review】 The contents of the lecture
13,14	Local anesthesia II	Practical training Students will take part in the training in 3 groups.	Maki Nishida Watanabe	【preparation】 ・Complications 【review】 The contents of the lecture
15,16	Crown restoration for primary teeth I	Practical training Students will take part in the training in 3 groups.	Maki Nishida Watanabe	【preparation】 ・ Characteristics of primary teeth・Resin jacket crown 【review】 The contents of

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Pediatric Dentistry Ⅱ (Advanced Course)

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Maki K.						
Instructor(s)	Maki K., Nishida I., Fujita Y., Saeki K., Watanabe K.						
	Pediatric Dentistry Specialist : Maki, Nishida, Watanabe Specialist in Pediatric dentistry Specialist instruction : Maki, Nishida, Watanabe						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
17,18	Crown restoration in child patients	Practical training Students will take part in the training in 3 groups.	Maki Nishida Watanabe	【preparation】 ・Crown restoration・Continued management 【review】 The contents of the lecture
19,20	Temporary indirect pulp capping for immature permanent teeth	Practical training Students will take part in the training in 3 groups.	Maki Nishida Watanabe	【preparation】 ・Immature permanent teeth・Temporary indirect pulp capping 【review】 The contents of
21,22	Endodontic treatment for immature permanent teeth	Practical training Students will take part in the training in 3 groups.	Maki Nishida Watanabe	【preparation】 ・Immature permanent teeth・Endodontic treatment 【review】 The contents of
23,24	Diagnosis and treatment for acute symptoms of diseases of the pulp, apex, and periodontium	Practical training Students will take part in the training in 3 groups.	Maki Nishida Watanabe	【preparation】 ・Acute sympotom・Diagnosis and treatment 【review】 The contents of the lecture
25,26	Diagnosis and treatment for tooth discoloration	Practical training Students will take part in the training in 3 groups.	Maki Nishida Watanabe	【preparation】 ・Tooth discoloration・Diagnosis and treatment 【review】 The contents of the lecture
27,28	Study how to deal with intractable cases of diseases of the pulp, apex, and periodontium in light of deciduous and immature permanent tooth characteristics, indications, and operative procedures.	Practical training Students will take part in the training in 3 groups.	Maki Nishida Watanabe	【preparation】 ・Intractable cases・Diagnosis and treatment 【review】 The contents of
29,30	Oral examination 2Discussion	Practical training Students will take part in the training in 3 groups.	Maki Nishida Watanabe	【preparation】 Review of practical training 【review】 The contents of the lecture
31,32	Study continuing management of periodontal diseases in child patients in light of the characteristics of periodontal diseases occurring in childhood.	Practical training Students will take part in the training in 3 groups.	Maki Nishida Watanabe	【preparation】 ・Periodontal surgery・Continuing management 【review】 The contents of the lecture

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Pediatric Dentistry Ⅱ (Advanced Course)

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Maki K.						
Instructor(s)	Maki K., Nishida I., Fujita Y., Saeki K., Watanabe K.						
	Pediatric Dentistry Specialist : Maki, Nishida, Watanabe Specialist in Pediatric dentistry Specialist instruction : Maki, Nishida, Watanabe						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
33,34	Fixation techniques for injured teeth Study fixation methods for mixed dentition period in light of fixation techniques used for injured teeth.	Practical training Students will take part in the training in 3 groups.	Maki Nishida Watanabe	【preparation】 ・Diagnosis・Fixation technique・Prognosis 【review】 The contents of the lecture
35,36	Treatment of injured teethStudy reimplantation techniques in light of related indications.Practical training	Practical training Students will take part in the training in 3 groups.	Maki Nishida Watanabe	【preparation】 ・Injured teeth・Reimplantation・Orthodontic extrusion 【review】 The contents of the lecture
37,38	Tooth extraction IIStudy tooth extraction methods in light of examination findings and diagnosis of impacted supernumerary teeth.	Practical training Students will take part in the training in 3 groups.	Maki Nishida Watanabe	【preparation】 ・Extraction methods・Impacted supernumerary teeth 【review】 The contents of the lecture
39,40	Surgical procedures Study surgical procedures for child patients in light of diagnosis and treatment of cysts, tumors, and soft tissue disease.	Practical training Students will take part in the training in 3 groups.	Maki Nishida Watanabe	【preparation】 ・Surgical procedures 【review】 The contents of the lecture
41,42	Oral examination 3Discussion	Practical training Students will take part in the training in 3 groups.	Maki Nishida Watanabe	【preparation】 Review of practical training 【review】 The contents of the lecture
43,44	Preparation of appliances for occlusal guidance III	Practical training Students will take part in the training in 3 groups.	Maki Nishida Watanabe	【preparation】 ・Space regainer 【review】 The contents of the lecture
45,46	Preparation of appliances for occlusal guidanceStudy methods used for manufacturing a Muh-shield by taking into consideration the indications.	Practical training Students will take part in the training in 3 groups.	Maki Nishida Watanabe	【preparation】 ・Muh-shield 【review】 The contents of the lecture
47,48	Muscle function training	Practical training Students will take part in the training in 3 groups.	Maki Nishida Watanabe	【preparation】 ・Muscle function training 【review】 The contents of the lecture
49,50	Dental therapy for disabled child patients II Study how to cope with dental therapy for disabled children in light of characteristics of the related disease	Practical training Students will take part in the training in 3 groups.	Maki Nishida Watanabe	【preparation】 ・Disabled children・Behavior control・Dental therapy 【review】 The contents of the lecture

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Pediatric Dentistry Ⅱ (Advanced Course)

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Maki K.						
Instructor(s)	Maki K., Nishida I., Fujita Y., Saeki K., Watanabe K.						
	Pediatric Dentistry Specialist : Maki, Nishida, Watanabe Specialist in Pediatric dentistry Specialist instruction : Maki, Nishida, Watanabe						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
51,52	Study methods of dental therapy performed under general anesthesia by taking into consideration the characteristics and general health of child patients.Practical training	Practical training Students will take part in the training in 3 groups.	Maki Nishida Watanabe	【preparation】 ・General anesthesia 【review】 The contents of the lecture
53,54	Study intraoral management by taking developmental stage into consideration.Practical training	Practical training Students will take part in the training in 3 groups.	Maki Nishida Watanabe	【preparation】 ・ Developmental stages-intraoral management 【review】 The contents of the lecture
55,56	Study maternal and child health guidance in light of prevention for pregnant women and feeding instructions for children.	Practical training Students will take part in the training in 3 groups.	Maki Nishida Watanabe	【preparation】 ・Pregnancy factors ・Maternal and child health care 【review】 The contents of the lecture
57,58	Oral examination 4Discussion	Discussion Practical trainingReal time discussion (Teams)	Maki Nishida Watanabe	【preparation】 Review of practical training 【review】 The contents of the lecture
59,60	Case presentationExamination for accreditation	Discussion Practical trainingReal time presentation (Teams)	Maki Nishida Watanabe	【preparation】 Review of practical training 【review】 The contents of the lecture

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Developmental Stomatognathic Function Science Ⅰ

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Maki K.						
Instructor(s)	Maki K., Nishida I., Fujita Y., Saeki K., Watanabe K.						
	牧　憲司、西田　郁子、渡辺幸嗣、藤田　優子、佐伯　桂						

Course Description

For providing comprehensive pedodontic treatment, lectures on topics ranging from basic medicine to the latest state-of-the-art therapies are given by lead instructors. The students then organize and analyze related studies, and make a presentation.

Attainment Objectives

1.　Deepen knowledge regarding clinical pedodontic care in general and ability to understand it.2.　Understand basic medicine (anatomy, histology, etc.) in order to conduct clinical pedodontic practice.3.　Master methods needed to prepare materials for both presentation and clinical practice. 4. Gain ability to collect and organize appropriate research articles, and analyze them.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
average of Tests (1) and (2)	100%

Etc

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2022

Developmental Stomatognathic Function Science Ⅰ

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Maki K.						
Instructor(s)	Maki K., Nishida I., Fujita Y., Saeki K., Watanabe K.						
	牧　憲司、西田　郁子、渡辺幸嗣、藤田　優子、佐伯　桂						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Orientation	Real time lecture (Teams)	Maki	【preparation】 Practice・Pediatric dentistry outline 【review】 The contents of the lecture
2	Growth of teeth and the dentition	Real time lecture (Teams)	Fujita	【preparation】 Case report, commentary of the topics・Tooth development 【review】 The contents of the lecture
3	Mechanism of the teeth eruption	Real time lecture (Teams)	Watanabe	【preparation】 Case report, commentary of the topics・Tooth eruption 【review】 The contents of the lecture
4	Endodontic treatment of the deciduous tooth	Real time lecture (Teams)	Saeki	【preparation】 Case report, commentary of the topics・Endodontics for deciduous teeth 【review】 The contents of the lecture
5	Endodontic treatment of the immature permanebt tooth	Real time lecture (Teams)	Maki	【preparation】 Case report, commentary of the topics・Endodontics for immature permanent teeth 【review】 The contents of the lecture
6	Teeth trauma of the childhood	Real time lecture (Teams)	Nishida	【preparation】 Case report, commentary of the topics・Trauma 【review】 The contents of the lecture

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Developmental Stomatognathic Function Science Ⅰ

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Maki K.						
Instructor(s)	Maki K., Nishida I., Fujita Y., Saeki K., Watanabe K.						
	牧　憲司、西田　郁子、渡辺幸嗣、藤田　優子、佐伯　桂						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
7	Space Maintainace	Real time lecture (Teams)	Maki	【preparation】Case report, commentary of the topics・Space maintain 【review】The contents of the lecture
8	Active Denture Guidance	Real time lecture (Teams)	Maki	【preparation】Case report, commentary of the topics・Active Denture Guidance 【review】The contents of the lecture
9	Coronal restoration of deciduous tooth and the early permanent tooth	Real time lecture (Teams)	Nishida	【preparation】Case report, commentary of the topics・Coronal restoration of deciduous and immature permanent tooth 【review】The contents of the lecture
10	Dental treatment of the child with a disability	Real time lecture (Teams)	Watanabe	【preparation】Case report, commentary of the topic・disability 【review】The contents of the lecture
11	Correspondence to trauma teeth of the childhood	Real time lecture (Teams)	Nishida	【preparation】Case report, commentary of the topics・Trauma 【review】The contents of the lecture
12	Surgical treatment of children (I)	Real time lecture (Teams)	Maki	【preparation】Case report, commentary of the topics・Surgery 【review】The contents of the lecture
13	Surgical treatment of children（II）	Real time lecture (Teams)	Maki	【preparation】Case report, commentary of the topics・Surgery 【review】The contents of the lecture

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Developmental Stomatognathic Function Science Ⅰ

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Maki K.						
Instructor(s)	Maki K., Nishida I., Fujita Y., Saeki K., Watanabe K.						
	牧　憲司、西田　郁子、渡辺幸嗣、藤田　優子、佐伯　桂						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
14	Generl Discussion	Real time lecture (Teams)	Maki Nishida Fujita Watanabe Saeki	【preparation】 Case report, commentary of the topics about pediatric dentistry 【review】 The contents of the lecture
15	Test	Real time discussion (Teams)	Maki	【preparation】 Case report, commentary of the topics about pediatric dentistry 【review】 The contents of the lecture

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Developmental Stomatognathic Function Science II (Case Conference)

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Maki K.						
Instructor(s)	Maki K., Nishida I., Fujita Y., Morikawa K., Saeki K., Watanabe K.						
	Maki K.、Nishida I.、Watanabe K.、Fujita Y.、Saeki K.						

Course Description

Read published studies to increase understanding of the latest research trends in pedodontics and those related to bone morphometry. Conduct debriefing and discussion sessions regarding the content and progress status of each study, and present seminars by osteologists in other basic medicine fields.

Attainment Objectives

Improve the ability to read studies written in English.Gain ability to understand the content of published studies.Improve the capability to comment regarding research activates.Gain ability to understand the trend and background of the study, and enhance knowledge.Enhance knowledge by obtaining the latest information in regard to pedodontics and bone morphometry.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
average of Tests	100%

Etc

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1~15	By taking into consideration the background of the study, contents of recent reports in the field of pedodontics and those related to bone morphometry, and the results of studies performed in related fields, gain ability to understand the application of those findings to both research and clinical practice.	Discussion and commentary in the learning commons room. On line (Teams) discussion will be also held.	Maki K Nishida I Watanabe K Saeki K Fujita Y	【preparation】 Original Articles, commentary of the topics about pediatric dentistryoutline of pedodontics 【review】 The contents of the lecture

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Developmental Stomatognathic Function Science III

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	牧　憲司						
Instructor(s)	Maki K., Nishida I., Fujita Y., Saeki K., Watanabe K.						
	牧　憲司、西田　郁子、渡辺　幸嗣、藤田　優子、佐伯　桂、向坊友宏						

Course Description

Read published studies to improve understanding on the latest research trends in pedodontics, especially on occlusal nurturing. In practicals of making devices for occlusal guidance, the instructors will show demonstrations before the students practice the procedure. Conduct debriefing and discussion sessions regarding the content and progress status of each study, and present seminars by osteologists in other basic medicine fields.

Attainment Objectives

1. Improve the ability to read studies written in English.2. Obtain information and knowledge on pedodontics and orthodontics.3. Learn making devices for occlusal guidance through lectures and practicals.

Textbooks

Title	Author	Publisher
Basic and clinical Practicals in Pedodontics	Maki K, Fujita Y, Saeki K	Ishiyaku Bub, Inc.

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Presentation on articles (50%) and reports (50%).	100%

Etc

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1～15	Taking into consideration the latest information of the studies on pedodontics, orthodontics, and their related fields, the students will learn how to apply it in their studies and clinical practices.	Discussion and Commentary on line (Teams) Students will tale part in the practical work in two groups.	Maki K Nishida I Watanabe K Saeki K Fujita Y Mukaibo T	【preparation】 Commentary on the topics in the field of pediatric dentistry. ・Outline of Pedodontics 【review】 The contents of the lecture

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Orthodontics Ⅰ (Basic)

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kawamoto T.						
Instructor(s)	Kawamoto T., Gunjigake K., Kuroishi K., Mizuhara M., Shirakawa T.						
	Accredited Specialist of Orofacial Function and Orthodontics : Kawamoto, Gunjigake, Kuroishi, Mizuhara, Shirakawa Supervisor of Orofacial Function and Orthodontics : Kawamoto						

Course Description

【Language】 Japanese You will master the basic knowledge of Orofacial orthodontics through understanding about planning and implementing of clinical research.

Attainment Objectives

You should achieve following assignments.1. Analysis of the various information required for diagnosis, can be summed up.2. To understand the biological and bio-mechanical fundamentals required for orthodontic treatment.3. Analysis and evaluation of Orofacial function.4. To understand the indications and mechanism of action of orthodontic appliances.5. To understand the physiological and pathological problems with jaw deformities, cleft lip and cleft palate.6. To understand the biology of bone and soft tissue.7. To understand the principle of the dentition and occlusion of Craniofacial growth and development.8. To understand and implement of the occlusion with development concepts.9. To understand the pathogenesis of congenital diseases.10. To understand the materials of orthodontic.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
Contemporary Orthodontics, 6th Edition	W. R. Profitt	Mosby
Basics of head X-ray standard	K. Miyashita	Quintessence
The latest orthodontic atlas	N. Inoue	Ishiyaku publishers
Orthodontics, 5th Edition	K. Soma et al.	Ishiyaku publishers
Orthodontic clinical series 1 "malocclusion"	Susami T., Chugo T.	Ishiyaku publishers
Orthodontic clinical series 2 "malocclusion"	Yamauchi k., Sakuta M.	Ishiyaku publishers
Orthodontic clinical series 3 "open bite"	Kawada T., Ozeki T.	Ishiyaku publishers
Orthodontic clinical series 4 "crowding"	Matsumoto M., Nakagawa H.	Ishiyaku publishers

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Judgments by the Tests.	80%
After the lecture to the exam (exam and lab).	20%

After the lecture to the exam (exam and lab).Each lecture and lab personnel to questions. Answers to written.

Etc

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2022

Orthodontics Ⅰ (Basic)

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kawamoto T.						
Instructor(s)	Kawamoto T., Gunjigake K., Kuroishi K., Mizuhara M., Shirakawa T.						
	Accredited Specialist of Orofacial Function and Orthodontics : Kawamoto, Gunjigake, Kuroishi, Mizuhara, Shirakawa Supervisor of Orofacial Function and Orthodontics : Kawamoto						

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Orthodontics Ⅰ (Basic)

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kawamoto T.						
Instructor(s)	Kawamoto T., Gunjigake K., Kuroishi K., Mizuhara M., Shirakawa T.						
	Accredited Specialist of Orofacial Function and Orthodontics : Kawamoto, Gunjigake, Kuroishi, Mizuhara, Shirakawa Supervisor of Orofacial Function and Orthodontics : Kawamoto						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Preparation of diagnostic materials, impression, creating a gnathostatic model, Cephalometric tracing, Model analysis, Cephalometric analysisYou will master the method of the evaluation skills based on basic diagnostic data.	LecturePractice	Shirakawa	Review of reference books and handouts
2	Diagnostics, Tooth extraction, Model set-up, Treatment planning, Orthodontic appryance.You will master basic treatment planning and treatment methods skills based on basic diagnostic.	LecturePractice	Mizuhara	Review of reference books and handouts
3	Diagnostic imaging of the CT and MRI You will learn the relevant cases and imaging, based on the basic diagnostic imaging.	LecturePractice	Shirakawa	Review of reference books and handouts
4	Orofacial function, jaw movement, chewing, biting, chewing efficiency, Temporomandibular disorders.You will master the method of the evaluation skills about basic Orofacial function tests, methods, results based on the relevance of cases.	Lecture	Shirakawa	Review of reference books and handouts
5	Orthodontic force and tooth movement, Anchorage, Biologic control of tooth movement, Orthodontic implantsYou will master the principles of tooth movement and learn the orthotic devices.	Lecture	Shirakawa	Review of reference books and handouts
6	Tissue reactions and orthodontic forceYou will learn about tooth movement and periodontal tissue reactions caused by orthodontic treatment which include root resorption, the reactions of blood flow in the periodontal ligament and hyaline.	Lecture	Kuroishi	Review of reference books and handouts
7	Orthopedic force and reactions. You will learn about the reaction and growth change of the bone caused by orthopedic force which include growth of cartilages and growth of bone sutures.	Lecture	Kuroishi	Review of reference books and handouts
8	Bone metabolism, Bone biology, Molecular cell biologyYou will learn about the bone metabolism based on work on the orthodontic tooth movement periodontal tissue cells.	Lecture	Kuroishi	Review of reference books and handouts
9	Materials science on orthodontic materialsYou will learn about the characteristics of the materials required for orthodontic treatment and its selection	Lecture	Kuroishi	Review of reference books and handouts
10	Each orthodontic appliance usage and mechanisms of actionYou will learn about the basic orthodontic structure and mechanism of action, indications, considerations.	Lecture	Mizuhara	Review of reference books and handouts
11	Multibracket techniqueYou will learn about multibracket structure and active orthodontic treatment	LecturePractice	Gunjigake	Review of reference books and handouts
12	Orthodontic treatment for facial deformityYou will learn about surgical orthodontic treatment based on facial deformity for therapeutic purpose, indications, treatment procedures.	Lecture	Gunjigake	Review of reference books and handouts
13	Malocclusion due to congenital anomaliesYou will learn about malocclusion due to congenital anomalies, which include causes, systemic findings and malocclusion.	Lecture	Gunjigake	Review of reference books and handouts
14	Orthopedic treatment with presurgical nasoalveolar molding and bone graft for patient of cleft lip and palateYou will learn about secular orthodontic treatment for cleft lip and palate and learn growth and development	Lecture	Mizuhara	Review of reference books and handouts
15	Retention and retainers (Removable, fixed)You will learn about various types of retainers and static treatment based on physiological and orthodontic treatment	Lecture	Gunjigake	Review of reference books and handouts
16	Myofunctional therapy (MFT)You will learn about prevention and treatment and the effects of bad habit to individual dental arch.	Lecture	Kawamoto	Review of reference books and handouts
17	Dentition and occlusion, and Craniofacial growth and developmentYou will learn about Craniofacial growth and development, tooth, dentition and occlusion, normal growth and development.	Lecture	Mizuhara	Review of reference books and handouts

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Orthodontics Ⅰ (Basic)

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kawamoto T.						
Instructor(s)	Kawamoto T., Gunjigake K., Kuroishi K., Mizuhara M., Shirakawa T.						
	Accredited Specialist of Orofacial Function and Orthodontics : Kawamoto, Gunjigake, Kuroishi, Mizuhara, Shirakawa Supervisor of Orofacial Function and Orthodontics : Kawamoto						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
18	Growth and development with orthodontic treatmentYou will learn about various types of malocclusion and secular treatment based on the growth and development	Lecture	Kawamoto	Review of reference books and handouts
19	Occlusion with development conceptsYou will learn about Occlusion with development based on secular growth and development, malocclusion.	Lecture	Kawamoto	Review of reference books and handouts
20	A comprehensive dental treatmentYou will learn about team approach with overall treatment for oral.	Lecture	Kawamoto	Review of reference books and handouts

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Orthodontics II (Basic)

Grades	1 grade	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	1.0
Methods	practice	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kawamoto T.						
Instructor(s)	Kawamoto T., Gunjigake K., Kuroishi K., Mizuhara M., Shirakawa T.						
	Accredited Specialist of Orofacial Function and Orthodontics : Kawamoto, Gunjigake, Kuroishi, Mizuhara, Shirakawa Supervisor of Orofacial Function and Orthodontics : Kawamoto						

Course Description

【Language】 Japanese You will learn about the optimal materials needed for clinical research and analysis. You will learn about the basic orthodontic appliances and the mechanism of reaction.

Attainment Objectives

You should achieve following assignments.1. To understand about taking materials for clinical research.2. To understand the mechanism of reaction of the orthodontic treatment, can be constructed.3. To understand the Orofacial function and analysis and evaluation.4. To get ability of creating the materials for the presentation and utilization.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
The latest orthodontic atlas	N. Inoue	ishiyaku publishers inc
Contemporary Orthodontics, 6th Edition	William R. Proffit	Mosby

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Judgements by all of the instructors.	100%

Judgements by all of the instructors. Impression, gnathostatic model, oral photo, round and rectangular wire bending, ideal arch bending, cephalometric tracing, tracing evaluation, etc

Etc

[Books]Basic practice manual, Comprehensive diagnostic manual for 4 grades student.

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Orthodontics Ⅱ (Basic)

Grades	1 grade	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	1.0
Methods	practice	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kawamoto T.						
Instructor(s)	Kawamoto T., Gunjigake K., Kuroishi K., Mizuhara M., Shirakawa T.						
	Accredited Specialist of Orofacial Function and Orthodontics : Kawamoto, Gunjigake, Kuroishi, Mizuhara, Shirakawa Supervisor of Orofacial Function and Orthodontics : Kawamoto						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Preparation of diagnostic materials (Oral photo, Facial photo)You will master the method of the diagnostic material taking skills with oral photo and facial photo.	Practice	Mizuhara	Preparation for a basic practice manual,The latest orthodontic atlas
2	Preparation of diagnostic materials (impression, gnathostatic model)You will master the method of impression and taking diagnostic materials for creating a gnathostatic model based on the technique of snap impression using alginate impression material and face bow instrument.	Practice	Kuroishi	Preparation for a basic practice manual,The latest orthodontic atlas
3	Preparation of diagnostic materials (Cephalometric tracing, Cephalometric analysis, model analysis)You will master taking diagnostic materials based on cephalometric tracing, cephalometric analysis, model analysis.	Practice	Kuroishi	Preparation for a basic practice manual,The latest orthodontic atlas
4	Orofacial function and analysis and evaluationYou will learn basic Orofacial function inspection equipment based on its usage method and analysis data.	Practice	Kuroishi	Preparation for a basic practice manual,The latest orthodontic atlas
5	Diagnostics, Tooth extraction, Model set-up, Treatment planning, Orthodontic applianceYou will master basic treatment planning and treatment methods skills based on basic diagnostic.	Practice	Mizuhara	Preparation for a basic practice manual,The latest orthodontic atlas
6	PresentationBased on the usage of digital data capture and PowerPoint, Photo shop, learn to create a presentation.	Practice	Shirakawa	Preparation for a basic practice manual,The latest orthodontic atlas
7	Basic practice (Lingual arch)You will master the technique of the lingual arch and method of adjustment.	Practice	Shirakawa	Preparation for a basic practice manual,The latest orthodontic atlas
8	Basic practice (Lingual arch)You will master the technique of the lingual arch and method of adjustment.	Practice	Shirakawa	Preparation for a basic practice manual,The latest orthodontic atlas
9	Basic practice (Activator)You will learn the method of construction bite and functional orthodontic appliances and method of adjustment.	Practice	Mizuhara	Preparation for a basic practice manual,The latest orthodontic atlas
10	Basic practice (Activator)You will learn the method of construction bite and functional orthodontic appliances and method of adjustment.	Practice	Gunjigake	Preparation for a basic practice manual,The latest orthodontic atlas

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Orthodontics Ⅱ (Basic)

Grades	1 grade	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	1.0
Methods	practice	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kawamoto T.						
Instructor(s)	Kawamoto T., Gunjigake K., Kuroishi K., Mizuhara M., Shirakawa T.						
	Accredited Specialist of Orofacial Function and Orthodontics : Kawamoto, Gunjigake, Kuroishi, Mizuhara, Shirakawa Supervisor of Orofacial Function and Orthodontics : Kawamoto						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
11	Basic practice (Retainer)You will learn about Begg type retainer and method of adjustment.	Practice	Gunjigake	Preparation for a basic practice manual,The latest orthodontic atlas
12	Basic practice (Retainer)You will learn about Begg type retainer and method of adjustment.	Practice	Gunjigake	Preparation for a basic practice manual,The latest orthodontic atlas
13	Analysis and evaluation of the treatment effectYou will learn orthodontc treatment by considering the analysis and evaluation of the treatment effect.	Practice	Kawamoto	Preparation for a basic practice manual,The latest orthodontic atlas
14	Analysis and evaluation of growth and developmentYou will learn orthodontc treatment by considering the growth and development.	Practice	Kawamoto	Preparation for a clinical manual
15	Orthodontc materials and movement of the toothYou will learn orthodontc treatment by considering the orthodontc materials and movement of the tooth.	Practice	Kawamoto	Preparation for a clinical manual

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Orthodontics III (Typodont exercise)

Grades	1 grade	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	1.0
Methods	practice	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kawamoto T.						
Instructor(s)	Kawamoto T., Gunjigake K., Kuroishi K., Mizuhara M., Shirakawa T.						
	Accredited Specialist of Orofacial Function and Orthodontics : Kawamoto, Gunjigake, Kuroishi, Mizuhara, Shirakawa Supervisor of Orofacial Function and Orthodontics : Kawamoto						

Course Description

【Language】 Japanese To understand the mechanics of proper tooth movement and performed on typodont.

Attainment Objectives

You should achieve following assignments.1. To understand relationships of tooth movement to orthodontic force.2. To understand the frictional resistance of wires and brackets.3. To understand the relationship of forces to moments.4. To understand necessity of anchorage about intramaxillary anchorage, intermaxillary anchorage, extraoral anchorage.5. To understand the properties of the wire.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
Contemporary orthodontics	W. R. Profitt	Mosby
The latest orthodontic atlas	N. Inoue	ishiyaku publishers inc
Common Sense Mechanics	Thomas. Mulligan	
Biomechanics in Orthodontics	Ram S., Ph.D. Nanda	Quintessence

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Evaluation of the instructor for each step. Present each steps and discuss.	100%

Receive the evaluation of the instructor for each step. In addition, students have to present each steps and discuss.

Etc

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Orthodontics III (Typodont exercise)

Grades	1 grade	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	1.0
Methods	practice	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kawamoto T.						
Instructor(s)	Kawamoto T., Gunjigake K., Kuroishi K., Mizuhara M., Shirakawa T.						
	Accredited Specialist of Orofacial Function and Orthodontics : Kawamoto, Gunjigake, Kuroishi, Mizuhara, Shirakawa Supervisor of Orofacial Function and Orthodontics : Kawamoto						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Preparation of Typodont 1You will master the method of Multibracket therapy through brackets bonding, brackets positioning for full metal tooth and preparation of the molar band, electrical soldering.	Practice	Mizuhara	Typodont syllabus preparation and review
2	Preparation of Typodont 1You will master the method of Multibracket therapy through brackets bonding, brackets positioning for full metal tooth and preparation of the molar band, electrical soldering.	Practice	Mizuhara	Typodont syllabus preparation and review
3	Preparation of Typodont 1You will master the method of Multibracket therapy through brackets bonding, brackets positioning for full metal tooth and preparation of the molar band, electrical soldering.	Practice	Mizuhara	Typodont syllabus preparation and review
4	Wire bending 1Learn about standard edgewise arch wire morphology and bending round wire.	Practice	Sago	Typodont syllabus preparation and review
5	Wire bending 2Learn about standard edgewise rectangular wire and bend.	Practice	Sago	Typodont syllabus preparation and review
6	Wire bending 3Learn about the adjustment of the arch wire and bending.	Practice	Shirakawa	Typodont syllabus preparation and review
7	Typodont 1 (leveling)You will learn the early changes of malocclusion by multibracket system based on physiological responses.	Practice	Kuroishi	Typodont syllabus preparation and review
8	Typodont 2 (leveling)You will learn the early changes of malocclusion by multibracket system based on physiological responses.	Practice	Kuroishi	Typodont syllabus preparation and review
9	Typodont 3 (Canine tooth retraction)You will learn the purpose of distal movement of canine tooth and the method and considerations.	Practice	Kuroishi	Typodont syllabus preparation and review
10	Typodont 3 (Canine tooth retraction)You will learn the purpose of distal movement of canine tooth and the method and considerations.	Practice	Gunjigake	Typodont syllabus preparation and review
11	Typodont 5 (Incisors retraction)You will learn distal movement of incisors of multibracket method based on high need presence about reinforced anchorage, incisor torque control, arch width control.	Practice	Gunjigake	Typodont syllabus preparation and review
12	Typodont 5 (Incisors retraction)You will learn distal movement of incisors of multibracket method based on high need presence about reinforced anchorage, incisor torque control, arch width control.	Practice	Gunjigake	Typodont syllabus preparation and review
13	Typodont 7 (Ideal arch, Finish)You will learn to establish a normal occlusion based on physiological and orthodontic equipment	Practice	Kawamoto	Typodont syllabus preparation and review
14	Typodont 7 (Ideal arch, Finish)You will learn to establish a normal occlusion based on physiological and orthodontic equipment	Practice	Kawamoto	Typodont syllabus preparation and review

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Orthodontics III (Typodont exercise)

Grades	1 grade	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	1.0
Methods	practice	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kawamoto T.						
Instructor(s)	Kawamoto T., Gunjigake K., Kuroishi K., Mizuhara M., Shirakawa T.						
	Accredited Specialist of Orofacial Function and Orthodontics : Kawamoto, Gunjigake, Kuroishi, Mizuhara, Shirakawa Supervisor of Orofacial Function and Orthodontics : Kawamoto						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
15	Typodont presentation (Course description)To understand the multi-bracket system method by describing the progress of the whole for typodont practice.	Presentation	Kawamoto	Typodont syllabus preparation and review

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Orthodontics Ⅳ (Clinical training)

Grades	2-4 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	1.0
Methods	practice	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kawamoto T.						
Instructor(s)	Kawamoto T., Gunjigake K., Kuroishi K., Mizuhara M., Shirakawa T.						
	Accredited Specialist of Orofacial Function and Orthodontics : Kawamoto, Gunjikake, Kuroishi, Mizuhara, Shirakawa　Supervisor of Orofacial Function and Orthodontics : Kawamoto						

Course Description

【Language】 Japanese Carry out the treatment to the end from the start of treatment on the basis of the basic knowledge and skills that you learn in the first year. To update the knowledge and skills for the planning of clinical research.

Attainment Objectives

You should achieve following assignments.1. To get ability of communicate effectively with patients.2. Analysis of the various information needed for diagnosis, can be summed up.3. To understand the biological and bio-mechanical fundamentals required for orthodontic treatment.4. To get ability of analysis for changes in treatment and apply to the treatment step.5. Analysis and evaluation of the treatment mechanism.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
Contemporary orthodontics	W. R. Profit	
Common Sense Mechanics	Thomas. Mulligan	

Grading Criteria and Method of Evalution

Evaluation item		Ratio
Evaluation of the instructor for each step. each steps and discuss.	Present	100%

Receive the evaluation of the instructor for each step. In addition, students have to present each steps and discuss.

Etc

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Orthodontics Ⅳ (Clinical training)

Grades	2-4 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	1.0
Methods	practice	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kawamoto T.						
Instructor(s)	Kawamoto T., Gunjigake K., Kuroishi K., Mizuhara M., Shirakawa T.						
	Accredited Specialist of Orofacial Function and Orthodontics : Kawamoto, Gunjikake, Kuroishi, Mizuhara, Shirakawa Supervisor of Orofacial Function and Orthodontics : Kawamoto						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Preparation of diagnostic materials (Oral photo, Facial photo, impression, gnathostatic model)You will master and the diagnostic material taking skills based on the technique of taking oral photo and facial photo by degital cameras, snap impression using alginate impression and face bow instrument, creating a gnathostatic model about patients.	Lecturespractice	Kawamoto, Gunjigake, Kuroishi, Mizuhara, Shirakawa	Summary of each steps from diagnosis to end of treatment
2	Preparation of diagnostic materials (Cephalometric tracing, Cephalometric analysis, model analysis)You will master taking diagnostic materials based on cephalometric tracing, cephalometric analysis, model analysis about patients.	Lecturespractice	Kawamoto, Gunjigake, Kuroishi, Mizuhara, Shirakawa	Summary of each steps from diagnosis to treatment
3	Analysis and evaluation of Orofacial function (chewing, occlusion, breathing)You will learn Orofacial function by considering the evaluation of chewing, occlusion, breathing.	Lecturespractice	Kawamoto, Gunjigake, Kuroishi, Mizuhara, Shirakawa	Summary of each steps from diagnosis to treatment
44291	Diagnostics, PresentationYou will master basic treatment planning, treatment methods skills, and creating the presentation based on basic diagnostic and the usage of digital data capture and PowerPoint, Photo shop, learn to create a presentation about patients.	Lecturespractice	KawamotoGunjigakeKuroishiSagoMizuhara	Summary of each steps from diagnosis to treatment
44359	Orthodontic materials and movement of the toothYou will learn orthodontic treatment by considering the orthodontic materials and movement of the tooth about patients.	Lecturespractice	Kawamoto, Gunjigake, Kuroishi, Mizuhara, Shirakawa	Summary of each steps from diagnosis to treatment
13-15	Analysis and evaluation of the treatment effect, growth and developmentYou will learn orthodontic treatment by considering the evaluation of treatment effect, growth and development about patients.	Lecturespractice	Kawamoto, Gunjigake, Kuroishi, Mizuhara, Shirakawa	Summary of each steps from diagnosis to treatment

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Orofacial Function and Orthodontics Ⅰ

Grades	1 grade	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kawamoto T.						
Instructor(s)	Kawamoto T., Gunjigake K., Kuroishi K., Mizuhara M., Shirakawa T.						
	Accredited Specialist of Orofacial Function and Orthodontics : Kawamoto, Gunjigake, Kuroishi, Mizuhara, Shirakawa Supervisor of Orofacial Function and Orthodontics : Kawamoto,						

Course Description

【Language】 Japanese You will learn about the organization and analysis of related documents of your research. You have to do oral presentation about your research. You will consider about the method of research.

Attainment Objectives

You should achieve following assignments.1. To get ability of creating the materials for the presentation and utilization.2. To get ability of analysis and collect information for research.3. To get ability of consider methodology of research.4. To get ability of collecting data.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
Contemporary Orthodontics, 6th Edition	William R. Proffit	Mosby
Color atlas X-ray anatomy and cephalometric analysis	K. Miyashita	Quintessence
Orhodontics Current Principles & Techniques	T.M.Graber	ELSEVER/MOSBY

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Summary background research for their research.	50%
The protocol for research.	50%

Summary background research for their research and literature, submit the study protocol.

Etc

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Orofacial Function and Orthodontics Ⅰ

Grades	1 grade	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kawamoto T.						
Instructor(s)	Kawamoto T., Gunjigake K., Kuroishi K., Mizuhara M., Shirakawa T.						
	Accredited Specialist of Orofacial Function and Orthodontics : Kawamoto, Gunjigake, Kuroishi, Mizuhara, Shirakawa Supervisor of Orofacial Function and Orthodontics : Kawamoto,						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
44199	Literature search and organizeYou will learn about research based on literature search and how to organize research.	Lecturesseminars	Kawamoto, Gunjigake, Kuroishi, Mizuhara, Shirakawa	The use of the Internet,PubMed Understanding of the usage,usage ofFile maker
44293	Background of the research and literature summaryYou will learn about research based on literature search and how to organize research.	Exercises and small group seminars	Kawamoto, Gunjigake, Kuroishi, Mizuhara, Shirakawa	Preparation for the consolidation of the literature using literature using PubMed for your collect
44417	Biology, genetics, molecular cell and orthodontic treatmentYou will learn the research through orthodontic treatment orthodontic treatment information based on genetics and molecular cell biology.	Exercises and small group seminars	Kawamoto, Gunjigake, Kuroishi, Mizuhara, Shirakawa	Preparation for the consolidation of the literature using literature using PubMed for your collect
44481	Discussion of the research methodologyYou will learn how to appeal your research topics through the result of research.	Exercises and small group seminars	Kawamoto, Gunjigake, Kuroishi, Mizuhara, Shirakawa	PowerPoint Preparation of presentation
13-15	Literature Review (Related to domestic and foreign paper summarization)You will learn how to make discussion of paper through related domestic and international paper.	Exercises and small group seminars	Kawamoto, Gunjigake, Kuroishi, Mizuhara, Shirakawa	Summarization of domestic and international related to the theme of your article

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Orofacial Function and Orthodontics II

Grades	2-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4.0
Methods	lesson and seminar	Total time	60.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kawamoto T.						
Instructor(s)	Kawamoto T., Gunjigake K., Kuroishi K., Mizuhara M., Shirakawa T.						
	Accredited Specialist of Orofacial Function and Orthodontics : Kawamoto, Gunjigake, Kuroishi, Mizuhara, Shirakawa Supervisor of Orofacial Function and Orthodontics : Kawamoto,						

Course Description

【Language】 Japanese Organize the collected documents and information, analyzes the presentation. Consider the method of research. Make presentations and article submission.

Attainment Objectives

You should achieve following assignments.1. To understand the significance of Orofacial function and occlusion with development concept. 2. To understand the biological and bio-mechanical fundamentals required for orthodontic treatment. 3. To get ability of creating the materials for the presentation and utilization. 4. To get ability of analyzsis and collect information for research. 5. To get ability of considering the methodology of research. 6. To get ability of writing the article and submiting.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
Contemporary Orthodontics, 6th Edition	W. R. Profitt	Mosby
Comprehensive Cleft Care	Joseph Losee, Richard E. Kirschner	CRC Press
Atlas of Orthodontic Treatment for Patients with Birth Defects	Takayuki Kuroda, Kimie Ohyama	Needham Press, Inc.
New atlas of congenital anomaly	T. Kajii	Nanzando Publishing
Contemporary Treatmnet of Dentofacial Deformity	W.R.Proffit	Mosby
Gorlin's Syndrome of the Head and Neck	Hennekam/Krantz/Allanson	Oxford University

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Evaluate the progress of the research.	100%

Evaluate the progress of the research in accordance with the research protocol in oral presentations and in writing.Evaluate the presentation at the meeting.

Etc

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Orofacial Function and Orthodontics II

Grades	2-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4.0
Methods	lesson and seminar	Total time	60.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kawamoto T.						
Instructor(s)	Kawamoto T., Gunjigake K., Kuroishi K., Mizuhara M., Shirakawa T.						
	Accredited Specialist of Orofacial Function and Orthodontics : Kawamoto, Gunjigake, Kuroishi, Mizuhara, Shirakawa Supervisor of Orofacial Function and Orthodontics : Kawamoto,						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
44198	Orofacial function and occlusion with development concept. You will learn the history of occlusion by understanding the basics of Orofacial function.	Lectureseminar	Gunjigake	Reviewhandouts
44259	Developments of Orofacial Function and Orthodontics researchYou will learn to understand the basic and clinical research related to orthodontic correction of consensus.	Lectureseminar	Gunjigake	Review of 1 grade lectures
44322	Histological changes during experimental tooth movementYou will learn about reaction of teeth and periodontal tissue by orthodontic tooth movement.	Lectureseminar	Mizuhara	Review of 1 grade lectures
44385	Mechanics of tooth movementYou will learn about tooth movement which include Tipping, Bodily movement, Intrusion, Extrusion, Rotation, Torque.	Lectureseminar	Gunjigake	Typodontsyllabus
44449	Biology, Molecular cell biology, Genetics and Orthodontic treatmentTo understand the basic science, to learn the need for orthodontic treatment.	Lectureseminar	Mizuhara	Review of first year lectures
44513	Background of the research and literature researchYou need to presentation of the academic background of your research.	Lectureseminar	Kuroishi	Create a Power point on each research, individually
14-16	Presentation of the background of the research and literature researchYou need to presentation of your research (Research presses etc.).	Lectureseminar	Kuroishi	Create a Power point on each research, individually
17-19	Methodology for the researchYou will learn about the methodology of your research based on literature search and gathered information.	Lectureseminar	Shirakawa	Create a Power point on each research, individually
20-22	Announcement of research methodologyYou will learn about presentation of the methodology of your research based on fabrication of research methods, figures and tables using Power point.	Lectureseminar	Shirakawa	Create a Power point on each research, individually
23-24	Data collection analysis presentationThe analysis of data collected for research presentation.	Lectureseminar	Mizuhara	Create a Power point on each research, individually
25-26	Meeting presentations and media creationYou have to present your research in the form of oral or poster proceedings at academic exhibits (No. 1).	Lectureseminar	Kawamoto	Create a Power point on each research, individually
27-28	Meeting presentations and media creationYou have to present your research in the form of oral or poster proceedings at academic exhibits (No. 2).	Lectureseminar	Kawamoto	Create a Power point on each research, individually
29-30	Write an article and submitYou will learn about the proper method of writing an article to understand the guidelines of the journal.	Lectureseminar	Kawamoto	Review journals submission guideline

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Orofacial Function and Orthodontics III

Grades	2 grade	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kawamoto T.						
Instructor(s)	Kawamoto T., Gunjigake K., Kuroishi K., Mizuhara M., Shirakawa T.						
	Accredited Specialist of Orofacial Function and Orthodontics : Kawamoto, Gunjigake, Kuroishi, Mizuhara, Shirakawa Supervisor of Orofacial Function and Orthodontics : Kawamoto,						

Course Description

【Language】 Japanese Understand the relationship between occlusion and orthodontics (related to research) through chewing, swallowing and respiratory function. Also consider the cause of the risk which include root resorption and pain associated with treatment.

Attainment Objectives

You should achieve following assignments.1. To get ability of evaluating the respiratory function.2. To clarify and to understand the relationship between activity of masticatory muscle EMG and occlusal sound.3. To clarify and to understand the relationship between mouth breathing and bite if training.4. To clarify and to understand the regulation of bone metabolism through the trigeminal ganglion.5. To clarify and to understand the elucidation of the mechanism of periodontal tissue osteoactivin.6. To clarify and understand the friction on the wire between the brackets.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
Contemporary Orthodontics, 6th Edition	William R. Proffit	Mosby
Orhodontics Current Principles & Techniques	T.M.Graber	ELSEVER/MOSBY

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Evaluation of a research protocol	100%

Evaluate the progress of the research in accordance with the research protocol in oral presentations and in writing.Evaluate the presentation at the meeting.

Etc

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Orofacial Function and Orthodontics III

Grades	2 grade	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kawamoto T.						
Instructor(s)	Kawamoto T., Gunjigake K., Kuroishi K., Mizuhara M., Shirakawa T.						
	Accredited Specialist of Orofacial Function and Orthodontics : Kawamoto, Gunjigake, Kuroishi, Mizuhara, Shirakawa Supervisor of Orofacial Function and Orthodontics : Kawamoto,						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
44199	Orofacial functionYou will learn about the Orofacial function based on growth and development.	Lecture	Shirakawa	Reviewhandouts
44292	Biological study on the optimal orthodontic force (1)You will learn about the biological study of orthodontic periodontal tissue cells of the bone resorption and mechanism based on optimal orthodontic forces.	Exercises and small group seminars	Mizuhara	One-year review of the next lecture
44385	Tooth movement and bone remodelingYou will learn about the orthodontic tooth movement during bone remodeling based on functions of periodontal ligament fibroblast cells, steoclasts.	Exercises and small group seminars	Kuroishi	A perusal of related papers
9	Tooth movement and bone remodelingYou will learn about the orthodontic tooth movementduring bone remodeling,based on functions of osteoblasts.	Exercises and small group seminars	Kuroishi	A perusal of related papers
44481	Evaluation of masticatory functionYou will learn about the necessity of the Orthodontic treatment to understand the basics of the masticatory function	Exercises and small group seminars	Gunjigake	A perusal of related papers
13	Regulation of bone metabolism through the trigeminal ganglionYou will learn about the relationship of the nervous system and bone metabolism	Exercises and small group seminars	Kawamoto	A perusal of related papers
14-15	Mechanism of reaction of bone metabolism in periodontal tissueYou will learn about bone metabolism in periodontal tissue and the bone formation mechanism of traction side during orthodontic tooth movement based on the mechanism of reaction and osteoactivin on periodontal ligament fibroblast cells in bone formation factors.	Exercises and small group seminars	Kawamoto	A perusal of related papers

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Oral and Maxillofacial Radiology

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y., Oda M., Matsumoto S., Wakasugi-Sato N.						
	Morimoto Y* ** ***, Oda M* ** ***, Wakasugi-Sato N** ***, , Matsumoto-Takeda S*** *Advisor of Oral and Maxillofacial Radiology, **Specialist of Oral and Maxillofacial Radiology, ***Certified Dentists of Oral and Maxillofacial Radiology						

Course Description

You can study the diagnostic methods using six hundred teaching files in our department and in fact produce the imaging diagnostic reports on the respective case. After then, you can understand the important and essential points on the respective case based on the explanations on the case by the instructors. At the same time, you can study and appropriately comprehend the pathological findings on the respective case through the textbook “Contemporary Oral and Maxillofacial Pathology”. In imaging interpretation of the respective case, you should use “CT, MRI in head and neck” and “Handbook of diagnostic imaging in head and neck” as the textbook.

Attainment Objectives

To understand the diagnostic methods for many kinds of lesions in oral and maxillofacial regions through imaging findings on dental X-ray radiographs, panoramic radiographs, CT, MRI, ultrasonography, and 18F-FDG-PET-CT. At the same time, you should comprehend the usefulness of the judgment based on together with the medical interview of patients, anthroposcopy, and the palpation for the lesion in imaging diagnosis of the many kind of lesion in oral and maxillofacial regions.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
Head and Neck Imaging 3rd edition 1996		
Contemporary Oral and Maxillofacial Pathology		
Basic radiology		
Oral Anatomy		
CT, MRI in head and neck, Handbook of diagnostic imaging in head and neck		

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Oral presentations	50%
Oral examinations	50%

Etc

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Oral and Maxillofacial Radiology

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y., Oda M., Matsumoto S., Wakasugi-Sato N.						
	Morimoto Y* ** ***, Oda M* ** ***, Wakasugi-Sato N** ***, , Matsumoto-Takeda S*** *Advisor of Oral and Maxillofacial Radiology, **Specialist of Oral and Maxillofacial Radiology, ***Certified Dentists of Oral and Maxillofacial Radiology						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1, 2	Diagnosis of 20 teeth-related lesions in 600 cased teaching files	Practice	Morimoto Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
3, 4	Diagnosis of 20 teeth and jaw-related lesions in 600 cased teaching files	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
5, 6	Diagnosis of 20 periodontal lesions in 600 cased teaching files	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
7, 8	Diagnosis of 20 periodontal and jaw-related lesions in 600 cased teaching files	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
9, 10	Diagnosis of 20 oral mucosa-related lesions in 600 cased teaching files I	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
11,12	Diagnosis of 20 oral mucosa-related lesions in 600 cased teaching files II	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
13, 14	Diagnosis of 20 parapharyngeal space-related lesions in 600 cased teaching files	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
15, 16	Diagnosis of 20 carotid and perivertebral space-related lesions in 600 cased teaching files	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
17, 18	Diagnosis of 20 larynx and pharynx-related lesions in 600 cased teaching files	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
19, 20	Diagnosis of 20 sublingual space-related lesions in 600 cased teaching files I	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
21, 22	Diagnosis of 20 sublingual space-related lesions in 600 cased teaching files II	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
23, 24	Diagnosis of 20 submandibular space-related lesions in 600 cased teaching files I	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook

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Oral and Maxillofacial Radiology

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y., Oda M., Matsumoto S., Wakasugi-Sato N.						
	Morimoto Y* ** ***, Oda M* ** ***, Wakasugi-Sato N** ***, , Matsumoto-Takeda S*** *Advisor of Oral and Maxillofacial Radiology, **Specialist of Oral and Maxillofacial Radiology, ***Certified Dentists of Oral and Maxillofacial Radiology						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
25, 26	Diagnosis of 20 submandibular space-related lesions in 600 cased teaching files II	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
27, 28	Diagnosis of 20 submandibular and sublingual spaces-related lesions in 600 cased teaching files	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
29, 30	Diagnosis of 20 masticator space-related lesions in 600 cased teaching files	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
31, 32	Diagnosis of 20 maxillary sinus-related lesions in 600 cased teaching files	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
33, 34	Diagnosis of 20 TMJ-related lesions in 600 cased teaching files	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
35, 36	Diagnosis of 20 maxilla and mandible-related lesions in 600 cased teaching files	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
37, 38	Diagnosis of 20 retropharyngeal space-related lesions in 600 cased teaching files	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
39, 40	Diagnosis of 20 parapharyngeal and retropharyngeal spaces-related lesions in 600 cased teaching files	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
41, 42	Diagnosis of 20 pharynx and masticator space-related lesions in 600 cased teaching files	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
43, 44	Diagnosis of 20 pharynx-related lesions in 600 cased teaching files	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
45, 46	Diagnosis of 20 lymph nodes-related lesions in 600 cased teaching files	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
47, 48	Diagnosis of 20 cystic masses in 600 cased teaching files	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook

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Oral and Maxillofacial Radiology

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y., Oda M., Matsumoto S., Wakasugi-Sato N.						
	Morimoto Y* ** ***, Oda M* ** ***, Wakasugi-Sato N** ***, , Matsumoto-Takeda S*** *Advisor of Oral and Maxillofacial Radiology, **Specialist of Oral and Maxillofacial Radiology, ***Certified Dentists of Oral and Maxillofacial Radiology						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
49, 50	Diagnosis of 20 salivary glands-related lesions in 600 cased teaching files	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
51, 52	Diagnosis of 20 thyroid and parathyroid glands-related lesions in 600 cased teaching files	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
53, 54	Diagnosis of 20 base of skull and temporal bone-related lesions in 600 cased teaching files	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
55, 56	Diagnosis for 20 kinds of diseases in oral and maxillofacial regions I	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
57, 58	Diagnosis for 20 kinds of diseases in oral and maxillofacial regions II	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
59, 60	Diagnosis for 20 kinds of diseases in oral and maxillofacial regions III	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook

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Conference of Oral and Maxillofacial Radiology

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y., Oda M., Matsumoto S., Wakasugi-Sato N.						
	Morimoto Y* ** ***, Tanaka T* ** ***, Oda M* ** ***, Wakasugi-Sato N** ***, Matsumoto-Takeda S*** *Advisor of Oral and Maxillofacial Radiology, **Specialist of Oral and Maxillofacial Radiology, ***Certified Dentists of Oral and Maxillofacial Radiology						

Course Description

You can learn and experience the real imaging diagnostic practice through the real patients in our dental hospital at the meeting of conference. In addition, you can look for and read the reference on many kinds of diseases in oral and maxillofacial regions experienced at the conference.

Attainment Objectives

To acquire the imaging diagnostic technique for many kinds of legions in oral and maxillofacial regions through the real patients in our dental hospital.
In addition, to precisely understand the respective diseases in oral and maxillofacial regions based on the references on what you experience.

Textbooks

Title	Author	Publisher
Head and Neck Imaging 3rd edition		

Reference Books

Title	Author	Publisher
Head and Neck Imaging 3rd edition		

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Oral presentations	50%
Oral examinations	50%

Etc

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1~15	Diagnosis for many kinds of diseases in oral and maxillofacial regions of the real patients in our Dental College through our conference, and read the reference on the respective disease.	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook

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Outline of Oral and Maxillofacial Radiology

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	2.0
Methods	lesson and seminar	Total time	60.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y., Oda M., Matsumoto S., Wakasugi-Sato N.						
	Morimoto Y* ** ***, Oda M* ** ***, Wakasugi-Sato N** ***, ,Matsumoto-Takeda S*** *Advisor of Oral and Maxillofacial Radiology, **Specialist of Oral and Maxillofacial Radiology, ***Certified Dentists of Oral and Maxillofacial Radiology						

Course Description

Firstly, you can sufficiently review the oral anatomy and the oral pathology. After then, you can learn the basic imaging diagnosis, the basic radiobiology, and the basic radiological physics. As the form of the present subject, you will present the respective content in front of our professors after the respective tutotrial study, and the professor in charge of the respective content will precisely explain it

Attainment Objectives

To perfectly comprehend the basic oral anatomy and oral pathology. To understand the basic imaging principles, technique of many kinds of imaging modalities, imaging diagnostic interpretation, and the basic radiobiology.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
Head and Neck Imaging 3rd edition		
Contemporary Oral and Maxillofacial Pathology		
Basic radiology		
Oral Anatomy		
MRI in head and neck, Handbook of diagnostic imaging in head and neck		

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Oral presentations	50%
Oral examinations	50%

Etc

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Outline of Oral and Maxillofacial Radiology

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	2.0
Methods	lesson and seminar	Total time	60.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y., Oda M., Matsumoto S., Wakasugi-Sato N.						
	Morimoto Y* ** ***, Oda M* ** ***, Wakasugi-Sato N** ***, ,Matsumoto-Takeda S*** *Advisor of Oral and Maxillofacial Radiology, **Specialist of Oral and Maxillofacial Radiology, ***Certified Dentists of Oral and Maxillofacial Radiology						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	History of Radiology, Physics of radiation	Lecture and Practice	Morimoto	Pre- and post-reading of textbook
2	Radiation chemistry	Lecture and Practice	Morimoto	Pre- and post-reading of textbook
3	Basic radiobiology	Lecture and Practice	Morimoto	Pre- and post-reading of textbook
4	Basic radiation measurement methods I	Lecture and Practice	Morimoto	Pre- and post-reading of textbook
5	Basic radiation measurement methods II	Lecture and Practice	Morimoto	Pre- and post-reading of textbook
6	Radiation-related laws and ordinances	Lecture and Practice	Morimoto	Pre- and post-reading of textbook
7	Medical image engineering	Lecture and Practice	Morimoto	Pre- and post-reading of textbook
8	Image storage translation, reproduction, and transfer	Lecture and Practice	Morimoto	Pre- and post-reading of textbook
9	Reviews of basic radiology from 1 to 8.	Lecture and Practice	Morimoto	Pre- and post-reading of textbook
10	maging technique for many kinds of diseases in oral and maxillofacial regions I (Mainly Dental and Panoramic radiographs)	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
11	Imaging technique for many kinds of diseases in oral and maxillofacial regions I (Mainly X-ray CT scans)	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
12	Imaging technique for many kinds of diseases in oral and maxillofacial regions I (Mainly MRI)	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
13	Imaging technique for many kinds of diseases in oral and maxillofacial regions I (Mainly Ultrasonography)	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
14	Imaging technique for many kinds of diseases in oral and maxillofacial regions I (Mainly Scintigraphy)	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
15	Reviews of imaging techniques from 10 to 14.	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook

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Outline of Oral and Maxillofacial Radiology

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	2.0
Methods	lesson and seminar	Total time	60.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y., Oda M., Matsumoto S., Wakasugi-Sato N.						
	Morimoto Y* ** ***, Oda M* ** ***, Wakasugi-Sato N** ***, ,Matsumoto-Takeda S*** *Advisor of Oral and Maxillofacial Radiology, **Specialist of Oral and Maxillofacial Radiology, ***Certified Dentists of Oral and Maxillofacial Radiology						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
16	Diagnosis for many kinds of diseases in oral and maxillofacial regions I (Mainly maxillary sinus-related diseases)	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
17	Diagnosis for many kinds of diseases in oral and maxillofacial regions II (Mainly TMJ-related diseases)	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
18	Diagnosis for many kinds of diseases in oral and maxillofacial regions III (Mainly Maxilla and mandible-related diseases)	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
19	Diagnosis for many kinds of diseases in oral and maxillofacial regions IV (Mainly Parapharyngeal, Matiscator, and Carotid space-related diseases)	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
20	Diagnosis for many kinds of diseases in oral and maxillofacial regions V (Mainly Retoropharyngeal, Perivertebral, Sublingual, and Submandibular space-related diseases)	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
21	Diagnosis for many kinds of diseases in oral and maxillofacial regions VI (Mainly Oropharynx-related diseases)	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
22	Diagnosis for many kinds of diseases in oral and maxillofacial regions VII (Mainly Epipharyx, Hypopharynx, Larynx-related diseases)	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
23	Diagnosis for many kinds of diseases in oral and maxillofacial regions VII (Mainly Lymph nodes-related diseases)	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
24	Diagnosis for many kinds of diseases in oral and maxillofacial regions VIII (Mainly Cystic masses)	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
25	Diagnosis for many kinds of diseases in oral and maxillofacial regions IX (Mainly Salivary glands-related diseases)	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
26	Diagnosis for many kinds of diseases in oral and maxillofacial regions IX (Mainly Thyroid and Parathyroid glands-related diseases)	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
27	Diagnosis for many kinds of diseases in oral and maxillofacial regions X (Mainly Base of skull and Temporary bone-related diseases)	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook

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Outline of Oral and Maxillofacial Radiology

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	2.0
Methods	lesson and seminar	Total time	60.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y., Oda M., Matsumoto S., Wakasugi-Sato N.						
	Morimoto Y* ** ***, Oda M* ** ***, Wakasugi-Sato N** ***, ,Matsumoto-Takeda S*** *Advisor of Oral and Maxillofacial Radiology, **Specialist of Oral and Maxillofacial Radiology, ***Certified Dentists of Oral and Maxillofacial Radiology						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
28	Review of diagnosis for many kinds of diseases in oral and maxillofacial regions from 16 to 27	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
29	Interventional Radiology for many kinds of diseases in maxillofacial regions	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
30	Radiotherapy for oral cancers	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook

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Practice of Oral and Maxillofacial Radiology Ⅰ

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y., Oda M., Matsumoto S., Wakasugi-Sato N.						
	Morimoto Y* ** ***, Oda M* ** ***, Wakasugi-Sato N** ***, Matsumoto-Takeda S*** *Advisor of Oral and Maxillofacial Radiology, **Specialist of Oral and Maxillofacial Radiology, ***Certified Dentists of Oral and Maxillofacial Radiology						

Course Description

You can learn the applied imaging diagnosis, the applied radiobiology, and the applied radiological physics based on your knowledge through Basic Dental Radiology.

Attainment Objectives

To understand the applied imaging diagnosis, the applied radiobiology, and the applied radiological physics.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
Basic Radiology		

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Oral presentation	50%
Oral examination	50%

Etc

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Practice of Oral and Maxillofacial Radiology Ⅰ

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y., Oda M., Matsumoto S., Wakasugi-Sato N.						
	Morimoto Y* ** ***, Oda M* ** ***, Wakasugi-Sato N** ***, Matsumoto-Takeda S*** *Advisor of Oral and Maxillofacial Radiology, **Specialist of Oral and Maxillofacial Radiology, ***Certified Dentists of Oral and Maxillofacial Radiology						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	The examinations of radiation protection supervisor I and II	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
2	History of Radiology, Physics of radiation I	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
3	Physics of radiation II	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
4	Radioisotope	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
5	Basic radiation measurement methods	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
6	Radiation control	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
7	Radiation protection	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
8	Radiation-related laws and ordinances I	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
9	Radiation-related laws and ordinances II	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
10	Radiobiology	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
11	Radiation chemistry I	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
12	Radiation chemistry II	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook

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Practice of Oral and Maxillofacial Radiology Ⅰ

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y., Oda M., Matsumoto S., Wakasugi-Sato N.						
	Morimoto Y* ** ***, Oda M* ** ***, Wakasugi-Sato N** ***, Matsumoto-Takeda S*** *Advisor of Oral and Maxillofacial Radiology, **Specialist of Oral and Maxillofacial Radiology, ***Certified Dentists of Oral and Maxillofacial Radiology						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
13	Review I (Compound questions)	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
14	Review II (Compound questions)	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
15	Review III (Compound questions)	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook

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Practice of Oral and Maxillofacial Radiology Ⅱ

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y., Oda M., Matsumoto S., Wakasugi-Sato N.						
	Morimoto Y* ** ***, Oda M* ** ***, Wakasugi-Sato N** ***, Matsumoto-Takeda S*** *Advisor of Oral and Maxillofacial Radiology, **Specialist of Oral and Maxillofacial Radiology, ***Certified Dentists of Oral and Maxillofacial Radiology						

Course Description

You can study and examine many kinds of the recent imaging diagnostic investigations based on your knowledge through Basic Dental Radiology.

Attainment Objectives

You can basically and specially operate the CT scan and MRI system, and can take photographs of CT images and MRI. In addition, you can easily use the special software on analysis of CT and MRI imaging data in attached workstation. Moreover, you can apply the analytical software “SPSS” on imaging data analysis.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Oral presentation	50%
Oral examination	50%

Etc

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Practice of Oral and Maxillofacial Radiology Ⅱ

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y., Oda M., Matsumoto S., Wakasugi-Sato N.						
	Morimoto Y* ** ***, Oda M* ** ***, Wakasugi-Sato N** ***, Matsumoto-Takeda S*** *Advisor of Oral and Maxillofacial Radiology, **Specialist of Oral and Maxillofacial Radiology, ***Certified Dentists of Oral and Maxillofacial Radiology						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Imaging techniques and analysis of conventional X-ray CT scans	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
2	Imaging techniques and analysis of CT angiography	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
3	Data analysis using statistical analytical software SPSS (I)	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
4	Imaging techniques and analysis of conventional MRI (I)	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
5	Imaging techniques and analysis of conventional MRI (II)	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
6	Imaging techniques and analysis of conventional MRI (III)	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
7	Imaging analysis for Dynamic MR sialography (I)	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
8	Imaging analysis for Dynamic MR sialography (II)	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
9	Imaging analysis for Functional MRI (I)	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
10	Imaging analysis for Functional MRI (II)	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
11	Imaging analysis for Functional MRI (III)	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
12	Imaging analysis for MR angiography (I)	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook

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Practice of Oral and Maxillofacial Radiology II

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y., Oda M., Matsumoto S., Wakasugi-Sato N.						
	Morimoto Y* ** ***, Oda M* ** ***, Wakasugi-Sato N** ***, Matsumoto-Takeda S*** *Advisor of Oral and Maxillofacial Radiology, **Specialist of Oral and Maxillofacial Radiology, ***Certified Dentists of Oral and Maxillofacial Radiology						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
13	Imaging analysis for MR angiography (II)	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
14	Data analysis using statistical analytical software SPSS (II)	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
15	Review from 1 to 14	Lecture and Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook

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A reading circle on Oral and Maxillofacial Radiology

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y., Oda M., Matsumoto S., Wakasugi-Sato N.						
	Morimoto Y* ** ***, Oda M* ** ***, Wakasugi-Sato N** ***, Matsumoto-Takeda S*** *Advisor of Oral and Maxillofacial Radiology, **Specialist of Oral and Maxillofacial Radiology, ***Certified Dentists of Oral and Maxillofacial Radiology						

Course Description

You can learn and study the imaging diagnostic method for many kind of diseases in oral and maxillofacial regions through the representative textbook “Head and Neck Imaging 3rd edition” by Som, Curtin et al

Attainment Objectives

To understand of imaging findings on many kind of diseases in oral and maxillofacial regions through the representative textbook “Head and Neck Imaging 3rd edition” by Som, Curtin et al

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Oral presentation	50%
Oral examiantion	50%

Etc

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1~15	A reading circle of “Head and Neck Imaging”	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumot-Takeda	Pre- and post-reading of textbook “Head and Neck Imaging 3rd edition”

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Basic treatment strategy of Oral and Maxillofacial Surgery

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Tominaga K.						
Instructor(s)	Tominaga K., Sasaguri M., Habu M., Mitsugi S., Takahashi S., Haraguchi K., Tabe S., Yaginuma T., Fukuda H.						
	（口腔外科指導医）Tominaga K. （口腔外科専門医）Tominaga K.Sasaguri M.Habu M.Mitsugi S. （口腔外科認定医）Takahashi O.Tabe S.Haraguti K.Shiotsugu S. Yaginuma T. Fukuda A.						

Course Description

【Language】English and Japanese To acquire basic treatment skills and strategies of Oral and Maxillofacial Surgery including systemic management for hospitalized patients.

Attainment Objectives

1.To acquire the basic skills of minor oral surgery2.To acquire the basic knowledge of major oral and maxillofacial surgery3.To acquire the basic skills of pre- and post- operative management for oral surgery4. To acquire the basic skills of systemic management for hospitalized patients5.To acquire the basic skills of management for medical emergency

Textbooks

Title	Author	Publisher
Contemporary Oral and Maxillofacial Surgery	Mosby	

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
ケースプレゼンテーション	30%
症状・手術レポート	30%
単位認定試験	40%

Total evaluation by case presentations, operation records and oral examinations

Etc

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2022

Basic treatment strategy of Oral and Maxillofacial Surgery

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Tominaga K.						
Instructor(s)	Tominaga K., Sasaguri M., Habu M., Mitsugi S., Takahashi S., Haraguchi K., Tabe S., Yaginuma T., Fukuda H.						
	（口腔外科指導医）Tominaga K. （口腔外科専門医）Tominaga K.Sasaguri M.Habu M.Mitsugi S. （口腔外科認定医）Takahashi O.Tabe S.Haraguti K.Shiotsugu S. Yaginuma T. Fukuda A.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1,2	Uncomplicated exodontia	Practice	Tominaga	Preparation and review of text books
3,4	Preparation and review of text books	Practice	Mitsugi	Preparation and review of text books
5,6	Management of impacted teeth	Practice	Mitsugi	Preparation and review of text books
7,8	Oral examination 1	Case presentation and oral examination	Tominaga	Preparation of case presentation
9,10	Surgical management of cysts of the jaws	Practice	Fukuda	Preparation and review of text books
11,12	Periapical surgery	Practice	Takahashi	Preparation and review of text books
13,14	Surgical management of jaw tumors	Practice	Takahashi	Preparation and review of text books
15,16	Preprosthetic surgery	Practice	Fukuda	Preparation and review of text books
17,18	Prevention of surgical site infection	Practice	Yaginuma	Preparation and review of text books
19,20	Oral examination 2	Case presentation and oral examination	Sasaguri	Preparation of case presentation
21,22	Preparation for orthognathic surgery	Practice	Tabe	Preparation and review of text books
23,24	Surgical management of jaw deformities	Practice	Habu	Preparation and review of text books
25,26	Postsurgical management of orthognathic surgery	Practice	Takahashi	Preparation and review of text books
27,28	Oral examination 3	Case presentation and oral examination	Tominaga	Preparation of case presentation
29,30	Principles of anti-cancer chemotherapy for oral cancer	Practice	Fukuda	Preparation and review of text books
31,32	Principles of irradiation therapy for oral cancer	Practice	Haraguchi	Preparation and review of text books
33,34	Surgical management of oral cancer	Practice	Haraguchi	Preparation and review of text books

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Basic treatment strategy of Oral and Maxillofacial Surgery

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Tominaga K.						
Instructor(s)	Tominaga K., Sasaguri M., Habu M., Mitsugi S., Takahashi S., Haraguchi K., Tabe S., Yaginuma T., Fukuda H.						
	（口腔外科指導医）Tominaga K. （口腔外科専門医）Tominaga K.Sasaguri M.Habu M.Mitsugi S. （口腔外科認定医）Takahashi O.Tabe S.Haraguti K.Shiotsugu S. Yaginuma T. Fukuda A.						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
35,36	Surgical reconstruction of oro-facial region	Practice	Tabe	Preparation and review of text books
37,38	Postsurgical management of oral cancer patients	Practice	Tabe	Preparation and review of text books
39,40	Principles of terminal care for oral cancer patients	Practice	Fukuda	Preparation and review of text books
41,42	Oral examination 4	Case presentation and oral examination	Tominaga	Preparation of case presentation
43,44	Surgical management of temporomandibular disorders	Practice	Tabe	Preparation and review of text books
45,46	Preparation for cleft lip and palate (CLP) surgery	Practice	Habu	Preparation and review of text books
47,48	Postsurgical management of CLP patients	Practice	Habu	Preparation and review of text books
49,50	Surgical management of CLP	Practice	Sasaguri	Preparation and review of text books
51,52	Oral examination 5	Case presentation and oral examination	Sasaguri	Preparation of case presentation
53,54	Intravenous sedation for oral surgery	Practice	Yaginuma	Preparation and review of text books
55,56	General anesthesia for oral surgery	Practice	Yaginuma	Preparation and review of text books
57,58	Management of medical emergenc	Practice	Yaginuma	Preparation and review of text books
59-60	Oral examination 6	Case presentation and oral examination	Tominaga	Preparation of case presentation

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Basic diagnostic strategy of Oral and Maxillofacial Surgery

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Tominaga K.						
Instructor(s)	Tominaga K., Sasaguri M., Habu M., Mitsugi S., Takahashi S., Haraguchi K., Tabe S., Yaginuma T., Fukuda H.						
	（口腔外科指導医）Tominaga K. （口腔外科専門医）Tominaga K.Sasaguri M.Habu M.Mitsugi S. （口腔外科認定医）Takahashi O.Tabe S.Haraguti K. Morioka M. Yaginuma T. Fuhuda A.						

Course Description

【Language】English and Japanese To acquire basic treatment skills and strategies of Oral and Maxillofacial Surgery including systemic management for hospitalized patients.

Attainment Objectives

1.To acquire the basic skills of minor oral surgery2.To acquire the basic knowledge of major oral and maxillofacial surgery3.To acquire the basic skills of pre- and post- operative management for oral surgery4. To acquire the basic skills of systemic management for hospitalized patients5.To acquire the basic skills of management for medical emergency

Textbooks

Title	Author	Publisher
Contemporary Oral and Maxillofacial Surgery		Mosby

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
case presentations and oral/paper examinations	30%
report	30%
test	40%

Etc

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Basic diagnostic strategy of Oral and Maxillofacial Surgery

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Tominaga K.						
Instructor(s)	Tominaga K., Sasaguri M., Habu M., Mitsugi S., Takahashi S., Haraguchi K., Tabe S., Yaginuma T., Fukuda H.						
	（口腔外科指導医）Tominaga K. （口腔外科専門医）Tominaga K.Sasaguri M.Habu M.Mitsugi S. （口腔外科認定医）Takahashi O.Tabe S.Haraguti K. Morioka M. Yaginuma T. Fuhuda A.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1,2	Medical interview	Practice	Mitsugi	Preparation and review of text books
3,4	Clinical laboratory test 1;Blood test, biochemical test	Practice	Mitsugi	Preparation and review of text books
5,6	Clinical laboratory test 2;Immunochemical blood test	Practice	Mitsugi	Preparation and review of text books
7,8	Image reading of computed tomography	Practice	Takahashi	Preparation and review of text books
9,10	Image reading of magnetic resonance image	Practice	Takahashi	Preparation and review of text books
11,12	Image reading of ultrasound examination	Practice	Takahashi	Preparation and review of text books
13,14	Selection of the optimal modalities for various diseases	Practice	Fukuda	Preparation and review of text books
15,16	Analysis of the collected data and diagnosis	Practice	Tabe	Preparation and review of text books
17,18	Oral examination 1	Case presentation and oral examination	Tominaga	Preparation of case presentation
19,20	Pathological characteristics of mucous membrane diseases	Practice	Fukuda	Preparation and review of text books
21,22	Clinical characteristics of mucous membrane diseases	Practice	Fukuda	Preparation and review of text books
23,24	Basic strategy for diagnosis of mucous membrane diseases	Practice	Fukuda	Preparation and review of text books
25,26	Diagnosis of odontogenic infection	Practice	Tabe	Preparation and review of text books
27,28	Management of odontogenic infection	Practice	Tabe	Preparation and review of text books
29,30	Diagnosis of temporomandibular disorders	Practice	Habu	Preparation and review of text books
31,32	Principles of management of temporomandibular disorders	Practice	Habu	Preparation and review of text books
33,34	Diagnosis of oral psychosomatic disorders	Practice	Sasaguri	Preparation and review of text books

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Basic diagnostic strategy of Oral and Maxillofacial Surgery

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Tominaga K.						
Instructor(s)	Tominaga K., Sasaguri M., Habu M., Mitsugi S., Takahashi S., Haraguchi K., Tabe S., Yaginuma T., Fukuda H.						
	（口腔外科指導医）Tominaga K. （口腔外科専門医）Tominaga K.Sasaguri M.Habu M.Mitsugi S. （口腔外科認定医）Takahashi O.Tabe S.Haraguti K. Morioka M. Yaginuma T. Fuhuda A.						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
35,36	Principles of management of oral psychosomatic disorders	Practice	Sasaguri	Preparation and review of text books
37,38	Oral examination 2	Case presentation and oral examination	Sasaguri	Preparation of case presentation
39,40	Dental management of the patients with diabetes mellitus	Practice	Tominaga	Preparation and review of text books
41,42	Dental management of the patients with cardiovascular disorders	Practice	Habu	Preparation and review of text books
43,44	Dental management of the patients under anticoagulant therapy	Practice	Haraguchi	Preparation and review of text books
45,46	Dental management of the patients with lever and kidney diseases	Practice	Yaginuma	Preparation and review of text books
47,48	Dental management of the patients under bisphosphonate therapy	Practice	Haraguchi	Preparation and review of text books
49,50	Dental management of medically compromised host	Practice	Yaginuma	Preparation and review of text books
51,52	Oral examination 3	Case presentation and oral examination	Tominaga	Preparation of case presentation
53,54	Medical and dental ethics	Practice	Yaginuma	Preparation and review of text books
55,56	Medical record writing based on problem oriented system	Practice	Yaginuma	Preparation and review of text books
57,58	Oral examination 4	Case presentation and oral examination	Tominaga	Preparation of case presentation
59,60	Final test of basic diagnosis course	Paper examination	Tominaga	Paper examination

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Oral and Maxillofacial Surgery 1(Pathology and disease mechanisms)

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Tominaga K.						
Instructor(s)	Tominaga K., Sasaguri M., Habu M., Mitsugi S., Takahashi S., Haraguchi K., Tabe S., Yaginuma T., Fukuda H.						
	Tominaga K.Sasaguri M.Habu M.Mitsugi S.Takahashi O.Tabe S.Haraguti K. Yaginuma T. Fukuda A.						

Course Description

【Language】English and Japanese To acquire the basic knowledge of various disease models in orofacial region

Attainment Objectives

1.To acquire the basic skills of histopathological specimens2.To acquire the basic skills of immunohistopathological stainng3.To acquire the knowledge of osteonecrosis model induced by bisphosphonate4.To acquire the knowledge of arthritis model of temporomandibular joint5.To acquire the knowledge of transplanted cancer model

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
practice outcome and oral examination	50%
test	50%

Etc

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2022

Oral and Maxillofacial Surgery 1(Pathology and disease mechanisms)

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Tominaga K.						
Instructor(s)	Tominaga K., Sasaguri M., Habu M., Mitsugi S., Takahashi S., Haraguchi K., Tabe S., Yaginuma T., Fukuda H.						
	Tominaga K.Sasaguri M.Habu M.Mitsugi S.Takahashi O.Tabe S.Haraguti K. Yaginuma T. Fukuda A.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Processing of histopathological specimens 1: from tissue fixation to embeddding	Lecture and practice	Takahashi	Preparation and review of text book
2	Processing of histopathological specimens 2: decalcification and slicing	Lecture and practice	Tabe	Preparation and review of text book
3	Processing of histopathological specimens 3: H-E staining	Lecture and practice	Tabe	Preparation and review of text book
4	Immunohistopathological staining 1:undecalcified specimens	Lecture and practice	Fukuda	Preparation and review of text book
5	Immunohistopathological staining 2: decalcified specimens	Lecture and practice	Fukuda	Preparation and review of text book
6	Arthritis model of the temporomandibular joint: the impact and the mechanisms	Lecture and practice	Haraguchi	Preparation and review of text book
7	Histopathological findings of the arthritis model	lecture	Habu	Preparation and review of text book
8	Model of bisphosphonate related osteonecrosis of the jaw : the impact and the mechanisms	lecture	Habu	Preparation and review of text book
9	BRONJ model on osteoporotic animals: the impact and the mechanisms	lecture	Sasaguri	Preparation and review of text book
10	Histopathological findings of the BRONJ model	lecture	Tominaga	Preparation and review of text book
11	Immunohistopathological findings of the BRONJ model	lecture	Tominaga	Preparation and review of text book
12	Development of treatment methods using BRONJ models	lecture	Yaginuma	Preparation and review of text book
13	Transplanted cancer: the impact and the mechanisms	lecture	Mitsugi	Preparation and review of text book
14	Histopathological findings of the transplanted cancer	lecture	Yaginuma	Preparation and review of text book
15	Oral examination	Oral examination	Tominaga	Preparation of research presentation

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Oral and Maxillofacial Surgery 2 (Drug and gene induction)

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Tominaga K.						
Instructor(s)	Tominaga K., Sasaguri M., Habu M., Mitsugi S., Takahashi S., Haraguchi K., Tabe S., Yaginuma T., Fukuda H.						
	Tominaga K.Sasaguri M.Habu M.Mitsugi S.Takahashi O.Tabe S.Haraguti K.Morioka M. Yaginuma T.Fukuda A.						

Course Description

【Language】English and Japanese To acquire the skills of electropoletion and sonopolation

Attainment Objectives

1.To acquire the basic skills of cell culture2.To acquire the basic skills of microorganisms culture3.To acquire the basic skills of DNA management4. To acquire the basic skills of electroporation and sonoporation5.To acquire the basic analyzing methods

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
practice outcome and oral examination	50%
test	50%

Etc

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Oral and Maxillofacial Surgery 2 (Drug and gene induction)

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Tominaga K.						
Instructor(s)	Tominaga K., Sasaguri M., Habu M., Mitsugi S., Takahashi S., Haraguchi K., Tabe S., Yaginuma T., Fukuda H.						
	Tominaga K.Sasaguri M.Habu M.Mitsugi S.Takahashi O.Tabe S.Haraguti K.Morioka M. Yaginuma T.Fukuda A.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	cell culture 1: aseptic processing	Lecture and practice	Takahashi	Preparation and review of text book
2,3	Cell culture 2: subcultivation	Lecture and practice	Haraguchi	Preparation and review of text book
4	Bacterial culture	Lecture and practice	MitsugiYaginuma	Preparation and review of text book
5,6	Extraction of DNA	Lecture and practice	Tabe	Preparation and review of text book
7	Electroporation	Lecture and practice	Habu	Preparation and review of text book
8	Sonoporation	Lecture and practice	Tabe	Preparation and review of text book
9,10	Analyzing method 1: polymerase chain reaction	Lecture and practice	Fukuda	Preparation and review of text book
11,12	Analyzing method 2: western blotting and ELISA	Lecture and practice	FukudaYaginuma	Preparation and review of text book
13,14	Analyzing method 3: flowcytometry	Lecture and practice	SasaguriYaginuma	Preparation and review of text book
15	Oral examination	Oral examination	Tominaga	Preparation of research presentation

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Oral and Maxillofacial Surgery 3 (Conferences)

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Tominaga K.						
Instructor(s)	Tominaga K., Sasaguri M., Habu M., Mitsugi S., Takahashi S., Haraguchi K., Tabe S., Yaginuma T., Fukuda H.						
	Tominaga K.Sasaguri M.Habu M.Mitsugi S.Takahashi O.Tabe S.Haraguti.K.Morioka M. Yaginuma T.Fukuda A.						

Course Description

【Language】English and Japanese Case conference, Research conference, Circle reading of English text book of OMFS, Attending to team approach conference

Attainment Objectives

To improve comprehension of the clinical and research backgroundTo improve comprehension of the clinical and research future scopeTo be critical reader

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
presentation	100%

The contents of their presentation are evaluated by the instructors.

Etc

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
44211	Back ground and future scope of individual researches and clinical cases	Conference presentation	TominagaSasaguriHabuTakahashiMitsugiTabeHaraguchiMoriokaYaginuma	Research of related articles

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Oral Medicine （Basic Course）

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yoshioka I						
Instructor(s)	Iwanaga K., Yoshioka I., Nishimuta F.						
	Advisor and Specialist of Oral and Maxillofacial Surgery : Yoshioka　Specialist of Oral and Maxillofacial Surgery : Iwanaga　Certifying physician of Oral and Maxillofacial Surgery : Nishimuta						

Course Description

The purpose of oral medicine is not only to examine the oral cavity of a dental patient, but also diagnose and treat oral disease in consideration of the patient’ s systemic backgrounds. Oral Medicine is the discipline of dentistry with the internal medical approach. We will study about the basic way of thinking of oral medicine.

Attainment Objectives

1.　You can diagnose and treat oral disease in consideration of systemic disease.2.　You can understand the effects that oral disease can affect to systemic status and systemic disease can affect to oral disease, when you treat the patient of oral disease with systemic disease.3.　You can understand the medical relationship and team medicine between medical doctors, co-staff and other related people.

Textbooks

Title	Author	Publisher
handout distribution		

Reference Books

Title	Author	Publisher
Oral Surgery (Japanese)	Kanemitsu Shirasuna, Kogo Mikihiko edt	Ishiyaku Publishers, Inc
Oral Medicine (Japanese)	Genyuki Yamane,Mikio Kusama,Hideaki Kubota,Seiji	Nagasue shoten

Grading Criteria and Method of Evalution

Evaluation item	Ratio
report after each lecture (1*4points) 1st-15th	60%
portfolios (1*4points) 1st-10th	40%

Etc

Student consultation: From Monday to Friday：17:00～

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Oral Medicine （Basic Course）

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yoshioka I						
Instructor(s)	Iwanaga K., Yoshioka I., Nishimuta F.						
	Advisor and Specialist of Oral and Maxillofacial Surgery : Yoshioka Specialist of Oral and Maxillofacial Surgery : Iwanaga Certifying physician of Oral and Maxillofacial Surgery : Nishimuta						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	General statements of Oral Medicine, diagnoses of Oral MedicineYou will study the diagnoses and treatments of oral disease with internal medical approach. And you can study the relationship between oral and systemic disease.	Lecture	Yoshioka	Pre reading of literature and textbook
2	Treatment and diagnoses of disease of oral mucosa.You will study about the structure of Oral mucosa. And you can study about the characteristics, symptom, diagnoses and treatments of disease of oral mucosa.	Lecture	Yoshioka	Pre reading of literature and textbook
3	Treatment and diagnoses of temporomandibular disease. You will study the function and structure of temporomandibular joint, classification of temporomandibular disease, and differential diagnoses.	Lecture	Yoshioka	Pre reading of literature and textbook
4	Treatment and diagnoses of Dry MouthYou will study the classification, symptom, differential diagnosis and treatment of Dry Mouth.	Lecture	Yoshioka	Pre reading of literature and textbook
5	Treatment and diagnoses of oral psychosomatic disease. You will study the classification, symptom, differential diagnosis and treatment of oral psychosomatic disease.	Lecture	Yoshioka	Pre reading of literature and textbook
6	Treatments of Oro-facial pain and taste disorder.You will study the diagnoses and treatment plan of Oro-facial pain and taste disorder.	Lecture	Iwanaga	Pre reading of literature and textbook
7	General principles of antibiotic therapy.You will study the classification, characteristics and usage of antibiotic therapy.	Lecture	Iwanaga	Pre reading of literature and textbook
8	Practical managements of arthrocentesis of TMJ.You will study about arthrocntesis of TMJ	Lecture	Iwanaga	Pre reading of literature and textbook
9	Perioperative oral management on patients of cancer.You will study about the significance of perioperative oral management on patients of cancer and practical techniques of management.	Lecture	Iwanaga	Pre reading of literature and textbook
10	Non-surgical treatment of Oral cancer.You will study about non-surgical treatment of oral malignancy such as chemotherapy, immunotherapy and so on.	Lecture	Iwanaga	Pre reading of literature and textbook
11	Oral treatment of cardiovascular disease and respiratory patients.You will study about the important points about oral treatment of cardiovascular and respiratory disease patients.	Lecture	Nishimuta	Pre reading of literature and textbook
12	Oral treatment of metabolism, endocrinology and gynecological diseases patients.You will study about the important points about oral treatment of metabolism, endocrinology and gynecological diseases patients.	Lecture	Nishimuta	Pre reading of literature and textbook
13	Oral treatment of digestive, urological diseases patients.You will study about the important points about the oral treatment of digestive, urological diseases patients.	Lecture	Nishimuta	Pre reading of literature and textbook
14	Oral treatment of blood, autoimmune disease patients.You will study about the important points about the oral treatment of blood, autoimmune disease patients.	Lecture	Nishimuta	Pre reading of literature and textbook
15	Medical cooperation/ SummaryYou will study about clinic, hospital collaboration, medical collaboration, medical-dental collaboration multidisciplinary collaboration and consultation for the purpose of team medicine.	Lecture	Nishimuta	Post reading of literature and textbook

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Oral Medicine (Advanced Course Ⅰ)

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yoshioka I						
Instructor(s)	Iwanaga K., Yoshioka I., Tsurushima H., Sakaguti O., Tanaka J., Ohtani T., Nishimuta F.						
	Advisor and Specialist of Oral and Maxillofacial Surgery : Yoshioka Specialist of Oral and Maxillofacial Surgery : Iwanaga、Tsuurushima、Sakaguchi、Tanaka Certifying physician of Oral and Maxillofacial Surgery : Otani、Nishimuta						

Course Description

【Language】English and Japanese In this course, you will practice basic skills about oral mucosal disease, temporomandibular disorders cancer, orofacial pain and dry mouth. Under the management by Supervisors, you will carry out simulation training and clinical practice, and acquire fundamental knowledge as well as skills for a specialist in the area of oral medicine.

Attainment Objectives

To acquire fundamental knowledge and skills about oral mucosal disease, temporomandibular disorders and dry mouth.You should achieve following assignments; ・ Construction of good relationship with patients and stuffs ・ Collection of clinical cases ・ Acquisition of skills about oral mucosal disease, temporomandibular disorders cancer, orofacial pain and dry mouth.

Textbooks

Title	Author	Publisher
handout distribution		

Reference Books

Title	Author	Publisher
Oral Surgery (Japanese)	Kanemitsu Shirasuna, Kogo Mikihiko edt	Ishiyaku Publishers, Inc
Oral Medicine (Japanese)	Genyuki Yamane,Mikio Kusama,Seiji Nakamura,Hidea	Nagasue shoten

Grading Criteria and Method of Evalution

Evaluation item	Ratio
report after each lecture (1*4points) 1st-15th	60%
portfolios (1*4points) 1st-10th	40%

Etc

Student consultation: From Monday to Friday：17:00～

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2022

Oral Medicine (Advanced Course Ⅰ)

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yoshioka I						
Instructor(s)	Iwanaga K., Yoshioka I., Tsurushima H., Sakaguti O., Tanaka J., Ohtani T., Nishimuta F.						
	Advisor and Specialist of Oral and Maxillofacial Surgery : Yoshioka Specialist of Oral and Maxillofacial Surgery : Iwanaga、Tsuurushima、Sakaguchi、Tanaka Certifying physician of Oral and Maxillofacial Surgery : Otani、Nishimuta						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1,2	Oral mucosal diseases1You will learn clinical diagnostic reasoning.(1)	Practice	Sakaguchi	Pre reading of literature and textbook10 case
3,4	Oral mucosal diseases2You will learn clinical diagnostic reasoning.(2)	Practice	Sakaguchi	Pre reading of literature and textbook5 case
5,6	Oral mucosal diseases3You will learn clinical diagnostic reasoning.(3)	Practice	Sakaguchi	Pre reading of literature and textbook5 case
7,8	Oral mucosal diseases4You will learn treatment for oral mucosal disease.	Practice	Tanaka	Pre reading of literature and textbook5 case
9,10	Temporomandibular disorder1You will learn clinical diagnostic reasoning. (1)	Practice	Tanaka	Pre reading of literature and textbook 10case
11,12	Temporomandibular disorder2You will learn clinical diagnostic reasoning.(2)	Practice	Tanaka	Pre reading of literature and textbook5case
13,14	Temporomandibular disorder3You will learn clinical diagnostic reasoning.(3)	Practice	Tanaka	Pre reading of literature and textbook5 case
15,16	Temporomandibular disorder4You will learn treatment for TMD.(physical therapy)	Practice	Nishimuta	Pre reading of literature and textbook5case
17,18	Temporomandibular disorder5You will learn treatment for TMD.(splint therapy)	Practice	Nishimuta	Pre reading of literature and textbook1 case
19,20	Temporomandibular disorder6You will learn treatment for TMD.(manipulation)	Practice	Nishimuta	Pre reading of literature and textbook1 case
21,22	Temporomandibular disorder7You will learn treatment for TMD.(arthrocentesis)	Practice	Nishimuta	Pre reading of literature and textbook1 case
23,24	Temporomandibular disorder8You will learn treatment for TMD.(surgical operation)	Practice	Iwanaga	Pre reading of literature and textbook5 case
25,26	Dislocation of the temporomandibular joint1 You will learn conservative treatment.	Practice	Iwanaga	Pre reading of literature and textbook1 case
27,28	Dislocation of the temporomandibular joint2You will learn surgical operation.	Practice	Iwanaga	Pre reading of literature and textbook1 case
29,30	Tumor of the temporomandibular jointYou will learn surgical operation.	Practice	Iwanaga	Pre reading of literature and textbook1 case
31,32	Dry mouth1You will learn clinical diagnostic reasoning.	Practice	Tsurushima	Pre reading of literature and textbook5 case
33,34	Dry mouth2You will learn clinical diagnostic reasoning.	Practice	Tsurushima	Pre reading of literature and textbook5 case
35,36	Dry mouth3You will learn clinical diagnostic reasoning.	Practice	Tsurushima	Pre reading of literature and textbook5 case

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Oral Medicine (Advanced Course Ⅰ)

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yoshioka I						
Instructor(s)	Iwanaga K., Yoshioka I., Tsurushima H., Sakaguti O., Tanaka J., Ohtani T., Nishimuta F.						
	Advisor and Specialist of Oral and Maxillofacial Surgery : Yoshioka Specialist of Oral and Maxillofacial Surgery : Iwanaga、Tsuurushima、Sakaguchi、Tanaka Certifying physician of Oral and Maxillofacial Surgery : Otani、Nishimuta						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
37,38	Dry mouth4You will learn treatment for dry mouth.	Practice	Tsurushima	Pre reading of literature and textbook5 case
39,40	Oral psychosomatic disease 1You will learn clinical diagnostic reasoning.	Practice	Tsurushima	Pre reading of literature and textbook3 case
41,42	Oral psychosomatic disease 2You will learn clinical diagnostic reasoning.	Practice	Otani	Pre reading of literature and textbook1 case
43,44	Oral psychosomatic disease 3You will learn clinical diagnostic reasoning.	Practice	Otani	Pre reading of literature and textbook1 case
45,46	Oral psychosomatic disease 4You will learn treatment for oral psychosomatic disease.	Practice	Otani	Pre reading of literature and textbook1 case
47,48	Orofacial pain1You will learn clinical diagnostic reasoning.	Practice	Otani	Pre reading of literature and textbook1 case
49,50	Orofacial pain2You will learn clinical diagnostic reasoning.	Practice	Otani	Pre reading of literature and textbook1 case
51,52	Orofacial pain3You will learn clinical diagnostic reasoning.	Practice	Yoshioka	Pre reading of literature and textbook1 case
53,54	Orofacial pain4You will learn treatment for orofacial pain.	Practice	Yoshioka	Pre reading of literature and textbook1 case
55,56	Chemotherapy You will learn chemotherapy for oral cancer.	Practice	Yoshioka	Pre reading of literature and textbook1 case
57,58	Radiation therapy You will learn radiation therapy for oral cancer.	Practice	Yoshioka	Pre reading of literature and textbook1 case
59,60	Chemoradiation therapy You will learn chemorediation therapy for oral cancer	Practice	Yoshioka	Pre reading of literature and textbook1 case

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Oral Medicine (Advanced Course Ⅱ)

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	2.0
Methods	practice	Total time	60.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yoshioka I						
Instructor(s)	Yoshioka I., Tsurushima H., Ohtani T.						
	Advisor and Specialist of Oral and Maxillofacial Surgery : Yoshioka Specialist of Oral and Maxillofacial Surgery :Tsurushima Certifying physician of Oral and Maxillofacial Surgery : Otani						

Course Description

【Language】English and Japanese In this course, you will practice basic skills about oral treatment of the patients with systemic disease. Under the management by Supervisors, you will carry out simulation training and clinical practice, and acquire fundamental knowledge as well as skills for a specialist in the area of oral medicine.

Attainment Objectives

To acquire fundamental knowledge and skills about oral treatment of the patients with systemic disease. .You should achieve following assignments; ・ Construction of good relationship with patients and stuffs ・ Collection of clinical cases ・ Acquisition of skills about oral treatment of the patients with systemic disease.

Textbooks

Title	Author	Publisher
handout distribution		

Reference Books

Title	Author	Publisher
Oral and maxillofacial surgery	Shirasuna K., kogou M.	Ishiyaku Published
Oral Medicine	Genyuki Yamane,Mikio Kusama,Hideaki Kubota,Seiji	Nagasue shoten

Grading Criteria and Method of Evalution

Evaluation item	Ratio
case presentation	60%
report	40%

Etc

Student consultation: From Monday to Friday：17:00～

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Oral Medicine (Advanced Course Ⅱ)

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	2.0
Methods	practice	Total time	60.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yoshioka I						
Instructor(s)	Yoshioka I., Tsurushima H., Ohtani T.						
	Advisor and Specialist of Oral and Maxillofacial Surgery : Yoshioka Specialist of Oral and Maxillofacial Surgery :Tsurushima Certifying physician of Oral and Maxillofacial Surgery : Otani						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1,2	HypertensionYou will learn oral treatment for patients with hypertension.	Practice	Yoshioka	Pre reading of literature and textbook2 case
3,4	Heart diseaseYou will learn oral treatment for patients with heart disease.	Practice	Yoshioka	Pre reading of literature and textbook2 case
5,6	Respiratory disease You will learn oral treatment for patients with respiratory disease.	Practice	Yoshioka	Pre reading of literature and textbook2 case
7,8	Diabetes mellitusYou will learn oral treatment for patients with diabetes mellitus.	Practice	Yoshioka	Pre reading of literature and textbook2 case
9,10	Gynecological disease - pregnant womenYou will learn oral treatment for patients with gynecological disease and pregnant women.	Practice	Yoshioka	Pre reading of literature and textbook2 case
11,12	HemodyscrasiaYou will learn oral treatment for patients with hemodyscrasia.	Practice	Tsurushima	Pre reading of literature and textbook2case
13,14	Autoimmune diseaseYou will learn oral treatment for patients with autoimmune disease.	Practice	Tsurushima	Pre reading of literature and textbook2 case
15,16	Hepatic diseaseYou will learn oral treatment for patients with hepatic disease.	Practice	Tsurushima	Pre reading of literature and textbook2 case
17,18	Renal disease You will learn oral treatment for patients with renal disease.	Practice	Tsurushima	Pre reading of literature and textbook2 case
19,20	Orthopedic disorder You will learn oral treatment for patients with orthopedic disorder.	Practice	Tsurushima	Pre reading of literature and textbook2 case
21,22	Neurological disease You will learn oral treatment for patients with neurological disease.	Practice	Otani	Pre reading of literature and textbook2 case
23,24	Neurosurgical diseaseYou will learn oral treatment for patients with neurosurgical disease.	Practice	Otani	Pre reading of literature and textbook2 case
25,26	Otorhinolaryngological diseaseYou will learn oral treatment for patients with otorhinolaryngological disease.	Practice	Otani	Pre reading of literature and textbook2 case
27,28	Infection You will learn oral treatment for patients with infection.	Practice	Otani	Pre reading of literature and textbook2 case
29,30	Dermatological disease You will learn oral treatment for patients with dermatological disease.	Practice	Otani	Pre reading of literature and textbook2 case

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Oral Medicine (Advanced Course Ⅲ)

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	2.0
Methods	practice	Total time	60.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ohtani T.						
Instructor(s)	Tanaka J., Ohtani T., Nishimuta F.						
	Certifying physician of Oral and Maxillofacial Surgery : Ohtani T., Tanaka J., Nishimuta F.						

Course Description

【Language】English and Japanese ・ In this course, you will learn the medical cooperation through this workshop. Under the management by Supervisors, you will carry out simulation training and clinical practice, and acquire fundamental knowledge as well as skills about medical collaboration.

Attainment Objectives

To acquire fundamental knowledge and skills about oral mucosal disease, temporomandibular disorders and dry mouth.You should achieve following assignments; ・ Construction of good relationship with patients and stuffs ・ Collection of clinical cases ・ Acquisition of skills about medical collaboration

Textbooks

Title	Author	Publisher
handout distribution		

Reference Books

Title	Author	Publisher
Oral Surgery (Japanese)	Kanemitsu Shirasuna, Kogo Mikihiko edt	Ishiyaku Publishers, Inc
Oral Medicine	Genyuki Yamane,Mikio Kusama,Hideaki Kubota,Seiji	Nagasue shoten

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Presentation	60%
Report	40%

Etc

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Oral Medicine (Advanced Course Ⅲ)

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	2.0
Methods	practice	Total time	60.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ohtani T.						
Instructor(s)	Tanaka J., Ohtani T., Nishimuta F.						
	Certifying physician of Oral and Maxillofacial Surgery : Ohtani T., Tanaka J., Nishimuta F.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1,2,3,4	Hospital and hospital cooperationYou will learn the hospital and hospital cooperation.	Practice	Ohtani	Pre reading of literature and textbook
5,6	Medical ConsultationYou will learn about the consultation.	Practice	Ohtani	Pre reading of literature and textbook
7,8	Medical and dental cooperationYou will learn the medical and dental cooperation.	Practice	Ohtani	Pre reading of literature and textbook
9,10	Multidisciplinary collaborationYou will learn the collaboration with doctors.	Practice	Ohtani	Pre reading of literature and textbook
11,12	Multidisciplinary collaborationYou will learn the collaboration with nurses.	Practice	Ohtani	Pre reading of literature and textbook
13,14	Multidisciplinary collaborationYou will learn the collaboration with registered dietitians.	Practice	Tanaka	Pre reading of literature and textbook
15,16	Multidisciplinary collaborationYou will learn about the collaboration with dental hygienists.	Practice	Tanaka	Pre reading of literature and textbook
17,18	Multidisciplinary collaborationYou will learn about the collaboration with medical social workers.	Practice	Tanaka	Pre reading of literature and textbook
19,20	Multidisciplinary collaborationYou will learn the collaboration with personal care workers.	Practice	Tanaka	Pre reading of literature and textbook
21,22	Multidisciplinary collaborationYou will learn the collaboration with medical assistants.	Practice	Tanaka	Pre reading of literature and textbook
23,24	Perioperative oral management of cancer patients 1You will learn the oral management of the patient with cancer undergoing chemotherapy.	Practice	Nishimuta	Pre reading of literature and textbook
25,26	Perioperative oral management of cancer patients 2You will learn the oral management of patient with cancer undergoing radiation therapy.	Practice	Nishimuta	Pre reading of literature and textbook
27,28	Oral management of patient taking Anti-resorptive agents.You will learn the oral management of patient taking Anti-resorptive agents.	Practice	Nishimuta	Pre reading of literature and textbook
29,30	The treatment of Anti-resorptive agents-related Osteonecrosis of the Jaw.You will learn treatment of Anti-resorptive agents-related Osteonecrosis of the Jaw.	Practice	Nishimuta	Pre reading of literature and textbook

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Oral Medicine Ⅰ(Jaw Deformity)

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yoshioka I						
Instructor(s)	Yoshioka I., Tsurushima H., Sakaguti O.						
	Advisor and Specialist of Oral and Maxillofacial Surgery : Yoshioka Specialist of Oral and Maxillofacial Surgery : Tsurushima,Sakaguchi						

Course Description

【Language】English and Japanese In this course, you will get knowledge and practice basic skills about the research of jaw deformity.

Attainment Objectives

You should understand following subjects;1. The methods of analysis and evaluation about the form of jaw deformity.2. The methods of analysis and evaluation about the function of jaw deformity.

Textbooks

Title	Author	Publisher
handout distribution		

Reference Books

Title	Author	Publisher
Oral and Maxillofacial Surgery	Kanemitsu Shirasuna, Kogo Mikihiko edt	Ishiyaku Publishers, Inc.
Oral Medicine	Genyuki Yamane,Mikio Kusama,Hideaki Kubota,Seiji	Nagasue shoten

Grading Criteria and Method of Evalution

Evaluation item	Ratio
reports after the lectures (4x15)	60%
assignments (4x10)	40%

Etc

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2022

Oral Medicine Ⅰ(Jaw Deformity)

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yoshioka I						
Instructor(s)	Yoshioka I., Tsurushima H., Sakaguti O.						
	Advisor and Specialist of Oral and Maxillofacial Surgery : Yoshioka Specialist of Oral and Maxillofacial Surgery : Tsurushima,Sakaguchi						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Survey of jaw deformitiesYou will learn about the trends of jaw deformities.	Lectures and Seminars	Yoshioka	Pre reading of literature and textbook
2	Inspection of jaw de- -formitiesYou will learn about the trends of jaw deformities.	Lectures and Seminars	Yoshioka	Pre reading of literature and textbook
3	Analysis of jaw defomitiesYou will learn aboout the analysis of jaw deformities.	Lectures and Seminars	Yoshioka	Pre reading of literature and textbook
4	Preoperative assessment of jaw deformities.You will learn about the Pre- -operative assessment.	Lectures and Seminars	Yoshioka	Pre reading of literature and textbook
5	Preoperative association of jaw deformities.You will learn about the pre- -operative association.	Lectures and Seminars	Yoshioka	Pre reading of literature and textbook
6	Medical cooperation of jaw deformities.You will learn about the medical cooperation.	Lectures and Seminars	Tsurushima	Pre reading of literature and textbook
7	Orthognatic surgeryYou will learn about the orthognatic surgery.	Lectures and Seminars	Tsurushima	Pre reading of literature and textbook
8	Post-operative assessment of jaw deformities.You will earn about the post-operative assessment.	Lectures and Seminars	Tsurushima	Pre reading of literature and textbook
9	Evaluation of the masti- -catory functionyou will learn about the Evaluation of the masticatory function.	Lectures and Seminars	Tsurushima	Pre reading of literature and textbook
10	Psycological evaluation of patients with jaw defor- -mities.You will learn about the psycological evaluation of patients with jaw deform- -ities.	Lectures and Seminars	Tsurushima	Pre reading of literature and textbook
11	Respiratory function of patients with jaw defor- -mities.you will learn about the relationship between respi- -ratory function and jaw deformities.	Lectures and Seminars	Sakaguchi	Pre reading of literature and textbook
12	Articulation function of patients with jaw defor- -mities.You will learn about the relationship between arti- -culation function and jaw deformities.	Lectures and Seminars	Sakaguchi	Pre reading of literature and textbook
13	Digestive function of patients with jaw defor- -mities.You will learn about the relationship between digestive function and jaw deformities	Lectures and Seminars	Sakaguchi	Pre reading of literature and textbook
14	Three-dimensional evalu- -ation of jaw deformities.You will learn about three- -dimensional evaluation of jaw deformities.	Lectures and Seminars	Sakaguchi	Pre reading of literature and textbook
15	Genetic features of patients with jaw deformities.You will learn about genetic features of patients with jaw deformities.	Lectures and Seminars	Sakaguchi	Pre reading of literature and textbook

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Oral Medicine II

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yoshioka I						
Instructor(s)	Iwanaga K., Yoshioka I., Tanaka J., Nishimuta F.						
	Yoshioka I、Iwanaga K、Tanaka J、Nshimuta F						

Course Description

【Language】English and Japanese In this course, you will learn fundamental knowledge as well as skills for research in the area of oral surgery. Under the management by Supervisors, you will carry out simulation training and clinical practice.

Attainment Objectives

You should achieve acquisition of skills for research in the area of oral surgery.

Textbooks

Title	Author	Publisher
handout distribution		

Reference Books

Title	Author	Publisher
Oral Surgery (Japanese)	Kanemitsu Shirasuna, Kogo Mikihiko edt	Ishiyaku Publishers
Oral Medicine (Japanese)	Genyuki Yamane,Mikio Kusama,Hideaki Kubota,Seiji	Nagasue shoten

Grading Criteria and Method of Evalution

Evaluation item	Ratio
report after each lecture (1st -15th, 1x4 points)	60%
submission of exercises (1st - 10th, 1x4 points)	40%

講義の事後レポート（第1～15回分）1回×4点、演習課題の提出（第１～10回、10回分）1回×4点で評価する。

Etc

Student consultation: From Monday to Friday：17:00～
Email is accepted at any time.

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Oral Medicine II

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yoshioka I						
Instructor(s)	Iwanaga K., Yoshioka I., Tanaka J., Nishimuta F.						
	Yoshioka I、Iwanaga K、Tanaka J、Nshimuta F						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Bone augmentation researchYou will learn the trend of bone augmentation research.	Lecture,Practice	Nishimuta	Pre reading of literature and textbook
2	Distraction osteogenesis of animal jawYou will learn the distraction osteogenesis of animal jaw.	Lecture,Practice	Nishimuta	Pre reading of literature and textbook
3	The animal models of sinus liftYou will learn the animal models of sinus lift.	Lecture,Practice	Nishimuta	Pre reading of literature and textbook
4	The animal models of graft You will learn the animal models of bone graft.	Lecture,Practice	Nishimuta	Pre reading of literature and textbook
5	Manufacturing method of hard tissue specimenYou will learn the manufacturing method of hard tissue specimen.	Lecture,Practice	Tanaka	Pre reading of literature and textbook
6	Oral mucosal diseases researchYou will learn oral mucosal diseases research.	Lecture,Practice	Tanaka	Pre reading of literature and textbook
7	The sampling method of oral mucosal diseasesYou will learn the sampling method of oral mucosal diseases.	Lecture,Practice	Tanaka	Pre reading of literature and textbook
8	The immunologic mechanism of oral mucosal diseasesYou will learn immunologic mechanism of oral mucosal diseases.	Lecture,Practice	Tanaka	Pre reading of literature and textbook
9	The xerostomia model animalYou will learn preparing animal models of xerostomia.	Lecture,Practice	Yoshioka	Pre reading of literature and textbook
10	The metal allergy model animalYou will learn preparing animal models of metal allergy.	Lecture,Practice	Yoshioka	Pre reading of literature and textbook
11	Temporomandibular joint disorders researchYou will learn the trend of temporomandibular joint disorders research.	Lecture,Practice	Iwanaga	Pre reading of literature and textbook
12	Temporomandibular arthritis model animalYou will learn preparing the animal models of temporomandibular arthritis.	Lecture,Practice	Iwanaga	Pre reading of literature and textbook
13	The sampling method of temporomandibular joint synovial fluidsYou will learn the sampling method of temporomandibular joint synovial fluids.	Lecture,Practice	Iwanaga	Pre reading of literature and textbook
14	The analysis method of temporomandibular joint synovial fluidsYou will learn the analysis method of temporomandibular joint synovial fluids.	Lecture,Practice	Iwanaga	Pre reading of literature and textbook
15	The measurement procedure of temporomandibular joint pain thresholdYou will learn the measurement procedure of temporomandibular joint pain threshold.	Lecture,Practice	Iwanaga	Pre reading of literature and textbook

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Oral Medicine III

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yoshioka I						
Instructor(s)	Iwanaga K., Yoshioka I., Tsurushima H., Sakaguti O., Tanaka J., Ohtani T., Nishimuta F.						
	Advisor and Specialist of Oral and Maxillofacial Surgery : Yoshioka Specialist of Oral and Maxillofacial Surgery :Iwanaga、Tsurushima、Sakaguchi Certifying physician of Oral and Maxillofacial Surgery : Ohtani,Tanaka,Nishimuta						

Course Description

You can increase scientific information and understand recent research trend, related to oral medicine ,by reading and presenting English-language journals in turns.

Attainment Objectives

1. To develop reading skill of English-language journals2. To develop presentation skill3. To develop an ability to criticize the journals4. To understand the background on own research field.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
You have to choose the article, to prepare the materials necessary for your presentation.		

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Selection of article	60%
Ability of the presentation	40%

Etc

Student consultation: From Monday to Friday：17:00～

You have to choose the article, to prepare the materials necessary for your presentation.

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
44211	English-language journalsTo learn the background and future prospect of own research work, current topics and so on	Reading and presenting English-language journals in turns	YoshiokaIwanagaOtaniTsurushimaSakaguchiTanakaNishimuta	Pre- and post-reading of journals

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Dentistry for disabled persons

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	4.0
Methods	lesson and practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Harano N						
Instructor(s)	Watanabe S., Shiiba S., Harano N., Shigeyama Y.						
	Harano N. Shigeyama Y. Shiiba S. Watanabe S.						

Course Description

Recently, expansion of the dental service, differentiation and maturity are necessary, because the demands for health medical care of the persons with disabilities increased. Therefore, by this seminar, you can study the type of disabilities and dental features. Besides, you can learn the whole body management of the persons with disabilities.

Attainment Objectives

1. Understanding the law and social problem of persons with disabilities.
2. Understanding the type of disabilities and dental features.
3. Understanding the dental treatment for persons with disabilities and Behavioral managements.
4. Understanding the whole body management of persons with disabilities.
5. Learning how to operate Sedation.
6. Understanding the role of the Dentistry persons.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Report	50%
Paper test	50%

Etc

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task

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Dental Anesthesiology Pain management I

Grades	2-4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Sago T.						
Instructor(s)	Shiiba S., Sagou T.						

Course Description

歯科における治療行為は生体にとって侵害刺激である。この刺激が何らかの理由により痛覚過敏症や触覚過敏を起こすことがある。また、歯科治療後に顔面部の麻痺や三叉神経痛、顎関節症などの併発を起こすこともある。また、歯性疼痛が原因でうつ症状を来すこともある。これらの疾患患者では通常の歯科的対応では治療困難なことが多い。そこで、これら歯科の顎・顔面部の神経疾患（急性・慢性疼痛や麻痺）の原因、機構、対応を学ぶ。

Attainment Objectives

１．　患者ー歯科医師間の良好な関係を作れる情報収集の技法を理解できる。
２．　良好な病診連携ができる。
３．顎顔面部の疼痛の種類を説明できる。
４．顎顔面部の疼痛の発生機序を説明できる。
５．顎顔面部の疼痛の制御機構を説明・実施できる。
６．顎顔面部の麻痺の種類、発生機序、対応法を説明できる。
７．　救急処置の基本を身につける。

Textbooks

Title	Author	Publisher
口腔顔面痛の診断と治療ガイドブック　第２版	日本口腔顔面痛学会編	医歯薬出版株式会社

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
抄読会の発表	100%

Etc

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Dental Anesthesiology Pain management I

Grades	2-4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Sago T.						
Instructor(s)	Shiiba S., Sagou T.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task

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Dental Anesthesiology Pain management II

Grades	2-4 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	2.0
Methods	seminar	Total time		Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Shiiba S.						
Instructor(s)	Shiiba S.						

Course Description

Attainment Objectives

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio

Etc

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task

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Anesthesiology

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	S.Watanabe						
Instructor(s)	Watanabe S., Shiiba S., Harano N., Shigeyama Y.						
	Sagou T.						

Course Description

Every Theusday evening (from 5:00 p.m.), the topic pick up from the article in the article written in English related to Anesthesilogy, and You present the summary of the article to the audience in the journal club.

Attainment Objectives

１．To augment the ability of the reading and understanding of the article written in English. ２．To understanding the newest topics related to Anesthesiology. ３．To build up the ability to criticize the each part of the articles.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
Anestghesiology	Evan D. Kharasch	LWW Journals
Anesthesia & Analgesia	Jean-Francois Pittet	Wloters Kluwer
British Journal of Anaesthesia	Ravi P. Mahajan	Oxford Journals

Grading Criteria and Method of Evalution

Evaluation item	Ratio
oral presentations and discussion	100%

Etc

Feel free to contact through the e-mail or visit directly our office, located in the 9th floor of Kyushu Dental University Hospital.

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
44209	Understanding the background and the newest knowledge in the worldwide articles (Anesthesiology, Anesthesia & Analgesisa, British Journal of Anesthesia, et al). You will present and discuss the core of the article in our journal club.	Presentation and discussion	S. Watanabe	Read and think about the topics in the articles related to Anesthesiology.
14-15	Review	LecturePractice	S. Watanabe	Review of lecture

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Anesthesiology(Basic course)

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	2.0
Methods	practice	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Watanabe S.						
Instructor(s)	Watanabe S.						

Course Description

Attainment Objectives

Core Curriculum

No.1	No.2	No.3	No.4	No.5	contents

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio

Etc

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task	Preparation・Review

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Clinical Dental Anesthesiology

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Sago T.						
Instructor(s)	Sagou T.						
	Sago T.						

Course Description

歯科臨床における麻酔には全身麻酔法、静脈内鎮静法、吸入鎮静法、局所麻酔法があり、安全な歯科診療を行う上で必要不可欠である。 各種麻酔法を安全・確実に行うために必要な解剖、生理、画像診断等の基礎的な理論を理解し、術前患者評価や麻酔計画立案に必要な知識を習得する。 また提示された症例について麻酔計画立案から周術期管理までのシミュレーション、フィードバックを行い、歯科麻酔の臨床的な能力を高める。

Attainment Objectives

１．情報収集の技法を理解できる。
２．良好な病診連携について理解する。
３．麻酔法の種類を理解する。
４．バイタルサイン異常の発生機序を理解する。
５．麻酔管理上注意を要する疾患について理解する。
６．手術中の異常事態に対する対応法を学習する。
７．二次救急処置の基本について学習する。

Textbooks

Title	Author	Publisher
歯科麻酔学		医歯薬出版

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
症例検討の発表	100%

Etc

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Clinical Dental Anesthesiology

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Sago T.						
Instructor(s)	Sagou T.						
	Sago T.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
		Lecture	Watanabe S	
		Lecture	Watanabe S	
		Lecture	Watanabe S	
		Lecture	Watanabe S	
		Lecture	Watanabe S	
		Lecture	Watanabe S	
		Lecture	Watanabe S	
		Lecture	Watanabe S	
		Lecture	Watanabe S	
		Lecture	Watanabe S	
		Lecture	Watanabe S	
		Lecture	Watanabe S	
		Lecture	Watanabe S	
	Case report	Lecture	Watanabe S	
	Case report	Lecture	Watanabe S	
	Case report	Lecture	Watanabe S	

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Oral Care and Rehabilitation Ⅰ (Basic)

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	lesson and practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Jumpei Kubota						
Instructor(s)	Tada Y., Kubota J., Karaki J.						

Course Description

【Language】English and Japanese You will carry out examinations for dysphagia, and learn procedures and effects of rehabilitation and diagnosis for rehabilitation prescription including precise functional exercise.

Attainment Objectives

You should achieve following assignments;1.Understanding the dysphagia type2.Practicing rehabilitation for dysphagia3.Choice of modified diet for dysphagic persons4.Correspondence for functional prosthesis dental treatment for dysphagia

Textbooks

Title	Author	Publisher
Dysphagia Rehabilitation for Dental Students	Yoshiharu Mukai	Ishiyaku Publishers

Reference Books

Title	Author	Publisher
Taberu kinou no shougai	Yoshihiro Kaneko	Ishiyaku Publishers

Grading Criteria and Method of Evalution

Evaluation item	Ratio
examinations and unit certification test	70%
report including mini tests	30%

Etc

Questions will be accepted outside of class as needed.

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2022

Oral Care and Rehabilitation Ⅰ (Basic)

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	lesson and practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Jumpei Kubota						
Instructor(s)	Tada Y., Kubota J., Karaki J.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1,2	Normal development mechanism of eating and swallowing(developmental disability, elderly)	Lecture	kubota	development mechanism of eating and swallowing
3,4	Oral care for dysphagic persons	Practice	kubota	Training for oral function
5,6	Functional assessment of eating and swallowing;Inquiry, Interviews of medical history	Lecture	kubota	Functional assessment of eating and swallowing
7,8	Functional assessment of eating and swallowing;Screening	Practice	kubota	RSST, MWST, coughing test, FT
9,10	Examination1	Oral examination	kubota	Feedback
11,12	Breathing and Coughing exercise	Practice	kubota	Breathing and Coughing exercise
13,14	Open and close mouth exercises;Exercise for trismusExercise for closed failure	Practice	kubota	Open and close mouth exercises
15,16	Exercise for perioral muscle and tongue muscle 1 ;Lip closure exercise,the method of vangede	Practice	Kubota	Lip closure exercise
17,18	Exercise for perioral muscle and tongue muscle 2 ;Buccal exercise,the method of vangede,tongue exercise	Practice	Kubota	Buccal exercise
19,20	Exercise for perioral muscle and tongue muscle 3 ;Soft palate elevation exercise	Practice	Kubota	Soft palate elevation exercise
21,22	Exercise for perioral muscle and tongue muscle 4 ;Tongue exercise,elevation exercise of tongue dorsum and apex of tongue	Practice	Kubota	Tongue exercise, elevation exercise of tongue dorsum and apex of tongue
23,24	Chewing and infeed exercise	Practice	Kubota	Chewing and infeed exercise
25,26	Exercises of swallowing; Thermal tactile stimulation	Practice	Kubota	Thermal tactile stimulation
27,28	Exercises of swallowing; Tongue recession exercise,Tongue holding maneuver	Practice	Karaki	Tongue recession exercise, Tongue holding maneuver
29,30	Exercises of swallowing; Shaker exercises	Practice	Karaki	Shaker exercises
31,32	Neck relaxation;Neck range of motion expanding exercise,stretch of larynx muscles	Practice	Karaki	Neck range of motion expanding exercise
33,34	Acquisition of the swallowing procedure; Mendelson maneuverUse of Biofeedback	Practice	Karaki	Mendelson maneuver

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2022

Oral Care and Rehabilitation Ⅰ (Basic)

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	lesson and practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Jumpei Kubota						
Instructor(s)	Tada Y., Kubota J., Karaki J.						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
35,36	Compensatory swallowingneck rotation swallowing, multiple swallowing, alternate swallowing	Practice	Karaki	neck rotation swallowing, multiple swallowing, alternate swallowing
37,38	Examination2	Oral examination	Karaki	Feedback
39,40	Operation of naso pharyngo laryngoscope	Practice	Karaki	Naso pharyngo laryngoscope
41,42	Exploration of dysphagia by naso pharyngo laryngoscope	Practice	Karaki	diagnose of naso pharyngo laryngoscope
43,44	Procedure of videofluoroscopic examination of swallowing	Lecture	Karaki	Videofluoroscopic examination of swallowing
45,46	Modification of imitation foods for videofluoroscopic examination of swallowing	Practice	Karaki	barium allergy
47,48	Manufacture of palatal augmentation prosthesis(PAP)1;Impression , manufacture of wire clasp	Practice	Tada	wire clasp
49,50	Manufacture of PAP2;Adjustment of tongue contact surface form	Practice	Tada	Palatal Augmentation Prosthesis (PAP)
51,52	Adjustment of PAP;Set and adjustment	Practice	Tada	Adjustment of PAP
53,54	Manufacture of palatal Lift prosthesis (PLP)1 ;Impression , manufacture of wire clasp	Practice	Tada	Impression for manufacture of PLP
55,56	Manufacture of PLP 2 ;	Practice	Tada	important points for manufacture of PLP
57,58	Adjustment of PLP;Set and adjustment	Practice	Tada	Adjustment of PLP
59,60	Review, Examination3,unit certification test	Examination	Karaki	Feedback

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Oral Care and Rehabilitation Ⅱ (Advanced)

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kubota J.						
Instructor(s)	Tada Y., Kubota J., Karaki J.						

Course Description

【Language】English and Japanese You will learn dental treatment, oral care, and guidance in consideration of systemic disorders of elderly. You will learn to repair and adjust denture in consideration of dysphagic persons. You will learn how to examination and guidance with understanding Chinese medicine.

Attainment Objectives

You should achieve following assignments:1.Evaluation of systemic condition of elderly, evaluation of intraoral and perioral condition2.Oral care and oral functional exercise in consideration of systemic disorders of elderly3.Dental treatment with Chinese medicine in consideration of systemic disorders of elderly4.Health guidance by basic skill of tongue diagnosis5.Homebound treatment for bedridden elderly6. To repair and adjust denture in consideration of dysphagic persons.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
Traditional Chinese medicine for dentistry	Yasuaki Kakinoki	Nagasue shoten

Grading Criteria and Method of Evalution

Evaluation item	Ratio
examination and unit certification test	70%
report including mini tests	30%

Etc

Questions will be accepted outside of class as needed.

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2022

Oral Care and Rehabilitation Ⅱ （Advanced）

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kubota J.						
Instructor(s)	Tada Y., Kubota J., Karaki J.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1,2	Evaluation of QOL (Quality Of Life) and ADL (Activities Of Daily Living)Evaluation of vital signs	Practice	Kubota	QOL and ADL
3,4	Mental test and depression test	Practice	Kubota	depression
5,6	Evaluation of perioral muscle; Muscle related occlusion, mimic, and facial muscle	Practice	Kubota	How to useMuscle hardness meter
7,8	Evaluation of muscle related oral function;Neck and shoulder	Practice	Kubota	anatomy of muscle related oral function
9,10	Taste test	Practice	Karaki	Taste test
11,12	Evaluation of sense of intraoral and face	Practice	Karaki	sensory receptor
13,14	Saliva secretion test;Evaluation of resting salivaSpitting method	Practice	Karaki	Watte method Sialemesis method
15,16	Saliva secretion test;Evaluation of Saxon test and gum test	Practice	Karaki	Saxon test Gum test
17,18	Saliva secretion and distribution test;Evaluation by saliva wetness tester	Practice	Karaki	Saliva wetness tester
19,20	Physical inspection of saliva: Viscometer(ultrasonic type and rotation type)Spinnability measuring instrument	Practice	Karaki	Spinnability measuring instrument
21,22	Halitosis measurement and evaluation by oral chroma	Practice	Karaki	How to useOral chroma
23,24	Examination1	Oral examination	Kubota	Feedback
25,26	Improvement of oral function:Structural oral care and functional oral care	Practice	Kubota	Basic oral care skill
27,28	Improvement of oral function:Oral care using liquid and gel type oral moisturizer	Practice	Kubota	Oral moisturizers
29,30	Basic oral care skill for bedridden elderly	Practice	Kubota	mouth cleaning for elderly
31,32	Evaluation of oral mucosal diseaseRecode by intraoral camera	Practice	Kubota	Basic skill of intraoral camera
33,34	Evaluation of oral mucosa and tongue mucosa:Western and Chinese medical evaluation and diagnosis	Practice	Kubota	Evaluation of oral mucosa
35,36	Basic skill of tongue diagnosis	Practice	Kubota	Basic skill of tongue diagnosis
37,38	Choice of Chinese medicine by tongue diagnosis(1)	Practice	Kubota	Chinese medicine for drymouth
39,40	Choice of Chinese medicine by tongue diagnosis(2)	Practice	Kubota	Chinese medicine for burning mouth syndrome
41,42	Choice of Chinese medicine by tongue diagnosis(3)	Practice	Kubota	Chinese medicine for tooth ache

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Oral Care and Rehabilitation Ⅱ (Advanced)

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4.0
Methods	practice	Total time	120.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kubota J.						
Instructor(s)	Tada Y., Kubota J., Karaki J.						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
43,44	Guidance of health, life, and diatary by tongue diagnosis	Practice	Kubota	Guidance of health by tongue diagnosis
45,46	Examination2	Oral Examination	Kubota	Feedback
47,48	Preparation of homebound treatment	Practice	Tada	Understanding of instrument
49,50	Choice of homebound treatment instrument	Practice	Tada	Understanding of instrument for homebound treatment
51,52	Basic skill of homebound treatment with water(assistant)	Practice	Tada	VacuumSyringe
53,54	Basic skill of homebound treatment with water(surgeon)	Practice	Tada	EngineTurbine
55,56	Denture repair for bedridden elderly	Practice	Tada	Denture adjustment
57,58	Denture adjustment for bedridden elderly	Practice	Tada	PLP adjustment
59,60	Review, Examination3, Unit certification test	Examination	Kubota	Feedback

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2022

Geriatric Dentistry Ⅰ

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kubota J.						
Instructor(s)	Tada Y., Kubota J., Karaki J.						

Course Description

【Language】English and Japanese You will understand the research about geriatric dentistry and dysphagia rehabilitation. You will learn method of assessment, treatment, and exercise.

Attainment Objectives

You should achieve following assignments and increase the ability of understanding the research.1.Understanding the basic geriatric dentistry2.Understanding the basic dysphagia rehabilitation 3.Increasing the ability of evaluate the research of clinical and basic

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
quality of presentation	70%
before Learning Task (Searching and perusal relevant papers)	30%

Etc

Questions will be accepted outside of class as needed.

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1～15	You will understand future prospect by searching and evaluating the literature related geriatric dentistry and oral care and rehabilitation.	Clinical lectures,Seminar,Reading	Kubota,Tada, Karaki	Searching and perusal relevant papers

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2022

Geriatric Dentistry II

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Jumpei Kubota						
Instructor(s)	Tada Y., Kubota J., Karaki J.						

Course Description

【English and Japanese】 You will understand basic integrative medicine related study of dental treatment for elderly and geriatric dentistry. You will learn method of assessment, treatment, and exercise. You will learn action of Chinese medicine, and mechanism of action. You will learn method to apply for dental clinical of tongue diagnosis. You will understand Chinese medicine and western medicine for dental treatment of elderly and learn knowledge to practice integrative medicine. You will learn the research of clinical and basic related integrative medicine.

Attainment Objectives

You should achieve following assignments and increas the ability of understanding the research.;1.Understanding the basic integrative medicine 2.Understanding the basic Chinese medicine and western medicine3.Understanding the basic complementary and alternative medicine, and applying clinical 4. Increasing the ability of evaluate the research of clinical and basic

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
Traditional Chinese medicine for dentistry	Yasuaki Kakinoki	Nagasue shoten

Grading Criteria and Method of Evalution

Evaluation item	Ratio
quality of presentation	70%
before Learning Task (Searching and perusal relevant papers)	30%

Etc

Questions will be accepted outside of class as needed.

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1～15	You will understand future prospect by searching and evaluating the literature related integrative medicine and Chinese medicine and western medicine.	Clinical lectures,Exercises,Seminar	Kubota,Tada, Karaki	Searching and perusal relevant papers

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2022

Geriatric and Special Needs Dentistry (Advanced)

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Jumpei Kubota						
Instructor(s)	Tada Y., Kubota J., Karaki J.						

Course Description

【English and Japanese】 You will understand particularity of dental treatment and oral care for elderly and special needs. You will learn method of assessment, treatment, and oral care.Especially, you should learn knowledge to practice homebound treatment and rehabilitation for bedridden elderly. You will learn knowledge to practice dental treatment and rehabilitation for special needs, and dental treatment for patients who complain of psychogenic.

Attainment Objectives

You should achieve following assignments and increase the ability of understanding the research.;1.Understanding the geriatric dentistry 2.Understanding the clinical states and systemic disease of elderly and disability3.Understanding the dental treatment of patients who complain of psychogenic general malaise 4. Increasing the ability of evaluate the research of clinical and basic about geriatric and special needs dentistry, and psychosomatic medicine.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
quality of presentation	70%
before Learning Task (Searching and perusal relevant papers)	30%

Etc

Questions will be accepted outside of class as needed.

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1～15	You will understand future prospect, by searching and evaluating the literature.You will search latest knowledge and study: homebound treatment and oral care for elderly, dental treatment and rehabilitation for disability, and psychosomatic medicine.	Clinical lectures,Exercises,Seminar	Kubota,Tada, Karaki	Searching and perusal relevant papers

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2022

Basic surgical skills

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Minor	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Nakashima H.						
Instructor(s)	Nakashima H.						

Course Description

【Language】Japanese. This course provides basic knowledge of basic surgical skills and patients management during peri-operative period.

Attainment Objectives

1) Understanding basic knowledge of metabolic response to surgical invasion in human body.2) Understanding basic concept of patients care during pre- and post-operative period.3) Understanding basic concept of patient safety and infection control in hospitals.4) Understanding basic concept of clinical path and patient satisfaction.5) Understanding basic knowledge of treatment and care of cancer patients.6) Understanding basic knowledge of novel surgical devices.7) Understanding basic concept of novel methods of surgical operation including navigation surgery and robotic surgery.8) Understanding basic concept of training of endoscopic surgery.9) Understanding basic knowledge of basic surgical skills.10) Understanding basic knowledge of sports medicine.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
"Hyojun Geka” 13th ed.	S. Kitano	Igaku Shoin, Tokyo

Grading Criteria and Method of Evalution

Evaluation item	Ratio
examination	100%

Etc

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2022

Basic surgical skills

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Minor	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Nakashima H.						
Instructor(s)	Nakashima H.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Introduction and orientation	Lecture	Hideaki NAKASHIMA	Review
2	Metabolic response to surgical invasion in human body	Lecture	Hideaki NAKASHIMA	Review
3	Patients care during pre- and post-operative period and prevention of surgical complications	Lecture	Hideaki NAKASHIMA	Review
4	Basic surgical skills 1	Lecture and practical training	Hideaki NAKASHIMA	Review
5	Basic surgical skills 2	Lecture and practical training	Hideaki NAKASHIMA	Review
6	Patient safety and clinical path	Lecture	Hideaki NAKASHIMA	Review
7	Multimodality treatment and terminal care of cancer patients	Lecture	Hideaki NAKASHIMA	Review
8	Wound healing and sports medicine	Lecture	Hideaki NAKASHIMA	Review
9	Infection control in hospitals	Lecture	Hideaki NAKASHIMA	Review
10	Novel surgical devices	Lecture	Hideaki NAKASHIMA	Review
11	Robotic surgery and navigation surgery	Lecture	Hideaki NAKASHIMA	Review
12	Practical infection control and patient safety in hospitals	Lecture	Hideaki NAKASHIMA	Review
13	Training of endoscopic surgery	Lecture	Hideaki NAKASHIMA	Review
14	Training of endoscopic surgical skills using VR simulator	Lecture	Hideaki NAKASHIMA	Review
15	Management of nutrition and fluid / Examination	Lecture／Exam	Hideaki NAKASHIMA	Review

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2022

Advanced Lecture

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Elective	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Dean,Graduate School of Dentistry						
Instructor(s)	Dean of Graduate School of Dentistry, Fukuizumi T., Kitamura C., Ikeda H., Ono K., Kokabu S., Ariyoshi.W, Takeuchi H., Ansai T., Maki K., Kawamoto T., Morimoto Y.						
	Dean , Graduate School of Dentistry、Morimoto Y.、Kitamura C.、Kawamoto T.、Seta Y.、Fukuizumi T.、Ansai T.、Takeuchi H.、Ariyoshi W.、Kokabu S.、Maki K.						

Course Description

【Language】English and Japanese We invite researchers who are at the forefront, and they give the graduate school students current topics.

Attainment Objectives

1. You can obtain the knowledge the current topics of the specialized area of each speaker.
2. You can understand the background of the study, motivation for the research, the results and discussion of the research.
3. You can consider and respond to the development of the future research.
4. You can use the content of lectures in your own research project.
5. Participate in academic conferences and conferences and have a question and answer session

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
attendance and report	100%

Etc

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2022

Advanced Lecture

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Elective	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Dean,Graduate School of Dentistry						
Instructor(s)	Dean of Graduate School of Dentistry, Fukuizumi T., Kitamura C., Ikeda H., Ono K., Kokabu S., Ariyoshi.W, Takeuchi H., Ansai T., Maki K., Kawamoto T., Morimoto Y.						
	Dean , Graduate School of Dentistry、Morimoto Y.、Kitamura C.、Kawamoto T.、Seta Y.、Fukuizumi T.、Ansai T.、Takeuchi H.、Ariyoshi W.、Kokabu S.、Maki K.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Participate in Asia Pacific Conference (APC)2022 or present a poster at APC2022	Participate in APC2022 or present a poster at APC2022	Dean , Graduate School of Dentistry	Lecture report or poster presentation report
2	Mathematical theory of social research	Lecture	Iizuka M.(Kyushu Dental University), Morimoto Y.	Report
3	Epigenetic regulation in the process of hard tissue formation	Lecture	Hata K.(Osaka University), Kokabu S.	Report
4	Maintaining 28 teeth for life and Quality of life	Lecture	Naito M.(Hiroshima University), Fukuizumi T.	Report
5	Recommendation of “ultra-early treatment” – From a viewpoint of sleep-respiratory physiology	Lecture	Ono T.(Tokyo Medical and Dental University), Kawamoto T.	Report
6	Science and Applications for Electrogenic Bacteria	Lecture	Okamoto A.(National Institute for Material Science), Ariyoshi Y.	Report
7	In this lecture, I introduce various findings obtained from various previous research on unconscious human cognition and its bias, in relation to business administration.	Lecture	Matsuda K.(Kitakyushu University), Morimoto Y.	Report
8	Health and happiness among community-dwelling older adults: What we can learn from Domkhar valley in the Himalaya	Lecture	Sakamoto R.(Kyoto University), Ansai T.	Report
9		Lecture	Tabata Y.(Tokyo University), Kitamura C.	Report
10	Dental pulp stem cells and thier therapeutic options	Lecture	Yamaza T.(Kyushu University), Takeuchi H.	Report
11	Echo-pharma research focusing on pathology-specific protein-protein interactions	Lecture	Nishida M.(Kyushu University), Takeuchi H.	Report
12	Features of digital technology and materials in dentistry	Lecture	Isshi K.(Fukuoka Dental College Hospital), Ikeda H.	Report
13	Central processing of proprioception from jaw-closing muscle spindles and its involvement in brain disorders	Lecture	Yoshida A.(Osaka University), Ono K.	Report

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2022

Advanced Lecture

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Elective	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Dean,Graduate School of Dentistry						
Instructor(s)	Dean of Graduate School of Dentistry, Fukuizumi T., Kitamura C., Ikeda H., Ono K., Kokabu S., Ariyoshi.W, Takeuchi H., Ansai T., Maki K., Kawamoto T., Morimoto Y.						
	Dean , Graduate School of Dentistry、Morimoto Y.、Kitamura C.、Kawamoto T.、Seta Y.、Fukuizumi T.、Ansai T.、Takeuchi H.、Ariyoshi W.、Kokabu S.、Maki K.						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
14	Reception, transduction and modulation of taste information at the periphery	Lecture	Yoshida R.(Okayama University), Ono K.	Report
15	•Genetic identification and functional analysis of the oral disease • Development of the regenerative medicine technique using the deciduous tooth	Lecture	Fukumoto S.(Kyushu University), Maki K.	Report

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2022

Molecular Biological Morphology

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Elective	Credits	1.0
Methods	seminar	Total time	16.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Seta Y.						
Instructor(s)	Seta Y., Toyono T., Kataoka S., Matsuyama K.						

Course Description

【Language】English and Japanese This course deals with the basis of fundamental morphological analysis. It also enhances the development of students' skill in carrying out a morphological experiment.

Attainment Objectives

The goals of this course are to (1) be able to understand morphological analysis,(2) be able to prepare tissue section(3) be able to carry out immunohistochemistry(4) be able to carry out in situ hybridization

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Usual performance score in the lab	10%
experimental performance in the lab	90%

Etc

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2022

Molecular Biological Morphology

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Elective	Credits	1.0
Methods	seminar	Total time	16.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Seta Y.						
Instructor(s)	Seta Y., Toyono T., Kataoka S., Matsuyama K.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	IntroductionWhat is morphological analysis	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
2	Preparing method of tissue section (1): Fixation	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
3	Preparing method of tissue section (2): Embedding tissue	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
4	Preparing method of tissue section (3): Sectioning tissue	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
5	Immunohistochemistry (1): Apply first antibody	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
6	Immunohistochemistry (2): Apply second antibody	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
7	in situ hybridization (1): Probe preparation	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture
8	in situ hybridization (2): Pre-treatment of section and antibody visualization of digoxygenin	LecturePractice	Seta, Toyono, Kataoka, Matsuyama	Review of lecture

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2022

Molecular Biology Training Program I

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Elective	Credits	1.0
Methods	lesson and seminar	Total time	20.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Matsubara T						
Instructor(s)	Kokabu S., Matsubara T., Addison W.						
	Addison William						

Course Description

Molecular biology pertains to the study of living systems at the molecular level, especially DNA and RNA, and provides a background for further work in the rapidly expanding areas of genomics, cell biology, biotechnology, microbiology, diagnostics, and therapeutics. Molecular biology methods are used extensively in modern day drug discovery, research and development, and diagnostics. This course is intended for personnel who are seeking basic-level molecular biology training. This course will focus on selected aspects of molecular biology that provides principles for understanding the structure and functional relationships of molecular biology techniques including RNA isolation, cDNA synthesis (RT-PCR) and the preparation of whole cell lysates from cell and Western blotting.

Attainment Objectives

1. Graduates of this program will be able to explain and discuss how processes are integrated at the molecular level to create a functional eukaryotic cell. 2. Graduates of this program will be able to prepare RNA and protein from cells.3. Graduates of this program will have experience in and be able to perform RT-PCR and Western blotting.

Textbooks

Title	Author	Publisher
What is necessary is to use the experimental protocols in our laboratory.		

Reference Books

Title	Author	Publisher
What is necessary is to use the experimental protocols in our laboratory.		

Grading Criteria and Method of Evalution

Evaluation item	Ratio
oral examination	100%

Evaluate with Rubric table.
Rubric evaluation sheets will be distributed at the first session.

Etc

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2022

Molecular Biology Training Program Ⅰ

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Elective	Credits	1.0
Methods	lesson and seminar	Total time	20.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Matsubara T						
Instructor(s)	Kokabu S., Matsubara T., Addison W.						
	Addison William						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1,2	Western blotting #1Osteoblasts were treated with BMP and then prepared whole cell lysates.	Lecture andPractice(Web and Face to Face)	Matsubara T	Prepare for the protocol of preparation of whole cell lysates.
3,4	Western blotting #2SDS-PACE, Transfer, Blocking, and Incubation with primary antibody.	Lecture andPractice(Web and Face to Face)	Matsubara T	Prepare for the principal of Western blotting
5,6	?Western blotting #3Incubation with secondary antibody and Detection.?RT-PCR #1Osteoblasts were treated with BMP and then prepared total RNA.	Lecture andPractice(Web and Face to Face)	Matsubara T	Prepare for the protocol of preparation of Total RNA.
7,8	RT-PCR #2cDNA synthesis and perform PCR	Lecture andPractice(Web and Face to Face)	Kokabu S	Prepare for the principal of RT-PCR
9,10	RT-PCR #3Agarose gel electrophoresis	Lecture andPractice(Web and Face to Face)	Addison WN	Review what was learned

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2022

Molecular Biology Training Program II

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Elective	Credits	1.0
Methods	lesson and seminar	Total time	20.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Matsubara T						
Instructor(s)	Kokabu S., Matsubara T., Addison W.						
	Addison William						

Course Description

Molecular biology pertains to the study of living systems at the molecular level, especially DNA and RNA, and provides a background for further work in the rapidly expanding areas of genomics, cell biology, biotechnology, microbiology, diagnostics, and therapeutics. Molecular biology methods are used extensively in modern day drug discovery, research and development, and diagnostics. This course is intended for personnel who are seeking middle-level molecular biology training. This course will focus on selected aspects of molecular biology that provides principles for understanding the structure and functional relationships of molecular biology techniques including gene transfection, detection method of tagged-protein and luciferase assay.

Attainment Objectives

1. Graduates of this program will be able to explain the principal of (reporter) gene transfection and how to detect of expression transfected genes in the cells. 2. Graduates of this program will have experience in and be able to detect tagged-protein.3. Graduates of this program will have experience in and be able to perform luciferase assay.

Textbooks

Title	Author	Publisher
Please select any book of reference if you want.		

Reference Books

Title	Author	Publisher
Please select any book of reference if you want.		

Grading Criteria and Method of Evalution

Evaluation item	Ratio
oral examination	100%

Evaluate with Rubric table.
Rubric evaluation sheets will be distributed at the first session.

Etc

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Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1,2	?Lecture about gene transfection, including principals, fusion-protein and detection.?Transfection of FLAG or V5-tagged genes into cells.	Lecture andPractice(Web or Face to Face)	Kokabu S	Prepare for the principal of gene transfection
3,4	Perform Luciferase assay.	Lecture andPractice(Web or Face to Face)	Addison WN	Prepare for the principal of Luciferase assay
5,6	Detection of tagged-protein by Western blotting.	Lecture andPractice(Web or Face to Face)	Kokabu S	Prepare for the protocol of Western blotting
7,8	Transfection of GFP-fused protein into cells.	Lecture andPractice(Web or Face to Face)	Matsubara T	Prepare for the principal of GFP-fused protein
9,10	Observation of GFP-expressing protein using fluorescence microscope	Lecture andPractice(Web or Face to Face)	Matsubara T	Review what was learned

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2022

Neurophysiological Techniques

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Elective	Credits	1.0
Methods	seminar	Total time	16.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ono K.						
Instructor(s)	Ono K., Nakatomi C., Hsu C.						

Course Description

【Language】English and Japanese In this course, you will practice basic skills about makings of cell and tissue preparations, patch-clamp recording and evaluations of pain inductions in animal experiments.

Attainment Objectives

1. To develop techniques of cell and tissue preparations2. To understand how to record electrical signals from neurons3. To understand how to evaluate pain in experimental animals

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
report	100%

Rubrics for assessment. Rubric is presented on Moodle.

Etc

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
44204	Making of cell and tissue preparations. Patch-clamp recordingMeasurements of pain-related behaviors	Practice	Ono K, Nakatomi C, Hsu C	Review of practices

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2022

Imaging technique and its analysis

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Elective	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y., Oda M., Matsumoto S., Wakasugi-Sato N.						
	Morimoto Y* ** ***, Oda M* ** ***, Wakasugi-Sato N** ***, Matsumoto-Takeda S*** *Advisor of Oral and Maxillofacial Radiology, **Specialist of Oral and Maxillofacial Radiology, ***Certified Dentists of Oral and Maxillofacial Radiology						

Course Description

You can learn the imaging techniques and analytical methods of CT, dental CBCT, MRI, and ultrasonography.

Attainment Objectives

To comprehend the imaging techniques and analytical methods of CT, dental CBCT, MRI, and ultrasonography.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
Instruction manuals of CT、CBCT、MRI, and US		

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Report	60%
演習での口頭試問	40%

Etc

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2022

Imaging technique and its analysis

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Elective	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y., Oda M., Matsumoto S., Wakasugi-Sato N.						
	Morimoto Y* ** ***, Oda M* ** ***, Wakasugi-Sato N** ***, Matsumoto-Takeda S*** *Advisor of Oral and Maxillofacial Radiology, **Specialist of Oral and Maxillofacial Radiology, ***Certified Dentists of Oral and Maxillofacial Radiology						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1~3	Imaging techniques and analytical methods of CT	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
4, 5	Imaging techniques and analytical methods of dental CBCT	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
6, 7	Imaging techniques and analytical methods of basic MRI	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
8~12	Imaging techniques and analytical methods of newest MRI such as Dynamic MR and functional MRI	Practice	Morimoto, TWakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook
13~15	Imaging techniques and analytical methods of basic and newest US such as Color Doppler technique and elastography	Practice	Morimoto, Wakasugi-Sato, Oda, Matsumoto-Takeda	Pre- and post-reading of textbook

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2022

Risk management of the medically compromised patient

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Elective	Credits	1.0
Methods	lesson and seminar	Total time	16.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Owatari T.						
Instructor(s)	Owatari T.						

Course Description

Practical education for the medical risk management of the dental patients with systemic diseases based on medical evidence.

Attainment Objectives

Draw up a appropriate medical risk management plan of the patient with systemic disorders based on the robust medical evidence.

Textbooks

Title	Author	Publisher
全身的偶発症とリスクマネジメント 高齢者歯科診療のストラテジー	大渡凡人	医歯薬出版

Reference Books

Title	Author	Publisher
Little and Falace's Dental Management of the Medically Compromised Patient,	James W. Little DMD MS, Craig Miller DMD MS, Nelson L. Rhodus DMD MPH, Donald Falace DMD	Mosby

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Report	100%

Etc

オフィスアワー　教授室　月-金 16:15- メールは随時受け付け

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2022

Risk management of the medically compromised patient

Grades	1-3 grades	Semester (or Term)	All Season	Subject	Elective	Credits	1.0
Methods	lesson and seminar	Total time	16.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Owatari T.						
Instructor(s)	Owatari T.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	1. Risk assessment before dental treatment	Lecture and TBI, if possible	T Owatari	Preparation ofthepathophysiological basis ofsystemicdiseases
2	2. Medical risk management during dental treatment	Lecture and TBI, if possible	T Owatari	Preparation ofthepathophysiological basis ofsystemicdiseases
3	3. Medical risk management after dental treatment	Lecture and TBI, if possible	T Owatari	Preparation ofthepathophysiological basis ofsystemicdiseases
4	4. Circulatory diseases 1st: hypertension, ischemic heart disease, and arrhythmia	Lecture and TBI, if possible	T Owatari	Preparation ofthepathophysiological basis ofsystemicdiseases
5	5. Circulatory diseases 2nd:heart failure, valvular heart disease, infective endocarditis, cardiomyopathy, aorticdisease, and new cardiac devices.	Lecture and TBI, if possible	T Owatari	Preparation ofthepathophysiological basis ofsystemicdiseases
6	6. Neural disease, psychological disease, respiratory disease, and metabolic disease.	Lecture and TBI, if possible	T Owatari	Preparation ofthepathophysiological basis ofsystemicdiseases
7	7.Endocrine disease, renal disease, liver disease, hemostatic disease, and rheumaticdisease	Lecture and TBI, if possible	T Owatari	Preparation ofthepathophysiological basis ofsystemicdiseases
8	8. Electrocardiogram and analysis	Lecture and TBI, if possible	T Owatari	Preparation ofthepathophysiological basis ofsystemicdiseases

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2022

Brain Science for Eating Behavior

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Elective	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yoshino K.						
Instructor(s)	Yoshino K.						

Course Description

The purpose of this course is to lecture on the role of main area in brain involved in the higher human brain function.

Attainment Objectives

The ability to describe:(1) the difference of feeding behavior between human and animal based on neural science;(2) the higher brain function regarding the eating behavior;(3) the effects of oral function on general physical function by the nervous system;

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
Principles of Neural Science, Fifth Edition	Aut. Kandel ER, Schwartz JH, Jessell TM Siegelbaum SA, Hudspeth AJ.	

Grading Criteria and Method of Evalution

Evaluation item	Ratio
after-action report	100%

Etc

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2022

Brain Science for Eating Behavior

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Elective	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yoshino K.						
Instructor(s)	Yoshino K.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Feeding behavior in human	e-learning	Yoshino	after-action report
2	Cognitive stage: input of information	e-learning	Yoshino	after-action report
3	Cognitive stage: processing of information	e-learning	Yoshino	after-action report
4	Cognitive stage: integration of information	e-learning	Yoshino	after-action report
5	Cognitive stage: cognitive function for target	e-learning	Yoshino	after-action report
6	Cognitive stage: selection of action	e-learning	Yoshino	after-action report
7	Cognitive stage: preparatory for movement	e-learning	Yoshino	after-action report
8	Cognitive stage: initiation and control of movement	e-learning	Yoshino	after-action report
9	Preparatory stage: initiation of jaw-movement	e-learning	Yoshino	after-action report
10	Preparatory stage: control of jaw-movement	e-learning	Yoshino	after-action report
11	Preparatory stage: processing of information	e-learning	Yoshino	after-action report
12	Preparatory stage: integration of information	e-learning	Yoshino	after-action report
13	Lingual stage	e-learning	Yoshino	after-action report
14	Pharyngeal stage	e-learning	Yoshino	after-action report
15	Esophageal stage	e-learning	Yoshino	after-action report

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2022

Practice of Appropriate Dental Treatment in Health Care Insurance System

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Elective	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	福泉　隆喜						
Instructor(s)	Fukuizumi T.						

Course Description

You confirm the various rules of dental treatment in health care insurance system and master skills to apply to clinical cases.

Attainment Objectives

1. You can explain the outline of dental treatment in health care insurance system.
2. You can practice the calculation rules of dental treatment in health care insurance system.

Textbooks

Title	Author	Publisher
Interpretation of Dental Fee Points		Social Insurance Institute

Reference Books

Title	Author	Publisher
You practice in your patient's case.		

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Understanding degree	50%
Applicability	50%

You can learn 8 unit for 4 years maximum.

Etc

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Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
	You confirm the various rules of dental treatment in health care insurance system and master skills to apply to clinical cases.	Practice	Fukuizumi	Pre- and post-reading of textbook

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2022

Theory of Statistical Analysis

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Elective	Credits	2.0
Methods	lesson	Total time		Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukai Y.						
Instructor(s)	Fukai Y.						

Course Description

You will understand the theory of statistical analysis through examples.

Attainment Objectives

You can use statistical methods.
You can understand the theory of statistical analysis.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Report	100%

Etc

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2022

Theory of Statistical Analysis

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Elective	Credits	2.0
Methods	lesson	Total time		Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukai Y.						
Instructor(s)	Fukai Y.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Probability theory (1)	Lecture	Fukai	Review of lecture
2	Probability theory (2)	Lecture	Fukai	Review of lecture
3	Probability theory (3)	Lecture	Fukai	Review of lecture
4	Probability theory (4)	Lecture	Fukai	Review of lecture
5	Probability theory (5)	Lecture	Fukai	Review of lecture
6	Statistical terminology	Lecture	Fukai	Review of lecture
7	Statistical estimation	Lecture	Fukai	Review of lecture
8	Testing of statistical hypothesis (1) terminology	Lecture	Fukai	Review of lecture
9	Testing of statistical hypothesis (2) Hypothesis test for the population mean	Lecture	Fukai	Review of lecture
10	Testing of statistical hypothesis (3) Test of proportion	Lecture	Fukai	Review of lecture
11	Testing of statistical hypothesis (4) Sign test	Lecture	Fukai	Review of lecture
12	Testing of statistical hypothesis (5) Rank sum test	Lecture	Fukai	Review of lecture
13	Testing of statistical hypothesis (6) Test of goodness of fit, test of independence	Lecture	Fukai	Review of lecture
14	Testing of statistical hypothesis (7) Fisher's exact test	Lecture	Fukai	Review of lecture
15	Testing of statistical hypothesis (8) Hypothesis test for the population correlation coefficient	Lecture	Fukai	Review of lecture

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2022

Advanced Medical Information Management

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Elective	Credits	2.0
Methods	lesson and seminar	Total time		Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor							
Instructor(s)	Nakahara T.						

Course Description

Attainment Objectives

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio

Etc

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task

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2022

Academic English for Research Purposes

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Elective	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yasuomi Kaiho						
Instructor(s)							

Course Description

This course mainly focuses on developing writing skills required at postgraduate level. The course also places an emphasis on increasing students' vocabulary. Furthermore, in the course students work on online materials both in and out of the classroom.

Attainment Objectives

By the end of the course, students should:
-learn to write a well-organized paragraph
-learn to write a well-structured essay
-learn to write an abstract of an article
-learn 1,000 new words
-cultivate the habit of using English

Textbooks

Title	Author	Publisher
The information about the materials used in this course will be provided in the first session.		

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Assignments	70%
Online materials	30%

A grading rubric is used to assess students’ assignments and the progress of online learning.

Etc

Online materials students use are going to be chosen based on their needs.

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2022

Academic English for Research Purposes

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Elective	Credits	2.0
Methods	seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yasuomi Kaiho						
Instructor(s)							

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	OrientationVocabulary Size Test	Seminar	Yasuomi Kaiho	Online materials
2	FreewritingThe Organization of a ParagraphOnline Materials	Seminar	Yasuomi Kaiho	Make an Outline.Review Online Materials
3	How to Write a Paragraph (Theme 1) Online Materials	Seminar	Yasuomi Kaiho	ReviewOnline Materials
4	How to Write a Paragraph (Theme 1) Online Materials	Seminar	Yasuomi Kaiho	Make an Outline.Review Online Materials
5	How to Write a Paragraph (Theme 2) Online Materials	Seminar	Yasuomi Kaiho	ReviewOnline Materials
6	How to Write a Paragraph (Theme 2)Online Materials	Seminar	Yasuomi Kaiho	Make an Outline.Review Online Materials
7	How to Write an Essay (Theme 1)Online Materials	Seminar	Yasuomi Kaiho	ReviewOnline Materials
8	How to Write an Essay (Theme 1)Online Materials	Seminar	Yasuomi Kaiho	Make an Outline.Review Online Materials
9	How to Write an Essay (Theme 2)Online Materials	Seminar	Yasuomi Kaiho	ReviewOnline Materials
10	How to Write an Essay (Theme 2)Online Materials	Seminar	Yasuomi Kaiho	Make an Outline.Review Online Materials
11	How to Write an Essay (Theme 3)Online Materials	Seminar	Yasuomi Kaiho	ReviewOnline Materials
12	How to Write an Essay (Theme 3)Online Materials	Seminar	Yasuomi Kaiho	ReviewOnline Materials
13	How to Write an Abstract of an ArticleOnline Materials	Seminar	Yasuomi Kaiho	ReviewOnline Materials
14	How to Write an Abstract of an ArticleOnline Materials	Seminar	Yasuomi Kaiho	ReviewOnline materials
15	Self-evaluationVocabulary Size Test	Seminar	Yasuomi Kaiho	ReviewOnline Materials

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2022

Advanced Bioanalytical Chemistry

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Elective	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Takenaka S.						
Instructor(s)	Takenaka S.						
	Takenaka S.						

Course Description

Analytical Chemistry is positioned as indispensable science in the all of studying areas. In this lecture, basic analytical chemistry will be reviewed with addition of the cutting edge technology connected with analytical chemistry. Since this lecture is stand at engineer English one, attendance should understand technical word in English.

Attainment Objectives

Participant should understand how contribute the following subjects in Analytical Chemistry.1) Thermodynamics2) Kinetics3) Equilibrium4) Quantum chemistry5) Statistical thermodynamics6) Electrochemistry7) Group theory

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
-	100%

Teacher requests your lecture note. Teacher evaluates your ability from small quiz in the class and examination.

Etc

Participants should review topics after lecture every times using the related text books and/or references. Teacher noticed the topic of next lecture and participants should search the important point of the topic

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2022

Advanced Bioanalytical Chemistry

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Elective	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Takenaka S.						
Instructor(s)	Takenaka S.						
	Takenaka S.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Ion equilibrium and acid-base reaction in an aqueous solution	Lecture	Takenaka S.	Homework of previously lecture
2	Complex formation and Chelate titration	Lecture	Takenaka S.	Homework of previously lecture
3	Solid-liquid equilibrium and ion exchange reaction	Lecture	Takenaka S	Homework of previously lecture
4	Distribution equilibrium and extraction	Lecture	Takenaka S.	Homework of previously lecture
5	Redox reaction	Lecture	Takenaka S.	Homework of previously lecture
6	Electrochemical measurement using electrode	Lecture	Takenaka S.	Homework of previously lecture
7	Chromatography and electrophoresis	Lecture	Takenaka S.	Homework of previously lecture
8	Interaction of material and light	Lecture	Takenaka S.	Homework of previously lecture
9	Molecular spectroscopic analysis	Lecture	Takenaka S.	Homework of previously lecture
10	Atomic spectroscopic analysis	Lecture	Takenaka S.	Homework of previously lecture
11	X-ray crystal structure analysis	Lecture	Takenaka S.	Homework of previously lecture
12	Analysis using a magnetics	Lecture	Takenaka S.	Homework of previously lecture
13	Microscopic analysis	Lecture	Takenaka S.	Homework of previously lecture
14	Thermal analysis, micro-area analysis, and chemical sensor	Lecture	Takenaka S.	Homework of previously lecture
15	Labeling of proteins and nucleic acids	Lecture	Takenaka S.	Homework of previously lecture
16	Significance and treatment of obtained measurement results	Lecture	Takenaka S.	Homework of previously lecture

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2022

Advanced Bioanalytical chemistry

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Elective	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Sato S.						
Instructor(s)	Satou S.						
	Satou S.						

Course Description

【Language】English and Japanese The aim of this course is to help students acquire an understanding of Chemical Biology from interaction analysis methods between small molecules and Nucleic Acid, or small molecules and Protein.

Attainment Objectives

Upon completion of this course, students will be able to do the following:1. Learn about proteins, nucleic acids and enzymes2. Understand the principle of UV-Vis spectroscopy analysis, isothermal titration calorimetry, quartz crystal microbalance, surface plasmon resonance, circular polarization dichroism analysis, electrochemical measurement, atomic force microscope which are representative analytical methods3. How to handle data, and statistical analysis method.

Textbooks

Title	Author	Publisher
In this course, no textbook is available.		

Reference Books

Title	Author	Publisher
Understanding Bioanalytical Chemistry-Principle and Applications-(2009)		Pub. Wiley

Grading Criteria and Method of Evalution

Evaluation item	Ratio
10 Contents × 10 points= 100 points.	100%

Some reports on specific theme should be submitted. The submitted reports are used for the evaluation.

Etc

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2022

Advanced Bioanalytical chemistry

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Elective	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Sato S.						
Instructor(s)	Satou S.						
	Satou S.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Intoroduction to Biomolecules	Lecture	Sato S.	Homework of previously lecture
2	Property of Protein, Nucleac Acid, and Enzyme	Lecture	Sato S.	Homework of previously lecture
3	Applications of spectroscopy-1 (Binding analysis)	Lecture	Sato S.	Homework of previously lecture
4	Applications of spectroscopy-2 (Kinetic analysis)	Lecture	Sato S.	Homework of previously lecture
5	Applications of spectroscopy-3 (Thermodynamic analysis)	Lecture	Sato S.	Homework of previously lecture
6	Isothermal Titration Calorimetry	Lecture	Sato S.	Homework of previously lecture
7	Quartz Crystal Microbalance	Lecture	Sato S.	Homework of previously lecture
8	Surface Plasmon Resonance	Lecture	Sato S.	Homework of previously lecture
9	Circular Dichroism Spectroscopy analysis	Lecture	Sato S.	Homework of previously lecture
10	Electrochemical measurement (Diffusion process)	Lecture	Sato S.	Homework of previously lecture
11	Electrochemical measurement (Adsorption process)-1	Lecture	Sato S.	Homework of previously lecture
12	Electrochemical measurement (Adsorption process)-2	Lecture	Sato S.	Homework of previously lecture
13	Atomic Force Microscope	Lecture	Sato S.	Homework of previously lecture
14	Statistical analysis	Lecture	Sato S.	Homework of previously lecture
15	Summary	Lecture	Sato S.	Homework of previously lecture

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2022

Advanced Intelligent System

Grades	1 grade	Semester (or Term)	Spring	Subject	Elective	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kamiya T.						
Instructor(s)							
	Kamiya T.						

Course Description

To develop the advanced information processing instruments, it is necessary to understand hardware and software system. In this course, basic concepts of data structures and algorithms which is concerned image systems are lectured.

Attainment Objectives

Upon completion of this course, students will be able to do the following:1)　Demonstrate a familiarity with major algorithms and data structures2) Algorithmic design paradigms and its analysis3)　Analyze the performance of algorithms.

Textbooks

Title	Author	Publisher
Before starting this class, teacher posts or notices the text book with reference one.		

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
レポート	40%

The final grade will be primarily based on understanding of the lecture and presentation. Also teacher evaluates your ability from small quiz in the class and reports.

Etc

Participants should review topics after lecture every times using the related text books and/or references.

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2022

Advanced Intelligent System

Grades	1 grade	Semester (or Term)	Spring	Subject	Elective	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kamiya T.						
Instructor(s)							
	Kamiya T.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Introduction	Lecture	Kamiya T.	Homework of previously lecture
2	What are the advanced intelligent systems	Lecture	Kamiya T.	Homework of previously lecture
3	Medical engineering system	Lecture	Kamiya T.	Homework of previously lecture
4	Medical imaging system	Lecture	Kamiya T.	Homework of previously lecture
5	Basic algorithms	Lecture	Kamiya T.	Homework of previously lecture
6	Design and analysis of algorithms	Lecture	Kamiya T.	Homework of previously lecture
7	Data structures	Lecture	Kamiya T.	Homework of previously lecture
8	Basic data structures	Lecture	Kamiya T.	Homework of previously lecture
9	Lists	Lecture	Kamiya T.	Homework of previously lecture
10	Stacks, Queues	Lecture	Kamiya T.	Homework of previously lecture
11	Trees	Lecture	Kamiya T.	Homework of previously lecture
12	Search	Lecture	Kamiya T.	Homework of previously lecture
13	Binary search and AVL trees	Lecture	Kamiya T.	Homework of previously lecture
14	Graph	Lecture	Kamiya T.	Homework of previously lecture
15	Summary	Lecture	Kamiya T.	Homework of previously lecture

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2022

Clean Cycle Chemistry based on Microbial Functions

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Elective	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Maeda T.						
Instructor(s)	Maeda K.						

Course Description

Bacteria can adapt any environment such as high salinity, acidic, alkaline, high pressure conditions. The adaptation can be regulated by the gene expression (on-off switch), gene mutation, and protein evolution. As a result, there are several unique bacterial functions by which bacterial cannibalism, biofilm formation, cell-to-cell communication, and bioenergy production can be seen as a microbial event. The objective of this lecture is to understand how living organisms can adapt and regulate the functions and how the bacterial functions can be applied to an eco-friendly technology.

Attainment Objectives

1. To understand the concept of “Environmental bio-adaptation”.2. To understand the structure of DNA and chromosome.3. To understand DNA replication, DNA repair, and DNA mutation.4. To understand the concept of Central Dogma.5-6. To understand the mechanism of gene expression and regulation.7-8. To understand the mechanism of translation and catalytic function.9. To discuss the protein evolution and then understand the protein engineering.10-11. To understand the mechanism of bacterial predation and cannibalism.12-13. To understand the mechanism of biofilm formation and bacterial quorum sensing.14. To understand the mechanism of chemotaxis.15. To understand the future biotechnology and discuss about the next-generation technology.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
final examination	100%

Etc

Lecture materials can be downloaded from the following homepage (http://www.life.kyutech.ac.jp/~toshi.maeda/).The advisement regarding this study can be available any time.Contact person: Dr. Toshinari MAEDA

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2022

Clean Cycle Chemistry based on Microbial Functions

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Elective	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Maeda T.						
Instructor(s)	Maeda K.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Environmental bio-adaptation	Lecture	Maeda T.	Reading lecture materials before the lecture and careful re-reading after the lecture
2	DNA and chromosome DNA	Lecture	Maeda T.	Reading lecture materials before the lecture and careful re-reading after the lecture
3	replication, repair, mutation	Lecture	Maeda T.	Reading lecture materials before the lecture and careful re-reading after the lecture
4	Central Dogma	Lecture	Maeda T.	Reading lecture materials before the lecture and careful re-reading after the lecture
5	Gene expression	Lecture	Maeda T.	Reading lecture materials before the lecture and careful re-reading after the lecture
6	Regulation of gene expression	Lecture	Maeda T.	Reading lecture materials before the lecture and careful re-reading after the lecture
7	Translation	Lecture	Maeda T.	Reading lecture materials before the lecture and careful re-reading after the lecture
8	Protein & catalytic mechanism	Lecture	Maeda T.	Reading lecture materials before the lecture and careful re-reading after the lecture
9	Protein evolution	Lecture	Maeda T.	Reading lecture materials before the lecture and careful re-reading after the lecture
10	Bacterial predation	Lecture	Maeda T.	Reading lecture materials before the lecture and careful re-reading after the lecture

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2022

Clean Cycle Chemistry based on Microbial Functions

Grades	1-2 grades	Semester (or Term)	All Season	Subject	Elective	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Maeda T.						
Instructor(s)	Maeda K.						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
11	Bacterial cannibalism	Lecture	Maeda T.	Reading lecture materials before the lecture and careful re-reading after the lecture
12	Bacterial biofilm formation	Lecture	Maeda T.	Reading lecture materials before the lecture and careful re-reading after the lecture
13	Bacterial quorum sensing	Lecture	Maeda T.	Reading lecture materials before the lecture and careful re-reading after the lecture
14	Bacterial chemotaxis	Lecture	Maeda T.	Reading lecture materials before the lecture and careful re-reading after the lecture
15	Future biotechnology	Lecture	Maeda T.	Reading lecture materials before the lecture and careful re-reading after the lecture

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2022

Functional Biomaterials

Grades	1-3 grades	Semester (or Term)	Spring	Subject	Elective	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Miyazaki T.						
Instructor(s)	Miyazaki T.						

Course Description

This course deals with structure, design and development of biomaterials used for medical fields. Especially this course focuses on hard tissue repair such as bone and tooth. Ceramics, metals, polymers and composites materials for biomaterials will be introduced.

Attainment Objectives

The attendee can explain chemical properties of biomaterials.The attendee can explain mechanical properties of biomaterials.The attendee can explain biological properties of biomaterials.The attendee can explain preparation of biomaterials.

Textbooks

Title	Author	Publisher
Textbook is not used. Reference book is as follows.		

Reference Books

Title	Author	Publisher
An Introduction to Bioceramics (2nd Edition)	L.L. Hench (ed.)	Imperial College Press, 2013
Bioceramics and their Clinical Applications	T. Kokubo (ed.)	Woodhead Publishing, 2008

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Midterm paper or final exam	100%

Etc

Students should read English handout distributed by PDF file in advance.

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2022

Functional Biomaterials

Grades	1-3 grades	Semester (or Term)	Spring	Subject	Elective	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Miyazaki T.						
Instructor(s)	Miyazaki T.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	What is biomaterial?	Lecture	Miyazaki T.	Review and preparation by text distributed in advance
2	Current development process and production of biomaterials	Lecture	Miyazaki T.	Review and preparation by text distributed in advance
3	Structure and function of bone	Lecture	Miyazaki T.	Review and preparation by text distributed in advance
4	Structure and function of tooth	Lecture	Miyazaki T.	Review and preparation by text distributed in advance
5	Interaction between biomaterial and body	Lecture	Miyazaki T.	Review and preparation by text distributed in advance
6	Cytotoxicity of various elements	Lecture	Miyazaki T.	Review and preparation by text distributed in advance
7	Ceramic biomaterials	Lecture	Miyazaki T.	Review and preparation by text distributed in advance
8	Polymer biomaterials	Lecture	Miyazaki T.	Review and preparation by text distributed in advance
9	Composite biomaterials	Lecture	Miyazaki T.	Review and preparation by text distributed in advance
10	Metallic biomaterials	Lecture	Miyazaki T.	Review and preparation by text distributed in advance
11	Ceramics produced by living things	Lecture	Miyazaki T.	Review and preparation by text distributed in advance
12	Principle of biomimetic process	Lecture	Miyazaki T.	Review and preparation by text distributed in advance
13	Development of biomaterials and environmental materials by biomimetic process	Lecture	Miyazaki T.	Review and preparation by text distributed in advance
14	Biomaterials for tissue engineering	Lecture	Miyazaki T.	Review and preparation by text distributed in advance
15	Biomaterials for cancer treatment	Lecture	Miyazaki T.	Review

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2022

Biomechanics

Grades	1-2 grades	Semester (or Term)	Spring	Subject	Elective	Credits	2.0
Methods	lesson	Total time	32.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yamada H.						
Instructor(s)	Yamada H.						

Course Description

【Language】Japanese A human body is subjected to external and internal forces, and some functions and behaviors of body components can be dealt as mechanical phenomena. By revealing the correlations between biological phenomena and mechanical factors, one can enhance healthy conditions and protect the body from disorders and diseases with an aid of engineering. This class introduces the methods in solid biomechanics to evaluate or analyze the structures, functions and responses of human body components to learn the mechanical characteristics of musculoskeletal and cardiovascular systems, etc. It also introduces some approaches to the body components with engineering discipline.

Attainment Objectives

1. One can explain an overview of biomechanics and related fields.2. One can calculate the force on the musculoskeletal system.3. One can explain the mechanical characteristics and stress state of bones and teeth.4. One can explain the stress relaxation and creep deformation of soft tissues.5. One can explain the large deformation of soft tissues based on the concept of continuum mechanics.6. One can explain the mechanical tests and the analyses of stress and strain by finite element method for biological tissues and cells.

Textbooks

Title	Author	Publisher
Fundamentals of mechanics and biomechanics, in Japanese (ISBN 978-4-339-07230-3)	H. Yamada	

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
short reports in each class	40%
presentations and reports of investigations	60%

Etc

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2022

Biomechanics

Grades	1-2 grades	Semester (or Term)	Spring	Subject	Elective	Credits	2.0
Methods	lesson	Total time	32.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yamada H.						
Instructor(s)	Yamada H.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Overview of biomechanics	Lecture	Yamada H.	preparation and review for the lectures and exercises.
2	Mechanics of human body with microgravity	Lecture	Yamada H.	preparation and review for the lectures and exercises.
3	Mechanics in the musculoskeletal system	Lecture	Yamada H.	preparation and review for the lectures and exercises.
4	Infinitesimal deformation of hard tissues	Lecture	Yamada H.	preparation and review for the lectures and exercises.
5	Mechanics of bone and teeth	Lecture	Yamada H.	preparation and review for the lectures and exercises.
6	Viscoelasticity of soft tissues	Lecture	Yamada H.	preparation and review for the lectures and exercises.
7	Individual investigation for Lecture 1-6	Practice	Yamada H.	preparation and review for the lectures and exercises.
8	Presentation of an individual investigation for Lecture 1-6	Practice	Yamada H.	preparation and review for the lectures and exercises.
9	Mechanics of skeletal muscles	Lecture	Yamada H.	preparation and review for the lectures and exercises.
10	Large deformation of soft tissues	Lecture	Yamada H.	preparation and review for the lectures and exercises.
11	Cardiovascular mechanics	Lecture	Yamada H.	preparation and review for the lectures and exercises.
12	Cardiovascular mechanics	Lecture	Yamada H.	preparation and review for the lectures and exercises.
13	Dynamics in biological tissues	Lecture	Yamada H.	preparation and review for the lectures and exercises.
14	Mechanical tests and finite element analyses of tissues & cells	Lecture	Yamada H.	preparation and review for the lectures and exercises.

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2022

Biomechanics

Grades	1-2 grades	Semester (or Term)	Spring	Subject	Elective	Credits	2.0
Methods	lesson	Total time	32.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yamada H.						
Instructor(s)	Yamada H.						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
15	Individual investigation for Lecture 9-14	Practice	Yamada H.	preparation and review for the lectures and exercises.
16	Presentation of an individual investigation for Lecture 9-14	Practice	Yamada H.	preparation and review for the lectures and exercises.

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2022

Introduction to Oral and Maxillofacial Radiology

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Elective subject	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y.						
	Morimoto Y						

Course Description

You can review the basic radiology including radiological physics, radiological chemistry, radiological biology, radiological protection, and radiological management technology.

Attainment Objectives

You understand the basic radiology including radiological physics, radiological chemistry, radiological biology, radiological protection, and radiological management technology.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Oral presentation	50%
Oral examination	50%

Etc

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2022

Introduction to Oral and Maxillofacial Radiology

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Elective subject	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y.						
	Morimoto Y						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	History of Radiology, Physics of radiation	Practice	Morimoto	Pre- and post-reading of textbook
2	Radiation chemistry	Practice	Morimoto	Pre- and post-reading of textbook
3	Basic radiobiology	Practice	Morimoto	Pre- and post-reading of textbook
4	Basic radiation measurement methods I	Practice	Morimoto	Pre- and post-reading of textbook
5	Basic radiation measurement methods II	Practice	Morimoto	Pre- and post-reading of textbook
6	Radiation-related laws and ordinances (I)	Practice	Morimoto	Pre- and post-reading of textbook
7	Medical image engineering	Practice	Morimoto	Pre- and post-reading of textbook
8	Image storage translation, reproduction, and transfer	Practice	Morimoto	Pre- and post-reading of textbook
9	Imaging techniques and analytical methods of CT and dental CBCT	Practice	Morimoto	Pre- and post-reading of textbook
10	Imaging techniques and analytical methods of MRI	Practice	Morimoto	Pre- and post-reading of textbook
11	Imaging techniques and analytical methods of US	Practice	Morimoto	Pre- and post-reading of textbook
12	Nuclear Medicine	Practice	Morimoto	Pre- and post-reading of textbook
13	Radiotherapy	Practice	Morimoto	Pre- and post-reading of textbook
14	Radiation-related laws and ordinances (II)	Practice	Morimoto	Pre- and post-reading of textbook
15	Review	Practice	Morimoto	Pre- and post-reading of textbook

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2022

Oral and Maxillofacial Surgery

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Elective subject	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Tominaga K.						
Instructor(s)	Tominaga K.						
	Tominaga K.						

Course Description

To acquire basic knowledge of Oral and Maxillofacial Surgery and the latest improvement of diagnosis and management of various lesions in this area.
To learn the role of engineering skill and knowledge in regenerative medicine, innovative drug development , novel cancer therapy and so on.

Attainment Objectives

口腔顎顔面疾患の診断と治療における医療者側のニーズを理解する。

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
reports of the individual lectures	100%

Etc

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2022

Oral and Maxillofacial Surgery

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Elective subject	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Tominaga K.						
Instructor(s)	Tominaga K.						
	Tominaga K.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Embliology and anatomy of oral and maxillofacial region	Lecture	Tominaga	Reports of the individual lectures
2	Congenital disorders	Lecture	Tominaga	Reports of the individual lectures
3	Developmental disorders	Lecture	Tominaga	Reports of the individual lectures
4	Jaw deformities	Lecture	Tominaga	Reports of the individual lectures
5	Traumatology	Lecture	Tominaga	Reports of the individual lectures
6	Infectious diseases	Lecture	Tominaga	Reports of the individual lectures
7	Benign tumors	Lecture	Tominaga	Reports of the individual lectures
8	Malignant tuomors (1)	Lecture	Tominaga	Reports of the individual lectures
9	Malignant tuomors (2)	Lecture	Tominaga	Reports of the individual lectures
10	Temporomanbubular disorders	Lecture	Tominaga	Reports of the individual lectures
11	Mucous diseases	Lecture	Tominaga	Reports of the individual lectures
12	Dental implantology	Lecture	Tominaga	Reports of the individual lectures
13	Orofacial prosthesis	Lecture	Tominaga	Reports of the individual lectures
14	Disinfection	Lecture	Tominaga	Reports of the individual lectures
15	Summary	Lecture	Tominaga	-

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2022

Molecular Biology for Bone and Skeletal muscle

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Elective subject	Credits	2.0
Methods	lesson	Total time	15.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Shoichiro Kokabu						
Instructor(s)	Kokabu S., Matsubara T., Addison W.						
	Kokabu S, Matsubara T, Addison WN						

Course Description

Sarcopenia and osteoporosis are characterized by decreased muscle protein or bone mass respectively that contributes to. In our aging society, the mortor disability by sarcopenia and/or osteoporosis is social problem. So, we have to develop the novel methods to increase the bone and muscle mass. In this lecture, you will obtain the background and basic molecular experimental knowledge for regenerative medicine of bone and skeletal muscle.

Attainment Objectives

You can explain the basic physiology and pathology of bone and skeletal muscle with the basic of bone and skeletal muscle experiments.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher
Please select any book of reference if you want.		

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Report	80%
Oral examination	20%

Evaluate with Rubric table.
Rubric evaluation sheets will be distributed at the first session.

Etc

You can visit us at any time.

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2022

Molecular Biology for Bone and Skeletal muscle

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Elective subject	Credits	2.0
Methods	lesson	Total time	15.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Shoichiro Kokabu						
Instructor(s)	Kokabu S., Matsubara T., Addison W.						
	Kokabu S, Matsubara T, Addison WN						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Handling of cultured cells and the proliferation of skeletal muscle cells	Lecture(Web or Face to Face)	Kokabu S	Prepare for the principal of cultured cells
2	Evaluation of the proliferation of skeletal muscle cells	Lecture(Web or Face to Face)	Addison WN	Prepare for the cell proliferation
3	Differentiation of skeletal muscle cells	Lecture(Web or Face to Face)	Addison WN	Prepare for the cell differentiation
4	Evaluation of the differentiation of skeletal muscle cells	Lecture(Web or Face to Face)	Addison WN	Prepare for skeletal muscle stem cells
5	Skeletal muscle atrophy	Lecture(Web or Face to Face)	Kokabu S	Prepare for skeletal muscle atrophy
6	Evaluation of the atrophy of skeletal muscle atrophy	Lecture(Web or Face to Face)	Kokabu S	Prepare for sarcopenia
7	Harvest and culture of primary skeletal muscle stem cells	Lecture(Web or Face to Face)	Kokabu S	Prepare for primary cultured cells
8	Differentiation of osteoblasts	Lecture(Web or Face to Face)	Matsubara T	Prepare for osteoblasts
9	Evaluation of the differentiation of osteoblasts I	Lecture(Web or Face to Face)	Matsubara T	Prepare for osteoblast differentiation
10	Evaluation of the differentiation of osteoblasts II	Lecture(Web or Face to Face)	Matsubara T	Prepare for osteoblast differentiation
11	Harvest and culture of primary osteoblasts	Lecture(Web or Face to Face)	Kokabu S	Prepare for primary osteoblasts from calvarial bone
12	Harvest and culture of primary bone marrow stromal cells	Lecture(Web or Face to Face)	Kokabu S	Prepare for primary bone marrow stroll cells
13	Osteoclast differentiation	Lecture(Web or Face to Face)	Matsubara T	Prepare for osteoclast
14	Evaluation of the differentiation of osteoclast I	Lecture(Web or Face to Face)	Matsubara T	Prepare for osteoclast differentiation
15	Evaluation of the differentiation of osteoclast II	Lecture(Web or Face to Face)	Matsubara T	Prepare for osteoclast differentiation

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2022

Molecular Biology for Infectious Diseases

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Elective subject	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ariyoshi W						
Instructor(s)	Ariyoshi.W, Yamasaki R.						

Course Description

You can obtain novel information and knowledge concerning life sciences for infection and immunity in molecular cell biology.

Attainment Objectives

To obtain novel information and knowledge for
① Virulence factors responsible for infection
② Biofilm and quorum sensing system
③ Oral infectious diseases
④ Recognition and elimination of pathogens in immune system
⑤ Cytokines and inflammatory mediators
⑥ Pattern recognition receptors
⑦ Role of immune cells in inflammatory response
⑧ Host defense in oral lesion
⑨ Diagnosis, prevention and treatment of infectious diseases
⑩ Inflammasome
⑪ Bone remodeling
⑫ Interaction between bone metabolisms and immune system

Textbooks

Title	Author	Publisher
Handout		

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Reports	100%

Etc

javascript:void(0)You can ask your study-counsel before or after the lectures. Email is available at any time.

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2022

Molecular Biology for Infectious Diseases

Grades	1-4 grades	Semester (or Term)	All Season	Subject	Elective subject	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ariyoshi W						
Instructor(s)	Ariyoshi.W, Yamasaki R.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Molecular biology for pathogenic microbes Ⅰ : Fundamental knowledge of molecular biology and microbiology for studying infectious diseases	Lecture	Yamasaki	Pre-reading of handout
2	Molecular biology for pathogenic microbes Ⅱ : Adhesion molecules and endotoxin of pathogenic bacteria	Lecture	Yamasaki	Pre-reading of handout
3	Molecular biology for pathogenic microbes Ⅲ : Structure and functions of biofilm	Lecture	Yamasaki	Pre-reading of handout
4	Molecular biology for pathogenic microbes Ⅳ : Virulence factors of oral bacteria	Lecture	Yamasaki	Pre-reading of handout
5	Molecular biology for pathogenic microbes Ⅴ : Structure and functions of human microbiom	Lecture	Yamasaki	Pre-reading of handout Creating report
6	Molecular biology for host defense against infection Ⅰ : Fundamental knowledge of molecular biology for studying immunology	Lecture	Ariyoshi	Pre-reading of handout
7	Molecular biology for host defense against infection Ⅱ : Molecular mechanisms involved in antigen recognition and elimination by innate immune system	Lecture	Ariyoshi	Pre-reading of handout
8	Molecular biology for host defense against infection Ⅲ : Molecular mechanisms involved in antigen recognition and elimination by humoral immune system	Lecture	Ariyoshi	Pre-reading of handout
9	Molecular biology for host defense against infection Ⅳ : Molecular mechanisms involved in antigen recognition and elimination by cell-mediated immune system	Lecture	Ariyoshi	Pre-reading of handout
10	Molecular biology for host defense against infection Ⅴ : Host defense by saliva and immune system in oral lesion	Lecture	Ariyoshi	Pre-reading of handout
11	Molecular biology for host defense against infection Ⅵ : Approach for diagnosis, prevention and treatment of infectious diseases	Lecture	Ariyoshi	Pre-reading of handout
12	Molecular biology for host defense against infection Ⅶ : Molecular mechanisms involved in activation of inflammasome in inflammatory response	Lecture	Ariyoshi	Pre-reading of handout Creating report
13	Inflammatory bone resorption Ⅰ : Molecular mechanisms involved in regulation of bone remodeling	Lecture	Ariyoshi	Pre-reading of handout
14	Inflammatory bone resorption Ⅱ : Regulation of immunomodulatory molecules in bone metabolisms	Lecture	Ariyoshi	Pre-reading of handout
15	Inflammatory bone resorption Ⅲ : Osteoimmunological approach for treatment of inflammatory bone resorption	Lecture	Ariyoshi	Pre-reading of handout Creating report

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2022

Clinical Research Design Ⅰ

Grades	1-3 grades	Semester (or Term)	Spring	Subject	Elective	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kakudate N.						
Instructor(s)	Kakudate N., Karaki J.						
	Kakudate N., Karaki J.						

Course Description

【Language】English and Japanese In this lecture, you will learn basic aspects of clinical research design. In addition, to develop practical skills in Evidence-Based Dentistry (EBD), you will conduct a literature search based on a question you derive from your own dental practice, and make a presentation after critical appraisal of the selected papers.

Attainment Objectives

At the completion of this course, you will be able to:1. Formulate questions arising in clinical practice into research questions.2. Understand the outlines of clinical study design.3. Select appropriate clinical study designs.4. Critically appraise clinical research papers and structured abstracts.5. Practice Evidence-based Dentistry.

Textbooks

Title	Author	Publisher
Introduction to Evidence-Based Dentistry		Nagasueshoten

Reference Books

Title	Author	Publisher
Designing Clinical Research	Stephen B Hulley	Lippincott Williams & Wilkins
Guide to Practice-Based Research and Scientific Writing		Ishiyaku Publishers

Grading Criteria and Method of Evalution

Evaluation item	Ratio
deliverables during your coursework	60%
presentation	40%

Etc

Prior to submitting the registration form, please contact the instructor (Kakudate N) and consult the course schedule.【Office hour】Before and after every class, or email at any time.

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2022

Clinical Research Design Ⅰ

Grades	1-3 grades	Semester (or Term)	Spring	Subject	Elective	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kakudate N.						
Instructor(s)	Kakudate N., Karaki J.						
	Kakudate N., Karaki J.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Introduction to clinical research and EBD:You will learn about the definition of clinical research and EBD.	Lecture	Kakudate	Definition of EBD/Level of evidence
2	Study design:You will learn about clinical research designs.	Lecture	Kakudate	Clinical Research design/ Cross-sectional study, Case-control study, RCT, Meta-analysis
3	Concept of bias:You will learn about three major biases.	Lecture	Kakudate	Concept of bias/Selection bias, information bias, confounding bias
4	Observational study:You will learn about critical appraisal of reports of observational studies.	Lecture and practice	Kakudate	Critical appraisal/ Screening test
5	Randomized Controlled Trials:You will learn about critical appraisal of reports of RCT	Lecture and practice	Kakudate	Critical appraisal of research articles of RCT
6	Research articles:You will learn about the structure of research articles and abstracts on clinical research	Lecture	Kakudate	Structure of the research articles and abstracts
7	Systematic reviews, Meta-analyses and Clinical guidelines:You will learn about systematic reviews, meta-analyses and clinical guidelines.	Lecture	Kakudate	Systematic review / Meta-analysis / Clinical guidelines
8	Systematic reviews and meta-analyses:You will critically appraise research reports of meta-analyses.	Lecture and Practice	Kakudate	Critical appraisal of research papers of systematic reviews and meta-analysis
9	Formulating a research questionYou will learn how to formulate an answerable question using PICO.	Lecture and Practice	Kakudate	P I C O: Formulate an answerable question
10	Literature search①You will learn how to search the literatureusing PubMed.	Lecture and Practice	Kakudate	Literature search using PubMed
11	Literature search②You will learn how to search the literatureusing the Cochrane library and Minds.	Lecture and Practice	Kakudate	Literature search/Cochrane review, Minds
12	Literature search③You will search the literature based on your own research question using PubMed.	Practice	Kakudate	Literature search using PubMed
13	Presentation PreparationYou will perform critical appraisal of the literature based on your own research question	Presentation	Kakudate	Preparing PowerPoint presentations
14	Final presentation-Part 1-	Presentation	KakudateKaraki	Preparing PowerPoint presentations

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2022

Clinical Research Design Ⅰ

Grades	1-3 grades	Semester (or Term)	Spring	Subject	Elective	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kakudate N.						
Instructor(s)	Kakudate N., Karaki J.						
	Kakudate N., Karaki J.						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
15	Final presentation-Part 2-	Presentation	KakudateKaraki	Preparing PowerPoint presentations

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2022

Clinical Research Design II

Grades	1-3 grades	Semester (or Term)	Winter	Subject	Elective	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	角舘　直樹						
Instructor(s)	Kakudate N., Karaki J.						
	Kakudate N., Karaki J.						

Course Description

【Language】English and Japanese In this lecture, you will obtain specialized knowledge on clinical research design and applied skills in the conduct of clinical research. In addition, you will develop the ability to create a study protocol based on a clinical question you derive from your own dental practice. Finally, you will make a presentation of the study protocol.

Attainment Objectives

At the completion of this course, you will be able to:1. Understand the process flow from the planning of clinical epidemiology research up to implementation.2. Formulate a research question derived from your own dental practice.3. Develop a research design.4. Understand the basics of statistical analysis methods.5. Create a research protocol.

Textbooks

Title	Author	Publisher
Introduction to Evidence-Based Dentistry		Nagasueshoten

Reference Books

Title	Author	Publisher
Designing Clinical Research	Stephen B Hulley	Lippincott Williams & Wilkins
Guide to Practice-Based Research and Scientific Writing		Ishiyaku Publishers.

Grading Criteria and Method of Evalution

Evaluation item	Ratio
deliverables during your coursework	60%
presentation	40%

Etc

Prior to submitting the registration form, please contact the instructor (Kakudate N) and consult the course schedule.【Office hour】Before and after every class, or email at any time.

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2022

Clinical Research Design Ⅱ

Grades	1-3 grades	Semester (or Term)	Winter	Subject	Elective	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	角舘　直樹						
Instructor(s)	Kakudate N., Karaki J.						
	Kakudate N., Karaki J.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Introduction to clinical research:You will learn how to formulate an answerable question.	Lecture	Kakudate	PICO/Finer’ｓ check
2	Controlling bias part 1:You will learn how to control information bias and selection bias.	Lecture and Practice	Kakudate	Study design/Information and selection bias
3	Controlling bias part 2:You will learn how to control confounding bias.	Lecture and Practice	Kakudate	Confounding bias
4	Hypothetical conceptual model:You will learn how to build a hypothetical conceptual model.	Lecture and Practice	Kakudate	Hypothetical conceptual model
5	Selecting study design part 1:You will learn how to select an appropriate epidemiological study design.	Practice	Kakudate	Epidemiological study design
6	Selecting study design part 2:You will learn how to plan and conduct epidemiological studies.	Practice	Kakudate	Epidemiological study design
7	Finding the Evidence Part 1:You will search the literature based on your PICO framework.	Practice	Kakudate	Literature search
8	Finding the Evidence Part 2:You will search the literature based on your PICO framework.	Practice	Kakudate	Literature search
9	Questionnaire survey and research protocol:You will learn how to produce questionnaires and research protocol for an Institutional Review Board	Lecture and Practice	Kakudate	Questionnaire surveyand Research protocolfor an Institutional Review Board
10	Statistical analysis part 1: You will learn the types of data and correlation.	Lecture	Kakudate	Correlation coefficient
11	Statistical analysis part 2: You will learn hypothesis testing, chi-square test and the t-test.	Lecture and Practice	Kakudate	Hypothesis testing/ Chi-square test and t-test
12	Statistical analysis part 3: You will learn various kinds of statistical analysis methods including multivariate analysis and survival analysis.	Lecture	Kakudate	Various kinds of statistical analysis including multivariate analysis and survival analysis
13	Presentation Preparation	Presentation	Kakudate	Preparing PowerPoint presentations
14	Final presentation-Part Ⅰ-	Presentation	KakudateKaraki	Preparing PowerPoint presentations
15	Final presentation-Part Ⅱ-	Presentation	KakudateKaraki	Preparing PowerPoint presentations

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Introduction to Geriatric Dentistry Ⅰ

Grades	1-3 grades	Semester (or Term)	Spring	Subject	Elective	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry/Department of Oral Health Sciences						
Responsible Instructor	Karaki J.						
Instructor(s)	Tada Y., Kubota J., Isobe A., Karaki J.						
	Karaki J. Kubota J. Isobe A. Tada Y						

Course Description

To understand the physical, social, and mental characteristics of the elderly, and to gain an understanding of the medical and nursing care systems currently surrounding the elderly. In addition, after understanding the characteristics of dental diseases in the elderly, students will develop knowledge of supporting the elderly from the perspective of health promotion through the improvement of the oral environment.

Attainment Objectives

By the end of the course, students acquire fundamental knowledge about:(1)Oral and general health in the elderly(2)Social institutions for the elderly(3)Oral disease in the elderly.

Textbooks

Title	Author	Publisher
No particular textbook will be used.		

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Reports, Deliverables	100

Etc

Study counseling is available as needed. This course has been designated as a subject of the Inter-University Collaborative Educational Project. Lectures will be given via remote lectures and face-to-face lectures.

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2022

Introduction to Geriatric Dentistry Ⅰ

Grades	1-3 grades	Semester (or Term)	Spring	Subject	Elective	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry/Department of Oral Health Sciences						
Responsible Instructor	Karaki J.						
Instructor(s)	Tada Y., Kubota J., Isobe A., Karaki J.						
	Karaki J. Kubota J. Isobe A. Tada Y						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Current situation surrounding medical care for the elderly	Lecture	Junichi Karaki, Katsmi Hidaka	Declining birthrate and aging population
2	Current situation surrounding medical care for the elderly	Lecture	Junichi Karaki, Katsmi Hidaka	elderly healthcare system
3	common oral diseases in the elderly	Lecture	Junichi Karaki	dental caries
4	common oral diseases in the elderly	Practice	Junichi Karaki	periodontal disease
5	Oral Function and Infectious Diseases	Practice	Junpei Kubota	oral function
6	Oral Function and Infectious Diseases	Lecture	Junpei Kubota	Improve oral function
7	Oral Function and Infectious Diseases	Lecture	Junpei Kubota	Infection and Immunity
8	On-site Dental Care	Lecture	Yoko Tada	nursing care level
9	On-site Dental Care	Lecture	Yoko Tada	Nursing home for the elderly
10	On-site Dental Care	Lecture	Yoko Tada	tube feeding
11	Basic knowledge of the oral environment and oral care	Lecture	Ayaka Isobe	Biofilm
12	Basic knowledge of the oral environment and oral care	Lecture	Ayaka Isobe	Dysphagia
13	Basic knowledge of the oral environment and oral care	Lecture	Ayaka Isobe	Functional Oral Health Care
14	Approaches to medical care for the elderly	Lecture, Practice	Junichi Karaki	Problems of Medical Care for the Elderly
15	Approaches to medical care for the elderly	Lecture, Practice	Junichi Karaki	Problems of Medical Care for the Elderly

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2022

Introduction to Geriatric Dentistry Ⅱ

Grades	1-3 grades	Semester (or Term)	Winter	Subject	Elective	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry/Department of Oral Health Sciences						
Responsible Instructor	Karaki J.						
Instructor(s)	Tada Y., Kubota J., Isobe A., Karaki J.						
	Karaki J. Kubota J. Isobe A. Tada Y.						

Course Description

【Language】The purpose of Introduction to Geriatric Dentistry Ⅱ is to develop knowledge of supporting the elderly from the perspective of health promotion by understanding the characteristics of dental diseases in the elderly and their relationship to systemic conditions, as well as learning about the relevant fields of geriatric dentistry and patient-reported outcomes.

Attainment Objectives

By the end of the course, students acquire fundamental knowledge about:(1)Common oral diseases in elderly, (2)Patient-reported outcomes and quality of life. (3)relevant fields of geriatric dentistry.

Textbooks

Title	Author	Publisher
No particular textbook will be used.		

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
report	100%

Etc

Remote lectures and face-to-face lectures are provided. Study consultation will be provided as needed. This course has been designated as a subject of the Inter-University Collaborative Educational Project.

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2022

Introduction to Geriatric Dentistry II

Grades	1-3 grades	Semester (or Term)	Winter	Subject	Elective	Credits	2.0
Methods	lesson and seminar	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry/Department of Oral Health Sciences						
Responsible Instructor	Karaki J.						
Instructor(s)	Tada Y., Kubota J., Isobe A., Karaki J.						
	Karaki J. Kubota J. Isobe A. Tada Y.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Health Care Policy for elderly	Lecture	Junichi Karaki, Katsumi Hidaka	nursing insurance
2	Health Care Policy for elderly	Lecture	Junichi Karaki, Katsumi Hidaka	medical insurance
3	Patient-Reported Outcomes	Lecture	Junichi Karaki,	Health-related quality of life
4	Patient-Reported Outcomes	Lecture	Junichi Karaki,	Patient-Reported Outcomes
5	dementia	Lecture	Yoko Tada	dementia
6	dementia	Lecture	Yoko Tada	dementia
7	Disaster and Dentistry	Lecture	Yoko Tada	DMAT
8	Disaster and Dentistry	Lecture	Junpei Kubota	Disaster base hospital
9	Disaster and Dentistry	Lecture	Junpei Kubota	Emergency Medical Information System
10	Dysphagia and aspiration pneumonia	Lecture	Junichi Karaki, Katsumi Hidaka	Screening tests for dysphagia
11	Dysphagia and aspiration pneumonia	Lecture	Junichi Karaki,	Indirect Exercises
12	Dysphagia and aspiration pneumonia	Lecture	Junichi Karaki,	Direct Exercises
13	Clinical Assessment of the Elderly	Lecture	Ayaka Isobe	clinical evaluation
14	Clinical Assessment of the Elderly	Lecture	Ayaka Isobe	clinical evaluation
15	Approaches to medical care for the elderly	Lecture	Junichi Karaki,	Problems of Medical Care for the Elderly

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Introduction to Polymer Physics

Grades	1-2 grades	Semester (or Term)	Winter	Subject	Elective	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry/Department of Oral Health Sciences						
Responsible Instructor	Mochizuki S.						
Instructor(s)	Sakurai K., Mochiduki S.						

Course Description

【Language】Official language; Japanese To conduct research on biopolymers and environmental materials, understanding physical properties of polymers is extremely important.This lecture explains physical properties of polymers.

Attainment Objectives

Studying the several basic knowledge required in industrial field such as molecular distribution, crystallization,scattering, and rheology.

Textbooks

Title	Author	Publisher
Basic Polymer Science(The Society of Polymer Science)ISBN-10:4807906356		

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Report	100%

Etc

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2022

Introduction to Polymer Physics

Grades	1-2 grades	Semester (or Term)	Winter	Subject	Elective	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry/Department of Oral Health Sciences						
Responsible Instructor	Mochizuki S.						
Instructor(s)	Sakurai K., Mochiduki S.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	What is the Polymer	Lecture	Mochizuki S.	-
2	Single Chain Conformations	Lecture	Mochizuki S.	-
3	Configurations of Polymers	Lecture	Mochizuki S.	-
4	Conformations of Polymers	Lecture	Mochizuki S.	-
5	Crystalline State	Lecture	Mochizuki S.	-
6	Primary Crystallization	Lecture	Mochizuki S.	-
7	Secondary Crystallization	Lecture	Mochizuki S.	-
8	Rubber Elasticity	Lecture	Mochizuki S.	-
9	Viscoelasiticity	Lecture	Mochizuki S.	-
10	Dielectric Property	Lecture	Mochizuki S.	-
11	Interfacial Property	Lecture	Mochizuki S.	-
12	Polymer and Scattering I 【Colloid】	Lecture	Mochizuki S.	-
13	Polymer and Scattering II 【Light scattering method】	Lecture	Mochizuki S.	-
14	Polymer and Scattering III 【Molecular weight】	Lecture	Mochizuki S.	-
15	Summary	Lecture	Mochizuki S.	-

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2022

Biomaterials

Grades	1-2 grades	Semester (or Term)	Spring	Subject	Elective	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry/Department of Oral Health Sciences						
Responsible Instructor	Nakazawa K.						
Instructor(s)	Nakazawa K.						

Course Description

【Language】Official language; Japanese Biomaterial is any substance (other than drugs) or combination of substances synthetic and natural in origin, which can be used for any period of time, as a whole or as a system which treats, augments, or replaces any tissue, organ, or function of the body. In this lecture, we discuss the biomaterials.

Attainment Objectives

1. You can understand the properties and requirements of biomaterials.2. You can understand the reactions between the living body and biomaterials.3. You can acquire the knowledge for development of biomaterials.4. You can learn the trend of current biomaterial development.5. You can propose the direction and idea for biomaterial development.

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Active participation to the class	30%
Report	70%

Etc

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2022

Biomaterials

Grades	1-2 grades	Semester (or Term)	Spring	Subject	Elective	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry/Department of Oral Health Sciences						
Responsible Instructor	Nakazawa K.						
Instructor(s)	Nakazawa K.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	What are biomaterials ?	Lecture	Nakazawa K.	-
2	Necessary conditions of biomaterials	Lecture	Nakazawa K.	-
3	Biocompatibility	Lecture	Nakazawa K.	-
4	Foreign matter reactions	Lecture	Nakazawa K.	-
5	Biomaterials and biological reactions	Lecture	Nakazawa K.	-
6	Surface design of biomaterials	Lecture	Nakazawa K.	-
7	Safety testing	Lecture	Nakazawa K.	-
8	Metals	Lecture	Nakazawa K.	-
9	Ceramics	Lecture	Nakazawa K.	-
10	Polymers	Lecture	Nakazawa K.	-
11	Composites	Lecture	Nakazawa K.	-
12	Presentation and Discussion 1	Presentation	Nakazawa K.	-
13	Presentation and Discussion 2	Presentation	Nakazawa K.	-
14	Discussion	Lecture	Nakazawa K.	-
15	Summary	Lecture	Nakazawa K.	-

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Introduction to physical chemistry

Grades	1-2 grades	Semester (or Term)	Spring	Subject	Elective	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry/Department of Oral Health Sciences						
Responsible Instructor	Takenaka S.						
Instructor(s)	Takenaka S., Yokono T.						
	Takenaka S.						

Course Description

To improve the knowledge about physical Chemistry, Advanced Physical Chemistry is lectured with taking up from fundamental to advanced subjects every year.

Attainment Objectives

Participant should understand following subjects in Physical Chemistry.1) Thermodynamics2) Kinetics3) Equilibrium4) Quantum chemistry5) Statistical thermodynamics6) Electrochemistry7) Group theory

Textbooks

Title	Author	Publisher
Before starting this class, teacher posts or notices the text book with reference one.		

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
Quize&Examination	100%

Teacher requests your lecture note. Teacher evaluates your ability from small quiz in the class and examination.

Etc

Participants should review topics after lecture every times using the related text books and/or references. Teacher noticed the topic of next lecture and participants should search the important point of the topic

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Introduction to physical chemistry

Grades	1-2 grades	Semester (or Term)	Spring	Subject	Elective	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry/Department of Oral Health Sciences						
Responsible Instructor	Takenaka S.						
Instructor(s)	Takenaka S., Yokono T.						
	Takenaka S.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Gas and thermodynamics law zero	Lecture	Takenaka S.Ohno T.	Homework about fundamental subject
2	Thermodynamics Law I	Lecture	Takenaka S.Ohno T.	Homework about fundamental subject
3	Thermodynamics Law II and III	Lecture	Takenaka S.Ohno T.	Homework about fundamental subject
4	Free energy and chemical potential	Lecture	Takenaka S.Ohno T.	Homework about fundamental subject
5	Thermodynamic equilibrium	Lecture	Takenaka S.Ohno T.	Homework about fundamental subject
6	Equilibrium under single-component system	Lecture	Takenaka S.Ohno T.	Homework about fundamental subject
7	Electrochemistry and ionic solution	Lecture	Takenaka S.Ohno T.	Homework about fundamental subject
8	Before Quantum Chemistry	Lecture	Takenaka S.Ohno T.	Homework about fundamental subject
9	Quantum Chemistry: Model system and hydrogen atom	Lecture	Takenaka S.Ohno T.	Homework about fundamental subject
10	Atom and molecule	Lecture	Takenaka S.Ohno T.	Homework about fundamental subject
11	Symmetry in Quantum Chemistry	Lecture	Takenaka S.Ohno T.	Homework about fundamental subject
12	Rotation and vibration spectroscopies	Lecture	Takenaka S.Ohno T.	Homework about fundamental subject
13	Statistical thermodynamics	Lecture	Takenaka S.Ohno T.	Homework about fundamental subject
14	Kinetic theory of gases	Lecture	Takenaka S.Ohno T.	Homework about fundamental subject

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Introduction to physical chemistry

Grades	1-2 grades	Semester (or Term)	Spring	Subject	Elective	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry/Department of Oral Health Sciences						
Responsible Instructor	Takenaka S.						
Instructor(s)	Takenaka S., Yokono T.						
	Takenaka S.						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
15	Kinetics	Lecture	Takenaka S.Ohno T.	Homework about fundamental subject

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Biomechanics

Grades	1-2 grades	Semester (or Term)	Spring	Subject	Elective	Credits	2.0
Methods	lesson	Total time	32.00	Day		Period	
Course Affiliation	Department of Dentistry/Department of Oral Health Sciences						
Responsible Instructor	Yamada H.						
Instructor(s)	Yamada H.						

Course Description

【Language】Japanese A human body is subjected to external and internal forces, and some functions and behaviors of body components can be dealt as mechanical phenomena. By revealing the correlations between biological phenomena and mechanical factors, one can enhance healthy conditions and protect the body from disorders and diseases with an aid of engineering. This class introduces the methods in solid biomechanics to evaluate or analyze the structures, functions and responses of human body components to learn the mechanical characteristics of musculoskeletal and cardiovascular systems, etc. It also introduces some approaches to the body components with engineering discipline.

Attainment Objectives

1. One can explain an overview of biomechanics and related fields.2. One can calculate the force on the musculoskeletal system.3. One can explain the mechanical characteristics and stress state of bones and teeth.4. One can explain the stress relaxation and creep deformation of soft tissues.5. One can explain the large deformation of soft tissues based on the concept of continuum mechanics.6. One can explain the mechanical tests and the analyses of stress and strain by finite element method for biological tissues and cells.

Textbooks

Title	Author	Publisher
Fundamentals of mechanics and biomechanics, in Japanese (ISBN 978-4-339-07230-3)	H. Yamada	

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
short reports in each class	40%
presentations and reports of investigations	60%

Etc

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2022

Biomechanics

Grades	1-2 grades	Semester (or Term)	Spring	Subject	Elective	Credits	2.0
Methods	lesson	Total time	32.00	Day		Period	
Course Affiliation	Department of Dentistry/Department of Oral Health Sciences						
Responsible Instructor	Yamada H.						
Instructor(s)	Yamada H.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
1	Overview of biomechanics	Lecture	Yamada H.	preparation and review for the lectures and exercises.
2	Mechanics of human body with microgravity	Lecture	Yamada H.	preparation and review for the lectures and exercises.
3	Mechanics in the musculoskeletal system	Lecture	Yamada H.	preparation and review for the lectures and exercises.
4	Infinitesimal deformation of hard tissues	Lecture	Yamada H.	preparation and review for the lectures and exercises.
5	Mechanics of bone and teeth	Lecture	Yamada H.	preparation and review for the lectures and exercises.
6	Viscoelasticity of soft tissues	Lecture	Yamada H.	preparation and review for the lectures and exercises.
7	Individual investigation for Lecture 1-6	Practice	Yamada H.	preparation and review for the lectures and exercises.
8	Presentation of an individual investigation for Lecture 1-6	Practice	Yamada H.	preparation and review for the lectures and exercises.
9	Mechanics of skeletal muscles	Lecture	Yamada H.	preparation and review for the lectures and exercises.
10	Large deformation of soft tissues	Lecture	Yamada H.	preparation and review for the lectures and exercises.
11	Cardiovascular mechanics	Lecture	Yamada H.	preparation and review for the lectures and exercises.
12	Cardiovascular mechanics	Lecture	Yamada H.	preparation and review for the lectures and exercises.
13	Dynamics in biological tissues	Lecture	Yamada H.	preparation and review for the lectures and exercises.
14	Mechanical tests and finite element analyses of tissues & cells	Lecture	Yamada H.	preparation and review for the lectures and exercises.

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Biomechanics

Grades	1-2 grades	Semester (or Term)	Spring	Subject	Elective	Credits	2.0
Methods	lesson	Total time	32.00	Day		Period	
Course Affiliation	Department of Dentistry/Department of Oral Health Sciences						
Responsible Instructor	Yamada H.						
Instructor(s)	Yamada H.						

Lecture	Contents	Methods	Instructor	before-and-after Learning Task
15	Individual investigation for Lecture 9-14	Practice	Yamada H.	preparation and review for the lectures and exercises.
16	Presentation of an individual investigation for Lecture 9-14	Practice	Yamada H.	preparation and review for the lectures and exercises.

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Basic Course on Research in Occupational Medicine

Grades	1 grade	Semester (or Term)	Spring	Subject	大学間連携科目（産医大）	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry/Department of Oral Health Sciences						
Responsible Instructor							
Instructor(s)	Tanaka Y.						

Course Description

Attainment Objectives

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
討論等	20%

Etc

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Basic Course on Research in Occupational Medicine

Grades	1 grade	Semester (or Term)	Spring	Subject	大学間連携科目（産医大）	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry/Department of Oral Health Sciences						
Responsible Instructor							
Instructor(s)	Tanaka Y.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task

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2022

Introduction of Medical Research

Grades	1 grade	Semester (or Term)	Spring	Subject	大学間連携科目（産医大）	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry/Department of Oral Health Sciences						
Responsible Instructor							
Instructor(s)	Tanaka Y.						

Course Description

Attainment Objectives

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio
討論等	20%

Etc

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2022

Introduction of Medical Research

Grades	1 grade	Semester (or Term)	Spring	Subject	大学間連携科目（産医大）	Credits	2.0
Methods	lesson	Total time	30.00	Day		Period	
Course Affiliation	Department of Dentistry/Department of Oral Health Sciences						
Responsible Instructor							
Instructor(s)	Tanaka Y.						

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task

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Advanced Occupational Ergonomics

Grades	1 grade	Semester (or Term)	All Season	Subject	大学間連携科目（産医大）	Credits	1.0
Methods	lesson	Total time		Day		Period	
Course Affiliation	Department of Dentistry/Department of Oral Health Sciences						
Responsible Instructor							
Instructor(s)	Fujiki M., Izumi H.						

Course Description

Attainment Objectives

Textbooks

Title	Author	Publisher

Reference Books

Title	Author	Publisher

Grading Criteria and Method of Evalution

Evaluation item	Ratio

Etc

Study Method

Lecture	Contents	Methods	Instructor	before-and-after Learning Task

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